A RESOLUTION OF THE STATE ROUTE 4 BYPASS AUTHORITY CERTIFYING THE STATE ROUTE 4 BYPASS PROJECT FINAL EIR APPROVING THE PROJECT AND THE MITIGATION MONITORING AND REPORTING PROGRAM AND ADOPTING FINDINGS OF FACT AND A STATEMENT OF OVERRIDING CONSIDERATIONS

DECEMBER 13, 1994

WHEREAS, the general policy of the General Plans of Contra Costa County, the City of Antioch, and the City of Brentwood provides that a facilities plan shall be prepared to assure adequate funding for essential public services and facilities for areas which need facilities which are not normally funded by regular County or City fees and cannot logically or economically be provided by one landowner in the normal sequence of orderly development; and

WHEREAS, the Contra Costa County General Plan adopted in January, 1991, identifies the State Route 4 Bypass (formerly known as the Delta Expressway) as part of the Circulation Element needed to accommodate travel demand that would result from the assumed year 2005 buildout of the land use plan that was developed; and

WHEREAS, the Antioch General Plan adopted in December, 1988, identifies the State Route 4 Bypass Project (formerly known as the Delta Expressway) as part of the roadway improvements needed to implement the Circulation Plan; and

WHEREAS, the Brentwood General Plan adopted on June 8, 1993, identifies the State Route 4 Bypass Project (formerly known as the Delta Expressway) as a key feature of its Circulation Plan; and

WHEREAS, the State Route 4 Bypass Project (the "Project") was prepared to implement these policies and to provide for an appropriate level of public facilities and services to newly developed areas within the eastern portion of Contra Costa County and the City of Antioch and the City of Brentwood; and

WHEREAS, a Draft EIR for the Project was prepared and circulated for review November, 1993, with the comment period closing January 3, 1994; and

WHEREAS, on May 12, 1994, the State Route 4 Bypass Authority (the "Authority") expressed its intent relating to Volume II (dated October 1993) of the EIR, to wit: Volume II depicts a corridor concept that has been raised by independent parties. The Corridor extends beyond the limits of the Project and represents an alternative that has not been addressed in the EIR. The Project analyzed by this EIR does not include the corridor and corridor information is provided by way of related information only. Volume II of the EIR is not being considered for certification nor will it be certified, nor is the concept addressed in that volume going to be considered certified or approved; and

WHEREAS, a Final EIR, including response to comments, was prepared in November, 1994, and was provided to those agencies and interested parties who commented; and

WHEREAS, on November 21, 1994 and on December 8, 1994 the Authority held public hearings on the Project and the supporting Environmental documents; and

WHEREAS, the Final EIR consists of comments and recommendations received on the Draft EIR, a list of persons, organizations, and public agencies commenting on the Draft EIR, the responses to significant environmental points raised during the review period, addenda to the Final EIR and other information and documents concerning the impacts of adopting the Project and associated General Plan Amendments; and

WHEREAS, the Authority has determined that the Marsh Creek Road is a two lane road and the Project proposes to widen the shoulders and install other safety improvements that are compatible with the agricultural nature of the area and that it has concerns for future improvements on the road; and

WHEREAS, The Authority expressed its intent that it will not initiate acceptance with the State as a State Route nor will it seek to improve Marsh Creek Road beyond the Project unless future studies are undertaken that determine the feasibility of an additional east-west connector; and

WHEREAS, to the extent that Marsh Creek Road is adversely impacted by subsequent improvements, the Authority agrees to review and mitigate those impacts as required pursuant to appropriate environmental analysis; and

WHEREAS, the Authority has particular concern for the continued agricultural use on the severed Lindsay and Patricia Nunn parcels and it expressed its desire that staff work carefully with those property owners in acquiring rights of way and that mitigation may include relocation of those operations if required; and

WHEREAS, the Authority has carefully reviewed the staff report, the Final EIR, addenda, errata and exhibits, the Proposed Findings of Fact and Statement of Overriding Considerations and the Mitigation Monitoring and Reporting Program, and has determined that these documents support its direction to staff and determinations on the adoption of the Project; and

NOW, THEREFORE BE IT RESOLVED, that the Authority certifies the following:

1. the Final EIR has been completed in compliance with CEQA and the State CEQA Guidelines; and

2. the Final EIR has been presented to the Authority and the Authority has reviewed and considered the information contained in the Final EIR prior to approving the Project and the General Plan Amendments; and

3. the EIR reflects the independent judgement of the Authority; and

BE IT FURTHER RESOLVED, the Authority hereby Approves the Project, utilizing the westerly Nunn Mitigated Alignment and including Marsh Creek Road as the east-west connector, adopts the Findings of Facts, Exhibits A and Exhibit B, and Statement of Overriding Considerations Exhibit C of this Resolution and as modified by the new mitigation measures and modified language in the Findings of Fact adopted by the Authority, approves the Mitigation Monitoring and Reporting Program, and directs staff to file a Notice of Determination with the County Clerk and to arrange payment of the $850 Fish and Game fee and the $25 filing fee; and

BE IT FURTHER RESOLVED, the Authority will undertake efforts and initiate further studies to determine the feasibility of an additional east-west connector and will not initiate acceptance of the Marsh Creek Road improvements by Caltrans or initiate improvements beyond the Project scope until those studies are completed.

ADOPTED the 13th day of December 1994 by the following vote:
Ayes: Torlakson, Keller, Guise Noes: None

I hereby certify that this is a true
and correct copy of an action taken and
entered on the minutes of the Board
of Directors on the date shown.

ATTESTED:
J. Michael Walford
Secretary of the Authority

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14 a

CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF DETERMINATION

FILED

STATE ROUTE 4 BYPASS AUTHORITY

255 Glacier Drive
Telephone: (510)313-2382

Martinez, California 94553-0095
Contract Person: Lowell Tunison

1994 DEC 15 P 2:01
S.L. WEIR, COUNTY CLERK
CONTRA COSTA COUNTY
BY K. GORDON DEPUTY

Project Description, Common Name (if any) and Location:

STATE ROUTE 4 BYPASS PROJECT (Delta Expressway): #CP88-72 SCH#89032824. The project consists of a 9.3 mile limited access highway, which begins at the junction of State Routes 4 and 160 in Antioch, and extends to the junction of Walnut Boulevard and the relocated Vasco Road, south of the City of Brentwood. It also includes the upgrade of Marsh Creek Road as the connector between the Bypass and State Route 4.

The project was approved on December 13, 1994
Pursuant to the provisions of the California Environmental Quality Act:

[XXXX] An Environmental Impact Report was prepared and certified.

[ ] The Project was encompassed by an Environmental Impact Report previously prepared for _____.

[ ] A Negative Declaration was issued indicating that preparation of an Environmental Impact Report was not required.

Copies of the record of project approval and the Negative Declaration or the final EIR may be examined at the office of the Contra Costa County Public Works Department, 255 Glacier Drive, Martinez, CA. 94553

[ ] The Project will not have a significant environmental effect.

[XXXX] The Project will have a significant environmental effect.

[XXXX] Mitigation measures were made a condition of approval of the project.
[XXXX] A statement of overriding considerations was adopted.
[XXXX] Findings were adopted pursuant to Section 15091 of the State CEQA Guidelines.

Date: December 15, 1994 By: Lowell Tunison
Staff to the Authority

AFFIDAVIT OF FILING AND POSTING

I declare that on DEC 15 1994 I received and posted this notice as required by California Public Resources Code Section 21152(c). Said notice will remain posted for 30 days from the filing date.

K. GORDON — DEPUTY COUNTY CLERK
Signature — Title

Department of Fish & Game Fees Due:

[✓] EIR - $850
[ ] Neg. Dec. - $1,250
[ ] De Minimis Findings - $0
[✓] County Clerk - $25

Total Due: $ _____
Total Paid: $ _____
Receipt #: _____

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CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF DETERMINATION

FILED

STATE ROUTE 4 BYPASS AUTHORITY

255 Glacier Drive
Telephone: (510)313-2382

Martinez, California, 94553-0095
Contract Person: Lowell Tunison

1994 DEC 15 P 2:09
S.L. VEIR COUNTY CLERK
CONTRA COSTA COUNTY
BY K. GORDON DEPUTY

Project Description, Common Name (if any) and Location:

STATE ROUTE 4 BYPASS PROJECT (Delta Expressway): #CP88-72 SCH#89032824. The project consists of a 9.3 mile limited access highway, which begins at the junction of State Routes 4 and 160 in Antioch, and extends to the junction of Walnut Boulevard and the relocated Vasco Road, south of the City of Brentwood. It also includes the upgrade of Marsh Creek Road as the connector between the Bypass and State Route 4.

The project was approved on December 13, 1994
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[XXXX] A statement of overriding considerations was adopted.
[XXXX] Findings were adopted pursuant to Section 15091 of the State CEQA Guidelines.

Date: December 15, 1994 By: Lowell Tunison
Staff to the Authority

AFFIDAVIT OF FILING AND POSTING

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K. Gordon
Signature

DEPUTY COUNTY CLERK
Title

Department of Fish & Game Fees Due:

[✓] EIR - $850
[ ] Neg. Dec. - $1,250
[ ] De Minimis Findings - $0
[✓] County Clerk - $25

Total Due: $ _____
Total Paid: $ _____

Receipt #: _____

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CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF DETERMINATION

FILED

STATE ROUTE 4 BYPASS AUTHORITY

255 Glacier Drive — Martinez, California 94553-0095
Telephone: (510)313-2382 — Contract Person: Lowell Tunison

94 DEC 15 PM 2:07
S.L. WEIR, COUNTY CLERK
CONTRA COSTA COUNTY
BY K. GORDON DEPUTY

Project Description, Common Name (if any) and Location:

STATE ROUTE 4 BYPASS PROJECT (Delta Expressway): #CP88-72 SCH#89032824. The project consists of a 9.3 mile limited access highway, which begins at the junction of State Routes 4 and 160 in Antioch, and extends to the junction of Walnut Boulevard and the relocated Vasco Road, south of the City of Brentwood. It also includes the upgrade of Marsh Creek Road as the connector between the Bypass and State Route 4.

The project was approved on December 13, 1994
Pursuant to the provisions of the California Environmental Quality Act:

[XXXX] An Environmental Impact Report was prepared and certified.

[ ] The Project was encompassed by an Environmental Impact Report previously prepared for _____.

[ ] A Negative Declaration was issued indicating that preparation of an Environmental Impact Report was not required.

Copies of the record of project approval and the Negative Declaration or the final EIR may be examined at the office of the Contra Costa County Public Works Department, 255 Glacier Drive, Martinez, CA. 94553

[ ] The Project will not have a significant environmental effect.

[XXXX] The Project will have a significant environmental effect.

[XXXX] Mitigation measures were made a condition of approval of the project.
[XXXX] A statement of overriding considerations was adopted.
[XXXX] Findings were adopted pursuant to Section 15091 of the State CEQA Guidelines.

Date: December 15, 1994 By: Lowell Tunison
Staff to the Authority

AFFIDAVIT OF FILING AND POSTING

I declare that on DEC 15 1994 I received and posted this notice as required by California Public Resources Code Section 21152(c). Said notice will remain posted for 30 days from the filing date.

K. GORDON — DEPUTY COUNTY CLERK
Signature — Title

Department of Fish & Game Fees Due:

[✓] EIR - $850
[ ] Neg. Dec. - $1,250
[ ] De Minimis Findings - $0
[✓] County Clerk - $25

Total Due: $ 875.00
Total Paid: $ 875.00
Receipt #: 25435

g:\transeng\lt\ceqa.t12

STATE OF CALIFORNIA-THE RESOURCES AGENCY
DEPARTMENT OF FISH AND GAME

25435

ENVIRONMENTAL FILING FEE CASH RECEIPT

DFG 753.5a (6-94)

Lead Agency: State Rt 4 Bypass Authority Date: 12-15-94

County/State Agency of Filing: Contra Costa Document No.:

Project Title: CP88-72 SCH89032824

Project Applicant Name: State Rt 4 Bypass Authority Phone Number:

Project Applicant Address: 255 Glacier Dr

Project Applicant *(check appropriate box)*: Local Public Agency ☑ School District ☐ Other Special District ☐ State Agency ☐ Private Entity ☐

CHECK APPLICABLE FEES:

(✓)	Environmental Impact Report	$850.00	$
( )	Negative Declaration	$1,250.00	$
( )	Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$
( )	Projects Subject to Certified Regulatory Programs	$850.00	$ 0
(✓)	County Administrative Fee	$25.00	$ 0
( )	Project that is exempt from fees		
		TOTAL RECEIVED	$ 0

JE# JV1976

Signature and title of person receiving payment: K. Gordon

FIRST COPY-PROJECT APPLICANT SECOND COPY-DFG/FASB THIRD COPY-LEAD AGENCY FOURTH COPY-COUNTY/STATE AGENCY OF FILING

ENVIRONMENTAL IMPACT REPORT

STATE ROUTE 4 BYPASS PROJECT

EXHIBIT A: FINDINGS OF FACT

EXHIBIT B: FINDINGS CONCERNING REJECTION OF PROJECT ALTERNATIVES

EXHIBIT C: STATEMENT OF OVERRIDING CONSIDERATIONS

STATE ROUTE 4 BYPASS AUTHORITY

DECEMBER 13, 1994

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Section K. Growth Inducement

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Section B. Specific Findings

Section C. Overriding Considerations

Section D. Conclusion

ENVIRONMENTAL IMPACT REPORT

STATE ROUTE 4 BYPASS PROJECT

EXHIBIT A: FINDINGS OF FACT

STATE ROUTE 4 BYPASS AUTHORITY

DECEMBER 13, 1994

EXHIBIT A: FINDINGS OF FACT

SECTION A: INTRODUCTION AND PROJECT DESCRIPTION

The California Environmental Quality Act ("CEQA"), Public Resources Code sections 21000, et seq. states that a project shall not be approved if it would result in a significant environmental impact or, if feasible mitigation measures or feasible alternatives can avoid or substantially lessen the impact. Only when there are specific economic, social, or other considerations which make it infeasible to substantially lessen or avoid an impact can a project with significant impacts be approved.

Therefore, when an environmental impact report ("EIR") has been completed which identifies one or more potentially significant environmental impacts, the approving agency must make one or more of the following findings for each identified significant impact:

1. Changes or alternatives which avoid or substantially lessen the significant environmental effects as identified in the FEIR have been required or incorporated into the project, or

2. Such changes or alternatives are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency, or

3. Specific economic, social or other considerations make infeasible the mitigation measures or project alternatives identified in the FEIR. (Public Resources Code section 21081.)

The proposed State Route 4 Bypass Project ("Project") identifies a precise alignment for implementation of an expressway and a connector between the Bypass and State Route 4. Marsh Creek Road would be upgraded to provide a connector between the Bypass and State Route 4. The environmental analysis for the project evaluates the potential for significant environmental impacts resulting from construction and operation of an expressway within a 250 foot right-of-way and a connector within a 110 foot right-of-way, and identifies mitigation measures to avoid or reduce potentially significant impacts.

The project would be constructed in two phases. Phase I would consists of a two-lane limited access expressway from SR4/160 to Walnut Boulevard, with a partial interchange at SR4/160. At grade intersections would be provided at approximately one mile increments: Laurel Road, Lone Tree Way, Sand Creek Road, Balfour Road, Marsh Creek Road, and Walnut Boulevard. In addition, Marsh Creek Road would be upgraded to state highway standards and function as an east-west connector between the project and SR4. The upgrades to Marsh Creek Road would consist of widening the existing shoulders and installing signalized intersections with

protected turning movements at Walnut Boulevard, Sellers Avenue, and SR4. Marsh Creek Road would remain a two lane road as proposed with this project.

Phase II would consist of expanding the Project to four lanes from SR4/160 to Balfour Road. The Project would remain two lanes from Balfour to Vasco Road. The partial interchange at SR4/160 would be expanded to a full interchange, and the at-grade signalized intersections and Laurel Road and Lone Tree Way would be up-graded to grade separated interchanges. The four intersections sough of Lone Tree Way would remain at-grade signalized intersections. However, the ultimate road configuration and interchanges should be considered during the alternative analysis since the alignment for Phase I of the project that is chosen will determine the location for the ultimate improvements.

The alignment for the Bypass project was determined based on the following objectives:

Avoid:	Relocation of existing residents Existing permanent land uses Agricultural Core land if economically feasible alternatives exist Severance of land parcels.
Protect:	Archeological Sites Habitats of protected and endangered species Wetland areas under the jurisdiction of the United States Army Corp of Engineers
Coordinate:	With Contra Costa Water District Los Vaqueros Pipeline
Minimize:	Cost

These objectives were utilized as a guideline in order to achieve balances between all of the sensitive issues and constraints. Several other factors also governed the alignments. These include: minimizing the loss of riparian habitat along Marsh Creek; a revised alignment of Marsh Creek Road to eliminate the sharp curve; and sufficient space between the interchange and the John Marsh home. The latter allows for minimizing the Project's effect on the historical property while at the same time not precluding room for a future north/south arterial on the west side of the Bypass which could serve the area that is within the urban limit line.

The existing State Route 4 is an at-grade limited-capacity highway with direct access to the roadway from adjacent schools, shopping centers, and residences. Under this existing situation, regional traffic (particularly truck traffic) is mixed with local traffic. Because of low speeds on local roads and heavy cross traffic, lane capacity on State Route 4 is limited and opportunities to improve capacity are limited due to the proximity of existing adjacent land uses. Major disruptions or relocations could result if SR 4 were improve, and the increase to capacity would not be adequate to serve both local and regional traffic.

Existing travel patterns south from Antioch use State Rout 4, a two-to-four lane undivided road through the communities of Oakley and Brentwood. Some traffic uses Hillcrest Avenue, Lone Tree Way, and Sandcreek Road to bypass Oakley and Brentwood traveling south. Traffic moves south of Brentwood along Walnut Boulevard to Vasco Road to I-580 and east along SR4 to Stockton. The Vasco Road to I-580 connection will be modified through the realignment of a portion of Vasco Road to the County line as the result of the proposed Los vaqueros Reservoir Project.

Because of the traffic-related disruption in the communities of Antioch, Oakley,. and Brentwood, (particularly from increased truck traffic); the increasing traffic volumes and congestion along State Route 4 (with no opportunity to add capacity), and the limited financing available, the State Route 4 Bypass project focuses on the northern potion of the East County Corridor, where the congestion is most apparent.

The purpose of the Project is to provide a new route for SR4 that bypasses the communities of Antioch, Oakley, and Brentwood to alleviate traffic-related noise and congestion on local streets, pursuant to the adopted General Plans for Antioch, Brentwood, and Contra Costa County, and Caltrans adopted Route Concept Report for State Route 4. The purpose in establishing the Project right-of-way is to protect the area for short-term and long-term transportation use.

SECTION B: BOUNDARY OF THE PROJECT AREA

The proposed project is located in Eastern Contra Costa County near the Cities of Antioch, Oakley, Brentwood, and Byron. It would begin at the existing State Route 4 (SR4/160) and eastern Antioch and extend south approximately 9.3 miles to connect with the relocated VASCO Road at Walnut Boulevard. Its north/south alignment would be the same as the northern portion of the East County Corridor program. The Bypass would cross Sand Creek, Deer Creek, Marsh Creek, and Dry Creek: and intersect with Laurel Road, Lone Tree Way, Sand Creek Road, Balfour Road, Marsh Creek Road, and Walnut Boulevard/Vasco Road (relocated).

During the public comment testimony, three of the alternatives were revised to avoid crossing the sensitive wetlands in the tributary to Kellogg Creek, south of Marsh Creek Road. The revised alternatives are called "Cowell Mitigated," "Nunn Mitigated," and "Project Mitigated" alternatives. With adoption of one of these revised alignments, the three alternatives avoid the sensitive wetland.

SECTION C: THE RECORD

For the purposes of CEQA and the findings hereinafter set forth, the Record for the Project consists of the following:

(a) All non-privileged relevant staff reports, memoranda, maps, minutes and other planning documents prepared by the State Route 4 Bypass Authority ("Authority") staff and consultants relating to the State Route 4 Bypass Project ("Project") and which are available to the public in accordance with the California Public Records Act;

(b) The initial study prepared for the Project, all CEQA documents prepared for the Project, and all documents on which the CEQA documents rely by reference, and Responses to the Comments-FEIR, which documents collectively represent part of the FEIR for the Project;

(c) All written comments, responses and testimony concerning the CEQA documents received by the Authority from public agencies, adjacent property owners, other property owners and interested members of the public concerning the Project, up to and during the Authority's public hearing on December 8, 1994, and written Comments and Responses from the Authority.

(d) Testimony received by the Authority at its noticed public hearing, to receive comments on the Project and the FEIR;

(e) Documents submitted in association with the Project, describing the Project and/or related proposed urban development projects and supporting or augmenting the environmental documents prepared pursuant to CEQA for the Project and/or related proposed urban development projects.

(f) Any documents embodying the Authority's action on the Project including staff reports and resolutions and the minutes of public hearings, meetings, and workshops on the Project;

(g) These Findings and Statement of Overriding Considerations adopted in connection with the Project;

(h) All other information including documents or testimony submitted to the Authority supporting or augmenting the environmental documents prepared pursuant to CEQA including, but not limited to, the general plans of the Cities of Antioch, Brentwood, and Contra Costa County, the Contra Costa County Transportation Authority's: 1) Draft 1993 Contra Costa Congestion Management Program, and 2) Draft 1994 Countywide Comprehensive Transportation Plan..

SECTION D: DISCRETIONARY ACTIONS

The discretionary actions for the proposed Project involve the following approvals by the Authority.

1. Adoption of the Project with the CEQA mitigation measures adopted by the Authority.

These Findings are made by the Authority pursuant to Section 15091 of the California Code of Regulations, Title 14 (also referred to as the "CEQA Guidelines"). The Authority is also adopting a "Statement of Overriding Considerations" pursuant to section 15093 of the CEQA Guidelines. The Authority finds that where more than one reason exists for any finding, the Authority finds that each reason independently supports these findings.

SECTION E: THE DRAFT EIRS AND FINAL EIR

Pursuant to section 15146(a) of the CEQA Guidelines, the DEIR for the Project summarizes with specificity the effects of a series of actions the Authority will need to undertake to implement the Project.

Where possible the FEIR also incorporated within the impact analysis the responses to comments received on the previous DEIR. The information in the FEIR replaced and superseded the DEIR and was the basis for the environmental analysis of the Project.
According to CEQA Guidelines section 15132:

The Final EIR ("FEIR") shall consist of:

(a) The Draft EIR or a revision of the Draft;

(b) Comments and recommendations received on the Draft EIR, either verbatim or summary.

(c) A list of persons, organizations, and public agencies commenting on the Draft EIR.

(d) The response of the lead agency to significant environmental points raised in the review and circulation process.

(e) Any other information added by the lead agency.

The FEIR for the Project fulfills all the necessary requirements of CEQA and the Guidelines issued thereunder. Pursuant to CEQA, the FEIR includes mitigation measures for each potentially significant environmental impact and a mitigation monitoring program.

SECTION F: TERMINOLOGY OF FINDINGS

Section 15091 of the CEQA Guidelines requires that, for each significant environmental effect identified in an EIR for a proposed project, the approving agency must issue a written finding reaching one or more of three allowable conclusions. The first is that "[c]hanges or alterations have been required in, or incorporated into, the project which avoid or substantially

lessen the significant environmental effect as identified in the final EIR." The second potential finding is that "[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency." The third permissible conclusion is that "[s]pecific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the final EIR."

For purposes of these findings, the term "mitigation measures" shall constitute the "changes or alterations" discussed above. The term "avoid or substantially lessen" will refer to the effectiveness of one or more of the mitigation measures or alternatives to reduce an otherwise significant environmental effect to a less than significant level. Although section 15091, read literally, does not require findings to address environmental effects that an EIR identifies as merely "potentially significant," these findings will nevertheless fully account for all such effects identified in the EIR for the Project. When an impact remains significant or potentially significant with mitigation, the findings will generally find that the impact is still "significant."

In the process of adopting mitigation, the Authority will also be making decisions on whether the mitigation proposed in the DEIR/FEIR was "infeasible." Pursuant to the CEQA Guidelines, " `feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

SECTION G: LEGAL EFFECT OF FINDINGS

All of the feasible mitigation measures which avoid or substantially lessen the significant effects of the Project are binding on the Authority, affected landowners, and their assigns or successors in interest at the time of approval of the Project.

SECTION H: MONITORING PROGRAM

As required as Public Resources Code section 21081.6, the Authority, in adopting these findings, also adopts a monitoring and reporting program designed to ensure that, during implementation of the Project, the Authority, private developers, and any other responsible parties, implement the adopted mitigation measures. The final monitoring program is adopted under separate resolution.

SECTION I: SHORT-TERM USES vs. LONG-TERM PRODUCTIVITY

Recent legislation modifying Pub.Res. Code § 21100, has deleted the requirement for this analysis. Nevertheless, the environmental impacts which narrow the range of beneficial existing

uses of the existing environment, but which are believed by the Authority to be justified at this time, were summarized in Volume 3, Section V of the DEIR.

The Authority finds there are no other feasible mitigation measures or alternatives that it could adopt at this time that would reduce the cumulative and long term impacts of the Project. The Authority further finds for the reasons set forth in the Statement of Overriding Considerations that the implementation of the proposed Project is appropriate and will accommodate growth and transportation needs in the region, despite the potential adverse impact on short term and existing uses.

SECTION J: IRREVERSIBLE CHANGES

Irreversible environmental changes associated with the Project are discussed in Volume 3, Section V of the DEIR. The purpose of this section is to enumerate the uses of nonrenewable resources that would result from development of the State Route Bypass Project. Implementation of the Project would require the following significant reversible environmental changes and irretrievable commitments of resources:

1. Conversion of agricultural land to urban uses.

2. Expansion of urban uses into lands currently function as open space.

3. Consumption of energy and materials during project construction.

4. Grading that would irreversible alter the topography of the Project area, and could result in the loss of a portion of Corps Section 404 jurisdictional wetlands.

5. Consumption or energy, water, and services during Project operation.

6. Development of the project would expand infrastructure into the area by the introduction of a roadway system onto undeveloped land. This would be an irreversible commitment of the Project area to urban use.

7. Operation of the project would add daily and peak-hour vehicle trips to the immediate area and to local streets and intersections. The increase in total traffic throughout the Project area would irreversible increase related emissions into the air of total organic gases, carbon monoxide and nitrogen gases.

8. The visual characteristics of the Project area would be irreversibly altered.

The Authority finds that there are no other feasible mitigation measures or alternatives that it could adopt at this time that would reduce the irreversible changes associated with the Project discussed above. For the reasons stated throughout these findings and particularly stated in the

Statement of Overriding Considerations, the Authority finds that the adoption and implementation of the proposed Project is appropriate and will accommodate growth and transportation needs in the region, despite the irreversible environmental changes that will result.

SECTION K: GROWTH INDUCEMENT

Section V of the DEIR and Section II of the FEIR presents the growth-inducing impacts that can be anticipated from adoption and implementation of the proposed Project.

Significant Impact V.A.1: The Bypass Project will induce growth in East Contra Costa County. It is anticipated that the Project will improve access to a substantial amount of undeveloped land, thus removing an obstacle to further real estate development in this region. The degree of increased development attributable to the Project is unclear, and it is also unclear whether the Bypass alone would allow for growth beyond that allowed for in County and local General Plans. However, the Bypass is expected to affect the timing and rate of allowed growth. This would be a significant impact.

Mitigation Adopted by City Council

The following combination of mitigation measures could reduce the impact of growth inducement. These include: limiting allowable development through the General Plan Amendment process at County and local level; commit to the development of urban core areas of East County prior to developing open space and agricultural land. Adopt community planning guidelines and design features that promote efficient land use with a high degree of multi-modal accessibility between land uses; cluster residential units into medium densities to promote use of transit, and develop where transit service is currently available. These combination of measures could mitigate the impact to a less-than-significant level. However, the lead agency does not have the authority to implement them. There fore, this impact remains significant and unavoidable.

Findings Concerning Adopted Mitigation Measure

Significance With Mitigation

The Authority finds that the above-stated mitigation measures are incorporated into the proposed Project. The Authority finds that these measures will lessen, but not eliminate, the potential adverse growth inducing effects associated with the Project. Thus, the impact remains significant and unavoidable.

The Authority finds there are no other feasible mitigation measures or alternatives which the Authority could adopt at this time which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or

eliminated, the Authority finds that specific economic, legal, social, technological, and other considerations identified in the Statement of Overriding Considerations support approval of the Project. The Authority finds that adoption and implementation of the proposed Project is appropriate and will accommodate growth and transportation needs in the region, despite the unavoidable off-site growth inducement that would occur.

SECTION L: CUMULATIVE IMPACTS

Section II of the FEIR presents the cumulative impacts that can be anticipated from adoption and implementation of the proposed project.

Cumulative Impacts Which Are Significant Without Mitigation

The proposed Project, in conjunction with all other development projects for the region, would cumulatively significantly change the character of the region, creating impacts, both adverse and beneficial. Cumulative impacts occur in topical areas including, but not necessarily limited to, land use, socioeconomics, visual resources, traffic and transportation, noise, air quality, geology, seismicity and soils, hydrology and drainage, biological resources and wetlands, cultural resources, energy, utilities, and public services. The following are the specific numbers of impacts identified as significant or potentially significant without mitigation. Please refer to Section O of these findings for the text of each impact, adopted mitigation measures, and significance of the impact with mitigation.

V.A.1, V.B.1, V.B.2, V.B.3, V.B.4, V.B.5, V.B.6, V.B.7, V.B.8, V.B.9, V.B.10, V.B.11, V.B.12, V.B.13, V.B.15, V.B.16, V.B.17, V.B.18, V.B.19, V.B.20, V.B.21, V.B.22, V.B.23, and V.B.24

Cumulative Impacts Which Remain Significant With Mitigation

Cumulative impacts that remain significant or potentially significant with the adopted mitigation occurring in topical areas such as land use, socioeconomics, visual resources, traffic and transportation, noise, air quality, geology, seismicity and soils, hydrology and drainage, biological resources and wetlands, cultural resources, energy, utilities, and public services. The following are the specific numbers of the impacts which remain significant with the adopted mitigation. Please refer to Section O of these findings for the text of each impact and the adopted mitigation measures.

V.B.1, V.B.2, V.B.3, V.B.4, V.B.5, V.B.6, V.B.7, V.B.8, V.B.9, V.B.10, V.B.11, V.B.13, V.B.15, V.B.16, V.B.17, V.B.18, V.B.19, V.B.20, V.B.21, V.B.22, and V.B.24

The Authority finds there are no other feasible mitigation measures or alternatives which the Authority could adopt at this time which would reduce the above cumulative impacts to less than significant. To the extent that these adverse impacts will not be substantially lessened or avoided, the Authority finds that specific economic, legal, social, technological, and other considerations identified in the Statement of Overriding Considerations support approval of the Project. The Authority finds that adoption and implementation of the proposed Project is appropriate and will accommodate growth and transportation needs in the region, despite the potential adverse cumulative impacts.

SECTION M: FINDINGS ON SIGNIFICANT EFFECTS AND MITIGATION MEASURES

The FEIR set forth environmental effects of the Project that would be potentially significant or significant in the absence of mitigation measures of the Project. These effects (or impacts) are set forth below, along with those mitigation measures (changes or alterations) adopted, that will avoid or substantially lessen those potentially significant or significant effects. Also set forth are certain significant effects that cannot be avoided or reduced to a less than significant level even with the adoption of all feasible mitigation measures proposed in the FEIR. In adopting these findings, the Authority also adopts a Statement of Overriding Considerations setting forth the economic, social and other benefits of the Project that will render these significant effects acceptable.

The Authority is not required to adopt mitigation measures or adopt policies as part of the Project for impacts that are less than significant.

Under "Findings on Adopted Mitigation Measures," the Authority is finding whether the impacts remain significant or are reduced to insignificance with adopted feasible mitigation and also whether certain other measures which were proposed, but not adopted, are infeasible for social, economic or other reasons. The Authority is also identifying those measures that are within the jurisdiction and responsibility of other agencies.

SECTION M. FINDINGS ON SIGNIFICANT EFFECTS AND MITIGATION MEASURES

1. Findings Concerning Impacts Resulting From Inconsistency With Existing Plans And Policies

The identified impacts to existing plans and policies that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.A.2: Development of the Project as a four-lane expressway is not consistent with the language of the Antioch General Plan which assumes a two-lane expressway. At the

completion of Phase II, a four-lane freeway/expressway is assumed along the northern portion of the Project alignment between Antioch and Walnut Boulevard. This is not consistent with the language of Antioch's General Plan which identifies the Delta Expressway (now called the State Route 4 Bypass Project) as a two-lane expressway. This inconsistency would be a significant impact.

Mitigation Adopted by the Authority

III.A.2. Modify the language in Antioch's General Plan Circulation Element to describe the State Route 4 Bypass Project as a four-lane expressway.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because it ensures consistency with the Antioch General Plan. (DEIR Volume 3, page III.A.16.)

Significant Impact III.A.3: The Association of Bay Area Governments (ABAG) adopted the "Land Use Policy Framework for the San Francisco Bay Area" on July 26, 1990. Among the goals within the "Framework" are to "Allow for the development of new communities along transit corridors where interurban transit service and capacity are available or committed when they would be consistent with regional or subregional goals and objectives, and not negatively impact existing communities." Development of the Bypass Project, which may induce growth in relatively underdeveloped areas of Contra Costa, conflicts with this goal. This would be a significant impact.

Mitigation Adopted by the Authority

III.A.3. The policy would have to be modified to allow for consistency with the project; the lead agency has no authority to enact such a change.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is

feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

With regard to these mitigation measures, the Authority also finds that the land use policy for the San Francisco Bay area is within the responsibility and jurisdiction of ABAG and not the Authority. ABAG has adopted this mitigation or can and should adopt this mitigation.

Significant Impact III.A.4: The Project could induce growth to occur outside of the City of Antioch's Urban Core before a commitment to the completion of development within the core is complete. This is inconsistent with Goal A of the Antioch General Plan. This is a significant impact.

Mitigation Adopted by the Authority

III.A.4. This impact could be mitigated through changes in the General Plan land use element but the lead agency has no authority to enact such changes.

Findings Concerning Adopted Mitigation Measures

Significance with Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

2. Findings Concerning Land Use Impacts

The identified existing land use impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.B.1: Development of the Project would result in the removal and relocation of existing residential and commercial land uses. The Bypass segment of the Project would result in the removal and relocation of four single-family residences, three businesses, the county store and two sets of natural gas facilities. The Marsh Creek Road connector would result in the removal and relocation of the produce stand and the take-away food stand at the intersection of Marsh Creek Road and Walnut Boulevard. Along Marsh Creek Road, there are approximately 22 single-family residences fronting the highway, that are immediately adjacent to the proposed right-of-way. Portions of the front yards of these residences would be taken by the widening of Marsh Creek Road. The structures themselves could also require relocation if their proximity to the widened roadway violated established residential setback regulations. These impacts would be significant.

Mitigation Adopted by the Authority

III.B.1. A relocation and assistance plan shall be developed as required by the California Relocation Assistance and Property Acquisition Act of 1971, Government Code 7260 et. seq., for any residences or businesses displaced by the Project. This Act establishes policies and practices for the real property acquisition (including determination of just compensation), acquisition of buildings, structures and improvements, reimbursement for expenses incidental to transfer of title, and reimbursement of property owner's court costs in certain well-defined situations. The Act applies equally to all property owners regardless of race, color, religion, sex or national origin. All actions taken by an acquiring agency must be in compliance with the non-discrimination requirements of Title VI of the Civil Rights Act of 1964. The process set out in the Act is initiated following the procurement of funding for a public project.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.B.2: Development of the Project would result in the removal of prime agricultural land and Farmland of Statewide Importance. Approximately 125 acres of prime agricultural land and approximately 22 acres of farmlands of statewide importance would be removed as a result of the Bypass portion of the proposed Project, and approximately 60 acres of prime agricultural land would be removed as a result of the Marsh Creek Road portion of the proposed Project. Thus, the Project would result in loss of a total of approximately 185 acres of prime agricultural land and a total of approximately 22 acres of farmlands of statewide importance. These losses would diminish the agricultural productivity of eastern Contra Costa County, and would be significant impacts of the Project. Additionally, the Bypass segment of the Project would affect approximately 88 acres of land under Williamson Act contract, and the Marsh Creek Road connector would affect about 23 acres of land in four parcels under Williamson Act contract (thus, the Project as a whole would affect a total of approximately 111 acres under Williamson Act contracts). The contract covering approximately 94 acres (Contract AP 16-74) is due to expire in 1996, prior to completion of the proposed Project; cancellation of the contract on these acres would therefore not be considered to be caused by the Project. The Project would likely require modification or cancellation of contracts covering the approximately 17 remaining acres. Project impacts on Williamson Act contracts would not likely be considered significant; however, related loss of prime agricultural land would be considered significant.

Mitigation Adopted by the Authority

III.B.2. Design the final alignment to minimize impacts to prime agricultural lands. During construction, locate staging areas away from prime agricultural land as much as possible.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.B.3: Development of the Project would conflict with residential, religious and recreational land uses outside the right-of-way. These impacts would be significant. Development of the Bypass segment of the proposed Project would not be compatible with the existing residential units, church, and recreational ball field immediately adjacent to the right-of-way. The noise and visual characteristics associated with the Bypass would likely disturb persons in adjacent residential units and could disrupt the daily activities at the church and recreational ball field. Similarly, development of the Marsh Creek Road portion of the proposed Project could adversely affect existing residential uses adjacent to the right-of way. This incompatibility with existing land uses would be a significant impact.

Mitigation Adopted by the Authority

III.B.3: Provide a buffer zone between the Marsh Creek Road connector and existing or proposed adjacent land uses to minimize disruption to the latter. Plant with vegetation and consider constructing berms where proximity of land uses could be most adversely affected.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because it requires a buffer zone to minimize noise and visual disruptions to existing and proposed adjacent land uses.
(DEIR, Volume 3, page III.B.16.)

Significant Impact III.B.4: Development of the Project would cross several trails which could be incompatible with pedestrian use of the trail and the recreational experience. This would be a significant impact. The north/south segment of the proposed Project would cross the proposed trails along the Contra Costa Canal, the Mokelumne Aqueduct, the East Contra Costa County Irrigation District Main Canal, Sand Creek, Deer Creek and Dry Creek. This would be incompatible with pedestrian use of the trail and would conflict with the recreational experience intended by creation of these trails. This conflict would be considered a significant impact.

Mitigation Adopted by the Authority

III.B.4. Provide grade separations between the Bypass right-of-way and the proposed trails.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because grade separations would prevent conflicts with pedestrian and recreational use of the trails systems.
(DEIR, Volume 3, page III.B.16.)

3. Findings Concerning Socioeconomic Impacts

The identified socioeconomic impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.C.1: Development of the Project would displace existing residential structures within the 250-foot-wide expressway right-of-way and commercial structures within the 110-foot Marsh Creek Road right-of-way. Single family residences immediately adjacent to the Marsh Creek Road right-of-way could also require relocation dependent upon their proximity to the widened roadway. This would be a significant impact. Approximately four housing units within the 250-foot right-of-way and two commercial uses within the 110-foot right-of-way would be displaced by development of the Project. The number of single family residences adjacent to the right-of-way requiring relocation would be determined during development of the final roadway alignment. This would be a significant impact.

Mitigation Adopted by the Authority

III.C.1. A relocation and assistance plan shall be developed as required by the California Relocation Assistance and Property Acquisition Act of 1971, Government Code 7260 et seq., for any residences and/or businesses displaced by the Project. This Act establishes policies and practices for the real property acquisition (including determination of just compensation), acquisition of buildings, structures and improvements, reimbursement for expenses incidental to transfer of title, and reimbursement of property owner's court costs in certain well-defined situations. The Act applies equally to all property owners regardless of race, color, religion, sex or national origin. All actions taken by an acquiring agency must be in compliance with the non-discrimination requirements of Title VI of the Impact would be reduced, but not to a less-than-significant level. Civil

Rights Act of 1964. The process set out in the Act is initiated following the procurement of funding for a public project.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.C.2: Development of the Project would result in the loss of prime agricultural land along the length of the right-of-way currently in agricultural production. This would be a significant impact. The proposed Project would remove prime agricultural land from production along the length of the right-of-way and along Marsh Creek Road (identified under Section III.B. Land Use). This loss of prime agricultural lands and farmlands of statewide importance would diminish the agricultural productivity of eastern Contra Costa County. This would be a significant impact.

Mitigation Adopted by the Authority

III.C.2: Locate roadway right-of-way to minimize removal of prime agricultural lands.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

4. Findings Concerning Visual Resources Impacts

The identified visual resources impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.D.1: Development of the Project could affect views of the road from outlying areas. This would be a significant impact. Views of the road from outlying areas would depend on how high the road is elevated above the terrain, which is generally flat. Phase I of the Project proposes an elevated interchange at the northern end of the Bypass where it would connect to existing SR 4. Phase II proposes grade-separated interchanges at SR 4/160 , Laurel Road, and Lone Tree Way. These interchanges would create strong visual contrasts with the existing landscape which would be significant.

Mitigation Adopted by the Authority

III.D.1.

(a) Landscape roadsides, including planting rows of trees or bushes, to screen or block views of the road from nearby residences and to reduce glare and light from vehicles.

(b) Exercise in removing riparian vegetation and restoring vegetation where possible after construction.

(c) Where cutting and filling activities are necessary, reseed with native grasses to reduce visual impacts of erosion and contrasts in color and texture with adjacent landscapes.

(d) Park construction equipment in specially designated areas to remove it from view when not in use. Construction materials could be stored out of view of homes.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is

feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.D.2: The Project would be visible from adjacent residential areas either already developed or under consideration for development. This would be a significant impact. The Project would leave the existing freeway heading southeast adjacent to Neroly Road. Views of the new Bypass would be visible to homes in a new residential development along Neroly Road east of the Southern Pacific Railroad track. Phase II would include interchanges at Laurel Road and Lone Tree Way which would strongly contrast with existing landscape features, and would therefore be significant. As the Bypass nears Brentwood, near Concord Avenue, it would bypass a planned residential development by the Blackhawk Corporation, and would be visible to residents of this subdivision. Views of the Bypass from adjacent properties would significantly impact the landscape design of the new residential community. The strong linear feature of the roadway would strongly contrast with the gently rolling landscape in the foreground and middle-ground and natural contours of background hills. This would be a significant impact.

South of Brentwood, the Bypass would proceed generally southeast along the base of the foothills, crossing Marsh Creek and Kellogg Creek, where it would intersect with Walnut Boulevard. There are three large developments in various stages of planning in this area: Should any of these Projects be undertaken, the new roadway would be visible to residents from viewpoints not shielded by natural barriers. Unless these developments incorporate design measures to reduce the visual intrusion of the expressway, the Project could dominate foreground views from these residences which would be considered a moderate to strong contrast with the existing landscape characters. This impact would be significant.

Mitigation Adopted by the Authority

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental

effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.D.4: The Project would widen Marsh Creek Road a designated Scenic Highway. This widening would impact existing vegetation and other landscape features contributing to its status as a scenic highway. This would be a significant impact. Marsh Creek Road is currently a well-traveled roadway connecting eastern Contra Costa County with the central portion of the county. The road runs from State Route 4 south of Brentwood west and north through the Diablo Range to Clayton, from where Clayton Road continues into Concord. Removal of mature trees for roadway widening could have a significant visual impact on residential development along Marsh Creek Road.

Mitigation Adopted by the Authority

III.D.4. In addition to the mitigations identified under III.D.1, design the Marsh Creek Road roadway alignment to avoid removal of mature trees, where possible, or at a minimum, replant with vegetation of similar canopy.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because avoidance of mature trees or replanting will provide a similar canopy.
(DEIR, Volume 3, page III.D.13.)

5. Findings Concerning Traffic and Transportation Impacts

The identified traffic and transportation impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.E.2: The Project would have a detrimental impact on traffic levels of service (LOS) at five intersections in the vicinity of the project under Phase I and at two intersections under Phase II. This would be a significant impact.

Mitigation Adopted by the Authority

III.E.2. Provide traffic engineering improvements as shown in Tables III.E.13, III.E.14, and III.E.15 of Volume 3 of this EIR for Year 2000 Project Phase I, Year 2010(+) Project Phase I, and Year 2010(+) Project Phase II intersection impacts. Traffic engineering improvements include increases in the number of approach lanes at impacted intersections, or, in more severe cases, provision of grade separated interchanges. Traffic levels of service improve from E or F conditions prior to mitigation, to D or better conditions.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the identified improvements will ensure LOS D or better at each of the five intersections in the Project vicinity.
(DEIR, Volume 3, pages 36 and 43.)

Significant Impact III.E.3: The Project would have a detrimental impact on traffic levels of service on the existing SR 4 freeway from SR 160 to Bailey Road. This would be a significant impact.

Mitigation Adopted by the Authority

III.E.3: Improve the State Route 4 Freeway to provide for additional capacity from the Bypass to Bailey Road, as follows:

By year 2000, provide for widening from two to three lanes in each direction. The extra capacity would result in a v/c ratio of 0.78 (LOS C) in the evening peak hour on the section west of Railroad Avenue, and 0.67 (LOS B) on the section west of Lone Tree Way.

By year 2010(+), provide additional widening to four lanes in each direction (whether the Phase I or Phase II project is built by that time). The extra capacity would result in a v/c ratio of 0.93 (LOS E) in the evening peak hour on the section west of Railroad Avenue

and 0.95 (LOS E) on the section west of Lone Tree Way for the Phase I project. Similar improvements to level of service would be obtained under Phase II project conditions.

It is important to note that these calculations do not account for diversion of traffic from parallel roadways such as Buchanan Road, Buchanan Road Bypass, Pittsburg/Antioch Highway and Delta Fair Boulevard/Leland Road that would result from additional freeway capacity. These diversions would result in near capacity conditions during the peak hour under the year 2010(+) conditions. The duration of congested conditions would, however, be less as a result of the highway widening.

(a) Limit housing development in eastern Contra Costa County to avoid additional congestion on the existing State Route 4 freeway. This would reduce, but not eliminate the severity of the impact. If the Project were built under a scenario of lower housing growth in eastern Contra Costa County, the existing State Route 4 freeway would still experience an increase in traffic demand, over the no-project condition, due to improved access. However, the level of congestion would be lower than if all growth expectations were met, albeit at a lower level.

(b) Participate in sub-regional and county-wide efforts at growth management required as part of the Measure C Growth Management process. Regional solutions are being sought to roadway congestion in Contra Costa County. This is an ongoing effort that seeks to address the interrelated issues of land development and transportation infrastructure. An *Action Plan for Routes of Regional Significance* is currently being prepared by the members of the State Route 4 Bypass Authority, plus the City of Pittsburg, in coordination with the Contra Costa Transportation Authority.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measures are incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measures are feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

<u>Significant Impact III.E.4:</u> Traffic conditions on the Bypass segment of the Project would exceed service standards. In the year 2000, traffic increases would result in slight degradation of conditions at the freeway portion of SR 4 west of Lone Tree Way. Year 2000 travel demands would quickly fill up the available capacity of the two-lane interim Project, and LOS E or F conditions would be expected on the Bypass for most of its length. In the year 2010 and beyond, traffic increases due to redistribution of traffic patterns from the project would result in the degradation of the freeway portion of SR 4 west of Lone Tree Way and west of Railroad Avenue and the non-freeway portion of SR 4 west of Lone Tree Way in the vicinity of Discovery Bay. Year 2010 (+) travel demands would quickly fill up the available capacity of the Bypass, whether built as a Phase I or Phase II Project, and LOS E or F conditions would be expected on the Bypass for most of its length.

In the year 2000, intersection service levels would degrade at the Vasco Road/Camino Diablo Road intersection as a result of the Phase I Project, resulting in LOS F during both morning and evening peak hours. In addition, in the year 2000 the Laurel Road and Lone Tree Way intersections on the Bypass would have traffic demand in excess of capacity during both morning and evening peak hours. The Balfour Road intersection would be over capacity during the evening peak hour, and the Walnut Boulevard intersection would have LOS E conditions in the evening peak hour. In the year 2010 and beyond, traffic conditions would degrade at the Vasco Road/Camino Diablo Road intersection, due to Phase I and Phase II projects, resulting in LOS F during both morning and evening peak hours, and at SR 4 (east)/Lone Tree Way intersection under Phase II conditions, due to traffic redistribution. These would be significant impacts.

<u>Mitigation Adopted by the Authority</u>

III.E.4. Modifications to the proposed design for the Project should be made as follows. Tables III.E.13, III.E.14 and III.E.15 of Volume 3 of this EIR include recommendations for changes to the proposed design for intersections on the Bypass and the Marsh Creek Road east-west connector. The improvement needs of the three project conditions studied are summarized below:

(a) Year 2000 Phase I Project Condition. Make modifications to Laurel Road, Lone Tree Way, Balfour Road and Marsh Creek Road intersections with the Bypass as shown in Table III.E.13. These should be sufficient to obtain acceptable operation on the two-lane expressway under anticipated year 2000 traffic conditions. Intersection level of service would improve from F to C or D at each of these locations.

(b) Year 2010(+) Phase I Project Condition. Improvement needs at the proposed at-grade intersections with the proposed Phase I Bypass are shown in Table III.E.14. The intersections at Laurel Road, Lone Tree Way, and Balfour Road indicate the need for two through lanes in each direction, and the intersection at Sand Creek Road has a need for several additional turn lanes. This indicates that a four lane

cross section should be provided from the SR 4 freeway to south of Balfour Road. Improvements would also be needed at the intersection of Sellers Avenue with the Marsh Creek Road east-west connector. Intersection level of service would improve from E and F conditions to B, C or D conditions with the recommended improvements.

(c) Year 2010(+) Phase II Project Condition. Improvement needs at the proposed at-grade intersections with the Phase II Bypass are shown in Table III.E.15. Demand under the Phase II project scenario indicates the need for three through lanes of capacity between Lone Tree Way and south of Balfour Road to maintain an at-grade project. The intersection geometric shown are illustrative -- the appropriate way to mitigate this deficiency would be to provide a grade separated interchange. Intersection level of service would improve from E and F conditions to B and D conditions.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the phased improvements would improve levels of service at the specified intersections.
(DEIR, Volume 3, pages III.E.45 and 46.)

Significant Impact III.E.5: The Project is not included in the Metropolitan Transportation Commission's Regional Transportation Plan Capital Improvement Program. It is therefore not consistent with the Plan. In order for the Project to become the adopted State Route 4 Bypass, it must be included on this plan. This would be a significant impact.

Mitigation Adopted by the Authority

III.E.5. State Route 4 Bypass Authority shall assure that the Project is included on appropriate plans prior to proceeding with construction of the Project.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the Authority will not commence Project construction until

adopted as part of the Regional Transportation Plan and other relevant plans. (DEIR, Volume 3, page III.E.46.)

Significant Impact III.E.6: In the year 2010(+) scenario, traffic along Marsh Creek Road, motorists exiting driveways and moving farm equipment would experience increased difficulty finding adequate traffic gaps.

Mitigation Adopted by the Authority

III.E.6. Provide improvements described in Response to Comment CC-3 which include provision of the most appropriate of the following measures: median barriers and prohibited left-turns; provision of frontage roads or roads located behind structures leading to intersections; add selected left-turn lanes; and relocate residents.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the proposed measures will gaps in oncoming traffic generated by the Project to enhance traffic flow. (FEIR, pages IV. 217 and 218)

Significant Impact III.E.7: There will be sharp 90 degree turn at the east end of the Marsh Creek Road Project as it joins the existing State Route 4. This may affect roadway safety and traffic conditions.

Mitigation Adopted by the Authority

III.E.7. Redesign the intersection of Marsh Creek Road /Existing SR 4 to facilitate a smooth transition for the east-west traffic flow. Marsh Creek Road would become a "through" or unimpeded roadway. The existing segment of SR 4 would intersect the through route as the minor leg of a new intersection, as shown in Figure III.E.7. This would require a net initial take of up to 2 acres of agricultural core land, though a portion of the shaded area may be returned to agricultural use.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse

environmental effect because the proposed measures will facilitate a smooth transition for the east/west traffic flow thereby reducing impacts to roadway, safety, and traffic conditions. (FEIR, pp. IV.L.14.)

6. Findings Concerning Noise Impacts

The identified noise impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.F.1: Construction activities would temporarily increase ambient noise levels in the Project area. Road construction activities would generate high noise levels in the Project area during the construction phase. For road projects, the major pieces of construction equipment are trucks, scrapers, rock drills, and pavers. Some blasting would also be required for the Project. High noise levels would not be expected to occur for more than one or two months at any one location given that road construction crews (and their equipment) would move along the corridor as construction proceeds. The number of existing residences that would be significantly affected would be relatively small but if lands adjacent to the right-of-way convert from agricultural uses to residential and commercial uses as called for under the Antioch and Brentwood General Plans, then the number of residences significantly affected by construction noise would be much higher. This would be a significant impact.

Mitigation Adopted by the Authority

III.F.1. The following measures would reduce the noise from construction equipment and the accompanying disturbance to sensitive land uses in the corridor:

(a) Limit noisy construction activities to these hours: 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m., on Saturdays.

(b) Use power construction equipment with state-of-the-art noise shielding and muffling devices.

(c) Provide notification and schedule information (including blasting times) concerning road construction to residents within the corridor, and provide a means whereby residents can call with complaints or questions.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse

environmental effect because the construction restrictions imposed by the mitigation will reduce noise levels around residences in the Project area.
(DEIR, Volume 3, page III.F.18.)

Significant Impact III.F.2: Over the long term, the Project would substantially increase noise in the vicinity of the Bypass right-of-way and along Marsh Creek Road. Development of the Project would cause a redistribution of future motor vehicle traffic in the East County area as well as indirectly increasing the number of vehicle trips by accommodating a level of development that would not otherwise occur in East County. This would be a significant impact.

Mitigation Adopted by the Authority

III.F.2. Several measures can be implemented to reduce potential incompatibility between existing and future land uses in the vicinity (and within) the corridor and the freeway (see Measure III.F.3), but no practical measure exists to reduce the noise impacts from the Bypass to a less than significant level because existing noise levels are so low and future traffic volumes would be substantial. Thus, the increase in ambient noise levels within the Project vicinity would be a significant, unavoidable impact of the Project.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.F.3: Development of the Project would generate noise levels that exceed compatibility guidelines for residential uses over a wide area. Incompatibility issues may become a greater problem with continued growth and development in the East County Area. Using the 60 dBA, Ldn contour as the basis for evaluating residential/noise compatibility, existing and future residences within 2,000 feet of the nearest lanes (west and north of Laurel Road) to within 800 feet of the nearest lanes (east and south of Balfour Road) would experience a change in their noise environment due to the Project sufficient to change their environment from completely compatible to conditionally compatible or incompatible. While the number of existing residences (and other noise sensitive uses, like churches) that would be affected would be low, there could be more in the future given the development plans of the affected jurisdictions for the East County area. Specifically, Antioch and Brentwood both are planning for additional residential growth in areas adjacent to the right-of-way which could experience traffic noise levels in excess of the 60 dBA, Ldn compatibility standard. This would be a significant impact.

Mitigation Adopted by the Authority

III.F.3. The following measures could be implemented to reduce potential incompatibility between operation of the Project and existing and future sensitive land uses:

(a) Maintain a sufficient buffer (open space) between the Bypass and future sensitive land uses. This measure will require implementation by the jurisdictions, including the Cities of Brentwood, Antioch, and Contra Costa County, with land use authority over the land adjacent to the corridor. These jurisdictions could amend their General Plans to specify that a sufficient buffer distance (consistent with the estimates in this report for the 60 dBA, Ldn contour) between the Project

and sensitive land uses be maintained. As an alternative or in combination with a buffer (open space), the affected jurisdictions could plan for less sensitive land uses (commercial, office, business park, or industrial) between more-sensitive uses and the ROW.

Such uses would act to shield the more-sensitive uses allowing for a compatible residential noise environment closer than the distances identified in the impact section above. These jurisdictions would enforce Title 24 standards for multi-family residential development proposals within 2,000 feet of the center of the ROW, and could apply the same insulation requirements to single-family residential proposals, as well.

(b) Construct sound barriers to reduce traffic noise at noise-sensitive locations. Barriers can take various forms, including landscaped earthen berms, walls, depressed roadways, and even thick stands of vegetation, or some combination of the four. This measure would be best suited for a 2,500-foot-long segment east of the alignment where the alignment runs closest to the residences near the Southern Pacific line and Neroly Road.

(c) Provide noise insulation for existing residences that would be significantly affected by project noise.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the mitigation requires implementation of noise buffering techniques to reduce impacts to noise sensitive land uses.
(DEIR, Volume 3, pages III.F.18 and 19.)

7. **Findings Concerning Air Quality Impacts**

The identified air quality impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.G.1: Construction activities would temporarily generate substantial amounts of criteria air pollutants, particularly NO_x and fine particulate matter (PM_{10}). Grading and excavation activities associated with road construction would generate substantial amounts of criteria pollutants through combustion of fuel to power construction equipment and haul trucks and through movement of earth and vehicle travel over unpaved surfaces. Grading activities and

truck movement over unpaved surfaces would be the two principal sources of fugitive dust. Construction-related fugitive dust contains fine particulate matter associated with adverse health effects, as well as larger-sized particles that settle out of the air within several hundred feet of the construction area (associated with nuisance effects). With the scale of this Project, the extent of earth movement and the extent of truck travel over unpaved surfaces would likely be substantial. The PM_{10} fraction of the fugitive dust generated by construction would add to background PM_{10} concentrations that already exceed the state health-based standards on a regular basis. This would be a significant impact.

Mitigation Adopted by the Authority

III.G.1. To reduce the amount of particulate matter generated by earth-moving activities and vehicle travel over unpaved surfaces, implement the following dust abatement program. This program would benefit from the designation of a person or persons by the construction contractor to oversee implementation of all the aspects of the program.

(a) Water active sites, temporary unpaved parking or staging areas, and unpaved road surfaces at least twice daily.

(b) Suspend all excavating and grading operation when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

(c) Replace ground cover in disturbed areas as quickly as possible.

(d) Enclose, cover, water twice daily, or apply soil binders to exposed stock piles (e.g. sand, gravel, or dirt).

(e) Sweep streets at the end of day if any visible soil material is carried over to adjacent thoroughfares.

(d) Limit speeds on unpaved road surfaces to 15 mph or less.

(e) Cover all trucks hauling dirt, sand, soil, or other loose materials. Maintain at least six inches of freeboard (i.e. the minimum required space between the top of the load and the top of the trailer).

To reduce combustion emissions from construction equipment, the following measures should be implemented:

(a) Prevent trucks from idling longer than two minutes.

(b) Require catalytic converters for all gasoline-powered equipment, where feasible.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the dust abatement program will reduce emissions of PM_{10} generated by earth moving activities associated with the Project.
(DEIR, Volume 3, pages III.G.19 and 20.)

Significant Impact III.G.2: Development of the Project would result in an increase in emissions over those expected under the no-project scenario. This increase would exceed BAAQMD significance criteria and would be a significant impact. The comparison of the net increase in emissions due to the Project (i.e. the difference between the no-project and Project cases) with the significance criteria shows that project emissions of HC, NO_x, and PM_{10} would be significant in 2000 and project emissions of NO_x and PM_{10} would be significant in 2010. The physical impact of the increase in emissions due to the Project would be incrementally higher pollutant concentrations. This would be a significant impact.

Mitigation Adopted by the Authority

III.G.2. The following measures would reduce the net increase in motor vehicle emissions associated with the Project.

The Authority shall encourage Metropolitan Transportation Commission (MTC) to amend its High-Occupancy Vehicle (HOV) Lane Mater Plan 2005 and RTP to include HOV lanes on State Route 4 east of Railroad Avenue. This would provide the opportunity to connect to HOV lanes developed under Phase II for that portion of the proposed Bypass north of Balfour Road.

If MTC amends its HOV Plan and RTP, the Authority shall develop HOV/express bus lanes and develop Park & Ride lots that support their usage with transit easements for preferential parking policies, express but turnouts, and special HOV ramps. The development of HOV lanes in the Bay Area is one of the transportation control measures (TCM) contained in the `91 Clean Air Plan and is expected to reduce HC and NO_x from mobile sources (TCM #8 Bay Area 191 Clean Air Plan, Volume II, Appendix F, Transportation Control Measure Descriptions, october 1991). Development of HOV lanes along the proposed alignment under Phase II would contribute to the effectiveness of this regional TCM, but the extent to which it would contribute in terms of reductions in lb/day of HC or NO_x cannot be quantitatively estimated.

Based on emissions estimates made using EMFAC7F, mitigation measures must demonstrate a reduction of 262 lb/day of PM10 by Year 2000 to reduce PM10 air quality impacts to less-than-significant (i.e. to reduce the project incremental increase to less than 150 lb/day). By 2010, under Phase I, mitigation measure must demonstrate a reduction of approximately 390 lb/day of PM10. Under Phase II (Year 2010), the necessary reduction would be 399 lb/day of PM10.

The Authority shall work with Contra Costa County to identify and pave public roads within the County that are currently unpaved. Based on emissions factors and assumptions contained in BAAQMD's Base year 1990 Emissions Inventory Source Category Methodologies (October 1993), paving of unpaved roads would reduce PM10 emissions by tow lb/VMT (based on a particle size multiplier of 0.36 for PM10 and 60 rain days per year). Assuming 10 VMT per day on any given unpaved road, paving of unpaved roads would reduce PM10 emissions by 20 lb PM10 per day for each mile paved. Thus, the goad for this measure would be to pave approximately 13 miles by 2000 and an additional seven miles by 2010.

Based on emissions estimates made using EMFAC7F, mitigation measures must demonstrate a reduction of 56 lb/day of HC and 140 lb/day of NO_x by Year 2000 to reduce ozone precursor (i.e. HC and NO_x) air quality impacts to less-than-significant (i.e. to reduce the project incremental increase to less than 150 lb/day). By 2010, under Phase I, mitigation measures must demonstrate reductions of approximately 167 lb/day of NO_x, and under Phase II (year 2010), the necessary reductions would be 406 lb/day of HC and 451 lb/day of NO_x.

The Authority shall work with local school districts in Contra Costa County to subsidize a program whereby diesel-powered school buses would be replaced with electric-powered buses. The Authority would fund the additional costs associated with these buses. Using EMFAC7F emissions factors for urban buses at an average speed of 15 mph, buses emit approximately six to seven grams of HC per mile and approximately 22 grams per mile of NO_x. Thus, for each replacement, the reduction would be approximately 1.4 lb/day of HC and 4/9 lb/day of NO_x assuming 100 miles per day per bus. To reduce the impact to less-than-significant, the Authority would need to replace 40 diesel-powered school buses with electric buses by 2000. By 2010, under Phase II, an additional 250 would need to be replaced.

The Authority shall encourage Antioch, Brentwood, and Contra Costa County to use their land use development authority to see that proposed residential development in the East County are includes sufficient mixed-use character and alternate transit features (e.g. bike lanes) that future residents would not be forced to use their vehicles for every trip (work, shopping, school, etc.) outside the home.

The Authority shall encourage Antioch, Brentwood, and Contra Costa County to coordinate land use development with BART and Eastern Contra Costa County Transit Authority to ensure that future development would be provided with realistic alternatives to automobile use. The effectiveness of this measure cannot be quantitatively estimated.

The Authority shall encourage Antioch, Brentwood, and Contra Costa County to provide retail and services at employment sites, incentives for infill development, and increased densities near existing and planned transit facilities.

The Authority shall encourage Antioch, Brentwood, and Contra Costa County to require developers to include bicycle and pedestrian amenities in their site designs.

The Authority shall encourage Antioch, Brentwood, and Contra Costa County to amend their parking requirements to reduce the number of parking spaces that developers must provide.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measures are incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Since all of the above mitigation measures require the resources, cooperation, and commitment of other agencies, the overall effectiveness cannot be ensured at this time. The Lead Agency lacks the authority to insure implementation of these measures. Therefore, the residual impact would still be significant.

Infeasible Mitigation

The Authority finds that the above stated mitigation measure directing the Authority to work with local school districts to subsidize electric powered buses is infeasible because the equivalent technology for electric school buses is not available. Moreover, the Authority finds that it cannot guarantee that it will be able to fund additional costs

associated with these buses at the time the technology becomes available.

<u>Significant Impact III.G.5:</u> Development of the Project would hinder regional efforts to attain the transportation performance standards set forth in the California Clean Air Act. This would be a significant impact.

Mitigation Adopted by the Authority

III.G.5: See mitigation measure III.G.2.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.G.6: The Project may not conform to the state implementation plan (developed pursuant to the federal Clean Air Act Amendments of 1990) in effect at the time of project approval.

Mitigation Adopted by the Authority

III.G.6. Prior to development of the State Route 4 Bypass Project, include the project in the Regional Transportation Plan and Transportation Program. Perform specific CO analysis to assure conformance with air quality standards.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the CO analysis will identify potential nonconformance. (FEIR, page II-174.)

8. Findings Concerning Geology, Seismicity and Soils Impacts

The identified existing plans and policies impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.H.1: Construction of the Project would require the movement of approximately 3.3 million cubic yards of earth for roadway excavation. Displacement and compaction would occur during construction of this Project. Soils that have been identified as inappropriate for use in roadbed construction would have to be moved off-site. Engineered fills may have to be imported from off-site for use in areas where existing soils have high susceptibility to liquefaction and/or high shrink/swell potential. Compaction of soils during roadbed construction will alter drainage patterns. Because of the amount of soil moved and the size of the Project area, this would be a significant impact.

Mitigation Adopted by the Authority

III.H.1. Employ the following engineering techniques to mitigate the impact of moving approximately 3.3 million cubic yards of earth associated with excavation of the roadway:

(a) Develop a transportation and disposal plan for soils that will not be re-used in roadbed construction, in coordination with state and county agencies.

(b) Move to an off-site area soils deemed inappropriate for re-use in roadbed construction, such as those with high shrink-swell or erosion potential, or loose, cohesionless sands prone to liquefaction. The determination of lack of suitability of these soils will be made on-site by a qualified geotechnical engineer or engineering geologist certified by the State of California.

(c) Use engineered fill to replace those soils with inappropriate qualities for construction purposes. The fill will be approved by an on-site qualified geotechnical engineer or engineering geologist certified by the State of California.

(d) To further enhance the likelihood of successful revegetation and long-term vegetative slope stabilization, Topsoil materials to be disturbed or removed during construction will be carefully distinguished, stockpiled, and protected separately from other soil materials that would be reused in roadbed construction by the on-site geotechnical engineer. As soon as is possible, stockpiled topsoil materials will be reused as a component of the revegetation seed bed materials for all cut and fill slopes, where feasible.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because implementation of the identified engineering techniques will limit soil compaction.
(DEIR, Volume 3, page III.H.12; and FEIR page II.115.)

Significant Impact III.H.2: *Construction of the Project would require grading which would alter the topography in the Project area. Since most of the Project area is relatively flat, grading activities would not necessarily be considered significant, unless they included excavation of unstable slopes, which could undermine the Authority further finds that these mitigation measures are appropriate and feasible and will integrity of the slope, thereby increasing the risk for landslide. Slopes greater than 15 percent are generally considered to be potentially unstable. The Project area is primarily flat with slopes up to 15 establish procedures to avoid alteration of the quantity and/or degradation of the quality of recharge to percent limited to the northern portion of the expressway. Devegetation and alteration of drainages in the northern portion of the Bypass would have the potential for causing unstable slopes and landsliding. Landsliding can temporarily or permanently block access to and from developed areas. Landslides along drainage channels can impede the flow of water, creating dams and subsequent flooding. The area represents a fairly small portion of the entire Project area, but the increased risk for landslides would be considered a significant impact.*

Mitigation Adopted by the Authority

III.H.2. Employ the following engineering techniques to mitigate slope instability and erosion/siltation impacts resulting from development of a roadway in the right-of-way:

(a) Perform all grading and slope operations during the dry season (May - September).

(b) Engineer cut slopes that are up to 15 feet high to no steeper than a 1.5:1 slope in soil, or a 0.75:1 slope in bedrock.

(c) Engineer cut slopes that are higher than 15 feet to no steeper than 2:1 in soil or 1:1 in bedrock.

(d) Engineer fill slopes less than 15 feet high to 5:1 or less; and 2:1 or less for slopes higher than 15 feet.

(e) Scarify or serrate slopes into benches, 8" to 10" in width and height, in increase overall stability and allow for the reestablishment of vegetation.

(f) Align roadways so as to not be parallel with the dip direction of adjacent slopes.

(g) Stabilize barren soil slopes with jute netting or similar geotextile fabric, and revegetate slopes with fast-growing, continuous, deep-rooting, and fire and drought-resistant vegetation.

(h) Divert storm water runoff from slopes using temporary or permanent swales, slope drains (flexible down drains, pipe drops, or chutes), and interceptor ditches; which will be emplaced immediately after cutting or filling of the slopes and prior to revegetation.

(i) Retain existing vegetation wherever possible and minimize its removal.

(j) Hydroseed barren soil slopes with plant species that are fast-growing, with dense cover and fibrous root systems, adapted to poor soil conditions and to the local climate; that re-seed and re-grow well; that are fire and drought-resistant; and that are low-cost and easy to maintain. Examples: Annual Ryegrass, Grome, Fescue, Oats, Barley, Clover, Trefoil, California poppy.

(k) Apply straw or other mulch after seeding and fertilizing barren slopes.

(l) Erect berm or hay bale barriers to direct runoff away from cleared areas.

(m) Cover stockpiles of soil.

(n) An erosion and sedimentation control plan will be developed, using the Safety Element of the Contra Costa County General Plan (1991) and the Contra Costa County Grading Ordinance as guidelines. Caltrans may also have existing erosion control guidelines which could be consulted. The Erosion & Sedimentation Control Plan developed will include discussions of the elements: project Description; Existing Site Conditions; Adjacent Area; Soils; Critical Area (high-erosion areas); Erosion and Sediment Control Measures; Temporary & Permanent Stabilization Measures; Maintenance Measures; and Map (showing existing and final contours, existing vegetation, soils, existing and final drainage patterns, limits of clearing and grading, and a storm water management system).

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because implementation of the identified engineering techniques will eliminate erosion damage during Project construction.
(DEIR, Volume 3, pages III.H.12 and 13; and FEIR page II.115.)

Significant Impact III.H.3: Construction of the Project would occur in areas with unstable soils. Erosion and sedimentation could occur during construction. The most significant engineering consideration of soils in the Project area is their high shrink-swell potential. Many soils in the area experience considerable shrinkage with moisture loss. Roadways and utility lines would require special design in areas with soils that have moderate to high shrink-swell potential to prevent damage caused by these expansive soils. Construction could cause significant soil erosion in areas with unstable soils, mostly in the northern segment of the expressway. This would be a significant impact.

Mitigation Adopted by the Authority

III.H.3. See mitigation measure III.H.2.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because implementation of the identified engineering techniques will eliminate the risk of landslides during Project construction.
(DEIR, Volume 3, pages III.H.12 and 13; and FEIR page II.115.)

Significant Impact III.H.4: Development of the Project including the widening of Marsh Creek Road could expose travelers to hazards such as ground shaking, liquefaction and flooding during a strong earthquake. The Project could be affected by strong ground shaking in the event of a significant earthquake. A moderate-sized earthquake (Richter magnitude 6 or less) on any local fault or a larger earthquake (Richter magnitude greater than 7) on any of the regional Bay Area faults could cause damaging ground shaking in the Project area. Earthquake ground shaking may cause secondary environmental effects such as liquefaction, ground failure, landslides and dam failure. Potential damage to roadways include roadbed settlement and damage to elevated structures. Ground settlement or liquefaction-induced ground failure could cause major cracking

and offset of road surfaces. Table III.H.3 identifies liquefaction potential for the Project. Strong ground shaking could damage elevated roadway structures, causing road closure and, possibly, casualties. This would be a significant impact.

Mitigation Adopted by the Authority

III.H.4. Follow the performance standards listed below to mitigate earthquake-related impacts affecting development of a roadway in the right-of-way:

(a) Fault rupture. Design roadways which cross surface fault traces with flexible materials to allow some lateral displacement or offset without rupturing severely, particularly overpass structures.

(b) Liquefaction. Identify areas along the corridor that are prone to liquefaction during an earthquake, using existing data on soil types, depth to groundwater, and degree of saturation of soils during non-drought conditions. Avoid constructing the roadway in these areas where possible. Where this is not possible, excavate the natural soils and replace them with engineered fill.

(c) Ground shaking. Avoid constructing elevated roadway structures across or close to known faults. Consider using engineered fill embankments rather than pile supports for any necessary roadway crossings, with culverts emplaced for stream crossings where appropriate.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure (b) is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will substantially lessen or the above-described adverse environmental effect because performance standards for development in the right-of-way require avoidance of areas prone to liquefaction.
(DEIR, Volume 3, page III.H.14.)

The Authority further finds that the mitigation measures (a) and (c) are incorporated in the proposed Bypass Project. The Authority further finds that these mitigation measures are feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or

eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.H.5: Construction of the Project would remove lands designated prime agricultural and lands of statewide importance. Road construction could affect agricultural productivity of prime soils (Grade 1 and 2) both directly and indirectly. Direct effects on soil include the removal of the uppermost organic layer, compaction or removal of the remaining soil horizons, and covering of the soil with aggregate and asphalt or concrete. These direct effects alter soil composition and structure and render the soil unusable for farming. In most cases this impact is irreversible and the soil would not be productive even if the road were to be removed at a later time. This would be a significant impact.

Mitigation Adopted by the Authority

III.H.5. Avoid where possible constructing the roadway through areas containing prime agricultural soils, identified using maps produced by the U.S. Department of Agriculture Soil Conservation Service.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project.
Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

9. Findings Concerning Hydrology, Drainage and Floodplain Impacts

The identified hydrology, drainage and floodplain impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.I.1: Construction of the Project could result in the alteration of floodplain and flood routing. The primary hydrologic impact of the Project would be the potential alteration of the floodplain and flood routing. This could expose people to flood hazards, which would be a significant impact. Flooding beyond the capacity of the creek crossings, including those at San Creek and Marsh Creek, would result in water elevations above the stream banks with extensive sideways expansion of the water surface, The flood waters would form a slow-moving backwater condition adjacent to the stream which would correspond to the area delineated within the 100-year flood zone. Bridges, low bridges, and culverts would be designed to allow stream channels to flow at normal levels without excessive hindrance.

Mitigation Adopted by the Authority

III.I.1. Follow the performance standards listed below to mitigate the impacts of alteration of floodplain and flood routing resulting from development of a roadway in the Corridor:

(a) Confirm and finalize delineation of the 100-year floodplain during preliminary engineering of the roadway, using aerial photographs and site surveys.

(b) Use FEMA FIRM maps and on-site data to determine the hydraulic flood elevations for those portions of the proposed roadway that pass through floodplain.

(c) Design bridges and culverts for stream and artificial drainage crossings of the roadway to allow passage of normal flows without excessive hindrance.

The measures taken to mitigate these impacts must comply with the Public Facilities/Services Element (7.8: Drainage and Flood Control) and Safety Element of the *Contra Costa County General Plan* (1991). The State Route 4 Bypass Authority shall work with the Contra Costa County Conservation & Flood Control District to determine the extent of cumulative flood hazard posed by development of the East County Corridor roadway. The U.S. Army Corps of Engineers will be contacted for permission to do construction within the floodway of stream channels and their adjacent floodplain.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because implementation of the designated performance standards during project construction will eliminate flood hazard exposure.

(DEIR, Volume 3, page III.I.10; and FEIR page II.117.)

Significant Impact III.I.2: Construction of the Project would increase the amount of impervious surface in the region which would generate additional runoff that could affect groundwater resources. This would be a significant impact.

Mitigation Adopted by the Authority

III.I.2. Follow the performance standards listed below to mitigate the impacts of an increase in impervious surface in the region, which will increase storm water runoff and its vehicle-derived pollutants, due to development of the roadway:

(a) Divert storm water runoff from roadway embankments to minimize entrainment of soil particles and adsorbed pollutants, particularly at the crossings of canals and streams, using temporary or permanent swales, slope drains (flexible down drains, pipe drops, or chutes), and interceptor ditches. Divert runoff to the nearest crossover point for discharge into existing drainage channels.

(b) Use runoff detention basins to restrict peak flow from roadway and cleared right-of-way surfaces in areas where runoff is severe. Siting of detention basins may be accomplished using computer simulations for storm water runoff within the watersheds affected by the proposed roadway. On-site detention basins will be constructed following blue-green storage concepts such as using roadway embankments as flood control structures, ponding flows that exceed the pass-through rate used in the hydraulic design of culverts. Storm water detention ponds may also be constructed along portions of the roadway that cannot be elevated on embankments.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the diversion of stormwater runoff and use of detention basins will reduce runoff.
(DEIR, Volume 3, page III.I.11.)

Significant Impact III.I.4: Implementation of the Project could expose motorists to a project flood should reservoirs in the area be damaged by an earthquake and flood. There are several reservoirs in the Project area that could create a Project Flood if failure were to occur. A Project Flood would be of concern on the flat deltaic plain below a water storage site in the foothills of the Diablo Range. A Project Flood from the Marsh Creek Reservoir would create extensive

damage across much of the deltaic plain north and east of the reservoir. The currently proposed and authorized Los Vaqueros Reservoir is to have a 100,000 acre-feet capacity of water storage. The potential area of inundation by a Project Flood from this structure would include much of the Bypass portion of the Project. This would be a significant impact.

Mitigation Adopted by the Authority

III.I.4. Follow the performance standards listed below to mitigate the impact of an earthquake-induced flood from a damaged reservoir to motorists using the proposed roadway:

(a) Using maps of potential inundation routes from the Marsh Creek, Los Vaqueros, and other existing or proposed reservoirs prepared by the Office of Emergency Response, determine which sections of the roadway will lie in the path of inundation.

(b) Determine the potential hydraulic flood elevations from these inundation events, and elevate the roadway along these sections, using anticipated flow rates in the hydraulic design of culverts or bridges at these elevated sections.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because elevation of portions of the roadway will avoid flooding. (DEIR, Volume 3, page III.I.11.)

Significant Impact III.I.5: *Construction of the Project would occur in areas of very slight topographic relief and would therefore have the potential to alter existing flow patterns of rainfall runoff. Additionally, construction near existing waterways could alter existing stream water flow patterns. This would be a significant impact.*

Mitigation Adopted by the Authority

III.I.5. For any construction that would result in a change to designated floodplain, apply for and receive a permit from the Contra Costa County Water Conservation and Flood Control District before construction begins within the floodplain. For any alternation to a streambed, work with the California Department of Fish and Game to develop a Streambed Alteration Agreement that will minimize construction impacts to existing water

flow patterns. In addition to the measures described above, follow the performance standards listed below to further reduce the impacts of changes in existing flow patterns of streams and stormwater runoff due to development of the Project:

(a) Before altering natural surface water flow patterns, obtain a Section 404 Dredge & Fill Permit from the U. S. Army Corps of Engineers, and a Streambed Alteration Agreement from the California Department of Fish & Game, as needed on a case-by-case basis. Follow the procedures developed by these agencies to prevent adverse impacts to water quality or habitat.

(b) Divert storm water runoff from roadway embankments and from cut or fill slopes associated with construction using temporary or permanent swales, slope drains (flexible down drains, pipe drops, or chutes), and interceptor ditches.

(c) Use runoff detention basins to restrict peak flow from roadway and cleared right-of-way surfaces. Siting of detention basins may be accomplished using computer simulations for stormwater runoff within the watersheds affected by the proposed roadway. On-site detention basins will be constructed following blue-green storage concepts such as using roadway embankments as flood control structures, ponding flows that exceed the pass-through rate used in the hydraulic design of culverts. Storm water detention ponds may also be constructed along portions of the roadway that cannot be elevated on embankments. Off-site detention will occur where open space and grassed areas are provided, in order to make use of natural flood control features and maximize aesthetic appeal. Detention basins will be sited on soils that allow for groundwater recharge.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the mitigation will reduce impacts resulting from change to flow patterns.
(DEIR, Volume 3, page III.I.12.)

10. Findings Concerning Biological Resources and Wetlands Impacts

The identified biological resources and wetlands impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Note: *Based on additional surveys, no evidence of caper-fruited tropidocarpum or recurved*

larkspur were located within the ROW. For this reason, no project related impacts to these species would occur and Impacts (as they appeared in the DEIR) III.J.1 and III.J.2 have been removed.

Because the Project, Cowell, and Nunn "Mitigated" Alternatives were designed to avoid the seasonal pond located along the tributary to Kellogg Creek, no direct impacts to this habitat will occur. For this reason, impacts relating to Longhorn fairy shrimp, Vernal pool fairy shrimp, California linderiella, Curve-foot hygrotus diving beetle, and Ricksecker's water scavenger beetle have been combined to form the Revised Impact III.J.1.

The remaining Impacts and Mitigation Measures have been renumbered accordingly.

San Francisco forktail damselfly has been delisted by the federal government (now considered a category C3c Candidate) and no longer receives recognition as a special status species under CEQA. For this reason, impacts to this species (if present) are considered adverse and not significant.

The Project, Cowell, and Nunn "Mitigated" Alternatives have been designed to avoid the sandstone rockoutcrop located south of Marsh Creek Road. Project related impacts to this formation are now considered adverse, but not significant, and mitigable.

Significant Impact III.J.1: *Construction of the Project would indirectly affect the seasonal pond located along the tributary to Kellogg Creek. This area provides suitable habitat for Longhorn fairy shrimp (listed as endangered by the federal government), Vernal pool fairy shrimp (listed as endangered by the federal government), California linderiella (listed as threatened by the federal government),Curve-foot hygrotus diving beetle (listed as a category 2 Candidate by the federal government), Ricksecker's water scavenger beetle (listed as a category 2 Candidate by the federal government), and California tiger salamander (refer to Impact J.III.3 for a discussion of potential impacts to California tiger salamander, listed as a category 1 Candidate by the federal government). In the absence of specific surveys, these species are presumed to be present at this location.*

The Project, Cowell, and Nunn "Mitigated" Alternatives have been designed specifically to avoid this habitat. Indirect impacts to these species from ROW construction could included changes in hydrology, increased erosion, accidental discharge of deleterious fluids, or incidental intrusion by construction workers or equipment.

Mitigation Adopted by the Authority

III.J.1-I. The seasonal pond located along the tributary to Kellogg Creek will be avoided by adoption of either the Project, Cowell, or Nunn "Mitigated" Alternatives. Each of these alignments have been designed to avoid this habitat, therefore, direct impacts to

these species (if present) will be avoided. Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of an Environmentally Sensitive Areas (ESAs) to protect this habitat will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with native species, utilizing erosion control techniques to reduce siltation and sedimentation of low lying areas, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure avoidance and to implement any necessary corrective measures during the construction period.

Application of chemicals and intrusion during construction and operational phases of the ROW shall be prohibited to maintain the integrity of this habitat.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the seasonal pond located along the Kellogg Creek tributary will be avoided.
(FEIR, page II.78.)

Significant Impact III.J.3: Construction of the Project would indirectly affect breeding habitat and could directly or indirectly cause destruction aestivation habitat of individuals of California tiger salamander. Potential breeding habitat for this species occurs south of Marsh Creek Road where a portion of the tributary to Kellogg Creek ponds water. In the absence of specific surveys, this species is presumed to be present at this location. Potential aestivation habitat includes grassland or other areas of low-growing vegetation with ground squirrel burrows within roughly one-mile of the breeding habitat. Suitable aestivation may include portions of the "Mitigated" Proposed, Nunn, and Cowell Alternatives. In general, aestivation habitat is not present within agricultural areas due to regular ground disturbance and application of herbicides and pesticides.

Indirect impacts to California tiger salamander breeding habitat from ROW construction could include changes in hydrology, increased erosion, accidental discharge of deleterious fluids, or incidental intrusion by construction workers or equipment. Direct impacts to this species could include destruction of aestivation habitat and possibly individuals if aestivating within the ROW at the time of construction. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.3. Implement Mitigation Measures III.J.1.

In addition, the Authority shall consult with the USFWS and CDFG to determine if surveys for suitable Tiger salamander aestivation habitat occurs within the Project, Cowell, or Nunn "Mitigated" Alternatives.

Based on results of surveys and/or consultation, the Authority shall implement measures to reduce identified impacts to aestivation habitat (if any) as specified by USFWS and CDFG. This may include limiting construction within these areas to defined seasons, detailed construction monitoring, and/or acquisition of additional suitable aestivation habitat.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the seasonal pond located along the Kellogg Creek tributary will be avoided.
(FEIR, page II.79.)

Significant Impact III.J.4: Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of California red-legged frog (Rana aurora draytonii). In the absence of specific surveys, this species is assumed to occur along the tributary to Kellogg Creek located south of Marsh Creek Road and along the portion of Marsh Creek within the ROW. Suitable habitat for this species is absent form the remaining portions of the ROW. The Project, Cowell, and Nunn "Mitigated" Alternatives have been specifically designed to avoid direct impacts to the seasonal pond located along the tributary to Kellogg Creek and to minimize impacts to Marsh Creek. Impacts to red-legged frog from the project could be direct destruction of individuals of this species (if present) and the loss of suitable habitat (Marsh Creek).

Suitable habitat may be also impacted by changes in hydrology, increased erosion, accidental discharge of deleterious fluids, or incidental intrusion by construction workers or equipment. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.4-I. Specific surveys to determine the status of this species will be conducted from February through May by a qualified biologist hired by the Authority prior to ROW

construction. Documentation of the survey including methodology, textual discussion of individuals or populations of this species (if present) will be forwarded to the USFWS and CDFG for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW no impact would occur and no further mitigation is necessary.

III.J.4-II. Adoption of the Project, Cowell, or Nunn "Mitigated" Alternative would avoid direct impacts to the seasonal pond located along the tributary to Kellogg Creek and diminish impacts to habitat located along Marsh Creek.

If individuals or populations of this species are present and will be impacted by ROW development, the Authority shall initiate informal consultation with USFWS and CDFG. The Authority shall prepare and implement a mitigation program prior to the initiation of any ground clearing, grading, construction, or other activities which could disrupt this species. The mitigation program may include, but not be limited to, the following standards as required by USFWS and/or CDFG:

The mitigation plan shall provide for no net loss of California red-legged frog currently utilizing the project ROW.

Mitigation shall follow the hierarchy outlined in Section 15370 of the CEQA Guidelines which directs mitigation to:

(a) Avoid the impact altogether by not taking certain action.

(b) Minimize impacts by limiting the degree of magnitude of an action and its implementation.

(c) Rectify the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensate for the impact by replacing or providing substitute resources of environments.

Any mitigation plan shall be monitored annually for five years, or an amount required by USFWS and CDFG, after implementation to assure the success of the mitigation. If at any point during the monitoring period, the mitigation plan is judged to have not been successful, the mitigation action shall be re-initiated, after modification as necessary, and monitored for a succeeding five-year period.

If mitigation is not accomplished within the area affected, the mitigation shall take place adjacent to existing significant populations of this species, if any such areas exist and are not proposed for elimination. In general, off-site mitigation should occur as close to the affected habitat as possible. The USFWS and CDFG may require that these areas be acquired by the Authority and be set aside in perpetuity.

Application of chemicals and intrusion during construction and operational phases of the ROW shall be prohibited to maintain the integrity.

Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of an Environmentally Sensitive Areas (ESAs) to protect habitat for this species will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include temporal separation of construction activities and the breeding season, clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with species native to the area, utilizing erosion control techniques to reduce siltation and sedimentation of low lying areas, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure avoidance and to implement any necessary corrective measures during the construction period.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the seasonal pond located along Kellogg Creek will be avoided and diminish impacts to habitat along Marsh Creek.
(FEIR, pages II.79 through 81.)

Significant Impact III.J.5: Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of Western spadefoot toad (Scaphiopus hammondii). In the absence of specific surveys, this species is assumed to occur along the portion of Marsh Creek within the ROW. Suitable habitat for this species is absent form the remaining portions of the ROW. Impacts to western spadefoot toad from the project could include direct destruction of individuals of this species (if present) and the loss of suitable habitat (Marsh Creek). Suitable habitat may be also impacted by changes in hydrology, increased erosion, accidental discharge of deleterious fluids, or incidental intrusion by construction workers or equipment. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.5. Measures to reduce the identified impact to below the level of significance are identical to those described under Mitigation Measure III.J.4.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the seasonal pond located along Kellogg Creek will be avoided and diminish impacts to habitat along Marsh Creek.
(FEIR, page II.81.)

Significant Impact III.J.6: Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of Northwestern pond turtle (Clemmys marmorata marmorata). Northwestern pond turtles were located along Sand and Marsh creeks in 1988. Impacts to northwestern pond turtle from the project could be direct destruction of individuals of this species and the loss of suitable habitat along Sand and Marsh creeks. Creeks may be also impacted by the removal of trees along creeks which would increase water temperature, changes in hydrology, increased erosion, accidental discharge of deleterious fluids, or incidental intrusion by construction workers or equipment. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.6-I. Prior to construction, specific surveys to determine the status of this species within the ROW will be conducted. Documentation of the survey including methodology, textual discussion of individuals or populations of this species (if present) will be forwarded to the CDFG and USFWS for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW no further mitigation is necessary.

III.J.6-II. Adoption of the Project, Cowell, or Nunn "Mitigated" Alternative would diminish impacts to Marsh Creek (because the proposed Marsh Creek Road Interchange would be located away from this drainage). Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of an Environmentally Sensitive Areas (ESAs) to protect this habitat will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with native species, utilizing erosion control techniques to reduce siltation and sedimentation of low lying areas, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure

avoidance and to implement any necessary corrective measures during the construction period.

Streams supporting turtles will be temporarily dammed both up- and down-stream of construction and turtles relocated upstream of construction activities by a qualified biologist. Temporary dams will remain in place until construction activities have ceased.

Additional mitigation may include acquisition of suitable habitat that will be set aside in perpetuity (by the Authority) or enhancement of suitable habitat proximate to the ROW. The mitigation lands should be geographically proximate to the project right-of-way and be selected by a qualified biologist. A monitoring plan to ensure the success of the mitigation bank or enhancement will be implemented for a minimum of five years or a period specified by CDFG or USFWS.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the northwestern pond turtle habitat will be protected through implementation of the specified design and survey measures.
(FEIR, page II.81.)

Significant Impact III.J.7: Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of California Horned Lark (Eremophila alpestris actia). Individuals of this species were located in the grasslands north of Balfour Road within the ROW. Additional suitable habitat includes the grassland areas west of Neroly Road, south of San Jose Avenue, between Dry Creek and Marsh Creek, and south of Marsh Creek Road. Project related impacts to California horned lark could be direct destruction of individuals of this species and the loss of suitable nesting habitat north of Balfour Road, west of Neroly Road, south of San Jose Avenue, between Dry Creek and Marsh Creek, and south of Marsh Creek Road. In addition, ROW development could increase the mortality of juvenile and possibly adult California horned lark from automobiles, thus decreasing population numbers in this area. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.7. Prior to construction, specific surveys to determine the status of this species within the ROW will be conducted. Documentation of the survey including methodology, textual discussion of individuals or populations of this species (if present) will be forwarded to

USFWS and CDFG for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW no further mitigation is necessary.

Construction (in areas found to support horned lark during the pre-construction surveys) will not proceed until after horned lark nesting season. If individuals or populations of horned lark are remain within the ROW after nesting, the Authority will hire a qualified biologist institute exclusionary methods to remove and keep horned larks out of the construction zone. This will include a monitoring plan to ensure the success of the mitigation.

Standard provisions to control construction activities and provide for dust and erosion control as well as the designation of an Environmentally Sensitive Areas (ESAs) to protect horned lark habitat will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include temporal separation of construction activities and horned lark nesting season, clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with native species, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure avoidance and to implement any necessary corrective measures during the construction period.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the construction constraints will ensure protection of Horned Larks and their habitat or mitigation for any loss.
(FEIR, page II.82.)

Significant Impact III.J.8: Construction of the Project could indirectly affect habitat of Pallid bat (Antrozous pallidus) and Townsend's western big-eared bat (Plecotus townsendii townsendii). The sandstone caves located south of Marsh Creek Road were surveyed to locate sign or other evidence of use by bats for roosting. This area has a relatively low levels of human use, which would make it more desirable or suitable for roosting by bats. Bat guano and sign was located in a few of the sandstone caves within the ROW.

Of the two special status bat species that have potential to occur within the ROW (Townsend's western big-eared bat and Pallid bat) the sandstone caves located south of Marsh Creek Road provide habitat more suitable for Pallid bat due to the xeric environs and human intrusion (although at low levels) to the area. The likelihood of occurrence in other portions of the ROW is considered low because of the absence of suitable habitat.

Project related impacts to these bats would include increased human disturbance, increased noise and pollutants generated by ROW construction and use, and destruction and/or degradation of surrounding grasslands. This would be a significant impact.

Mitigation Adopted by the Authority

III.J.8. Adoption of the Project, Cowell, or Nunn "Mitigated" Alternative would avoid the sandstone caves that provide roosting habitat for this bat and would eliminate direct impacts to this species (if present). Although adoption of these alternatives would avoid direct impacts to this species, ROW development in close proximity to these caves would result in increased noise and human disturbance and may lead bat abandonment of this habitat.

The Authority will coordinate with the resource agencies to determine any additional acceptable mitigation. This may include acquisition of suitable habitat that will be set aside in perpetuity (by the Authority). The mitigation lands should be geographically proximate to the project right-of-way and be selected by a qualified biologist. A monitoring plan to ensure the success of the mitigation bank will be implemented for a minimum of five years or a period specified by USFWS and CDFG.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the construction constraints will ensure protection of the bats and their habitat or mitigation for any loss.
(FEIR, page II.83.)

Significant Impact III.J.9: *Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of San Joaquin kit fox (Vulpes macrotis mutica). Although specific surveys to determine kit fox use of the ROW have not been performed, the USFWS has stated that the areas south of State Route 4 lie within the northern kit fox range and provide suitable habitat for this species. For this reason, it was concluded that the ROW is within the home range of one or more kit fox and provides potential hunting and denning habitat for this listed species. Any destruction or degradation of this habitat will likely result in a finding of "take," as defined in Section 9 of FESA, by the USFWS. Impacts to San Joaquin kit fox from the project could include direct destruction of individuals of this species and loss of foraging and denning habitat. ROW development may increase mortality of San Joaquin kit fox from direct automobile hits and from a decrease in territory size, resulting in a decrease in population numbers. This would be a significant impact.*

Mitigation Adopted by the Authority

III.J.9-I. The Authority shall survey the ROW according to accepted USFWS and CDFG methodologies (preferred survey season occurs between March 1 and July 31). Results of these surveys will be submitted to USFWS and CDFG. If no evidence of this species is located within the ROW no further mitigation may be required.

III.J.9-II. The ROW will be surveyed within 60 days prior to initiation of construction by a qualified biologist (preferred survey season occurs between March 1 and July 31). Results of this survey will be submitted to USFWS and CDFG.

Dens located within close proximity to the ROW will be protected by fencing about a predetermined buffer zone. Flagging, signing, and exclusion of all construction and operational disturbances will be required. If destruction of a den(s) cannot be reasonably avoided, den removal should be accomplished according to USFWS guidelines.

The amount of San Joaquin kit fox habitat lost to development of ROW, as determined by the pre-construction kit fox survey, would require habitat compensation which offsets the area removed by development through protection/restoration of a suitable area in perpetuity (permanently dedicated by the Authority to public ownership and management or through establishment of a private, non-profit land trust or land conservancy organization to take legal title to mitigation lands and be responsible for their maintenance). Replacement of dens destroyed through site development would also likely be required. The replacement ratio (area protected/restored: area lost) may be set by the resource agencies at three-to-one (that is, for every one acre of kit fox habitat destroyed three acres of suitable habitat will be acquired by the Authority, unless otherwise stipulated by the USFWS and CDFG). Mitigation lands will consist of one contiguous parcel of high quality kit fox habitat in the immediate vicinity. Such an area, which would include flat or low rolling hills near known kit fox populations.

The Authority in consultation with the USFWS and CDFG will determine success criteria for mitigation lands. The Authority will be responsible for monitoring mitigation lands for kit fox habitat suitability and use and will set aside an operations and maintenance budget sufficient to meet the needs of the mitigation and monitoring program for a minimum of ten years. Annual monitoring reports will be submitted to the USFWS and CDFG. If the success criteria agreed on are not met the Authority will be responsible for corrective measures outlined by the USFWS and the CDFG.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.J.10: *Construction of the Project would impact seasonal wetlands. The loss or degradation of these communities would be considered significant because of their local and regional scarcity, potential classification as jurisdictional wetlands, ongoing community depletion, increased threats to dependent special status species, and their importance to dependent common plant and wildlife species. Alteration of wetlands associated with culverting and cut and fill activities could significantly impact breeding amphibians, insects, and waterfowl. Similarly, increasing the amount of impervious surfaces (roadways) present within the watershed of adjacent wetlands would both affect the volume and contaminant loads of waters entering these wetlands, thereby degrading the area and potentially resulting in the functional alteration of these wetlands. The removal, filling, or alteration to these rare communities would be considered a significant impact by the CDFG, the USFWS, and the Corps. Wetland communities are severely restricted in range and recreation is not currently a viable alternative. For this reason any loss of such communities would constitute a significant impact.*

Mitigation Adopted by the Authority

III.J.10. Partial mitigation may be achieved through a synthesis of both retention/enhancement of portions of the existing wetlands and in-kind enhancement mitigation of other wetland communities in the immediate vicinity to achieve an overall "no net loss" of wetland acreage or value. Three levels of mitigation are considered in this program: 1) avoidance of wetlands to the extent possible, 2) creation of new wetlands for those areas lost or altered, and 3) acquisition and preservation of mitigation lands that contain high quality, in-kind wetlands. The plan proposes the following:

(a) Adopt the Project, Cowell, or Nunn Mitigated" alignment to avoid filling or excavation of existing wetlands, to the extent possible (these would avoid the seasonal pond located along the tributary to Kellogg Creek).

(b) Road crossings over open channels and drainage ditches should be bridged when possible.

(c) Establish a minimum setback or buffer between the development area (edge of grading, pavement and structures) and the edge of existing wetlands which are proposed to be preserved. The width of this setback shall vary based on the quality of the wetland and the resource that is being protected. In general, the setbacks should include as much of the natural watershed as possible.

(d) All wetland vegetation and hydrology of areas preserved shall be maintained.

(e) Require restoration or creation of new wetlands at a ratio of 3:1 (or an amount determined by the resource agencies) for any acreage of wetland that is lost or altered by development. General guidelines for selecting areas for wetlands creation area are as follows:

(i) Locate near or adjacent to existing manmade drainages, ponds, and seasonal wetlands. With proper excavation and contouring, channels and existing pond areas can provide a source of water during winter and spring seasons.

(ii) Locate where elevations are low and where wetlands can either be protected or buffered. Such areas would be least impacted by human activity and would thus be more inviting for wildlife use.

(iii) Mitigation sites shall be located outside of developed areas and (if possible) linked with appropriate natural travel corridors to facilitate wildlife movement and to minimize isolation and fragmentation of the habitats.

(iv) Created wetlands shall be revegetated with native wetland species.

(v) The plan shall include an implementation schedule relative to project construction (showing that plan approval would occur and wetlands creation begin prior to the loss of existing wetlands).

(vi) The use of non-biodegradable herbicides and pesticides shall be avoided in areas of biological sensitivity.

(f) Alternatively, the Authority may compensate for wetland loss through acquisition/protection of a suitable mitigation area (one that contains wetlands of similar function and value) in perpetuity. Replacement ratio (area protected: area lost) should be set at 1:1.

(g) The Authority, in consultation with USFWS, CDFG, and Corps, shall locate a suitable mitigation area and purchase this land prior to construction. This land would then be permanently dedicated by the Authority to public ownership and management, or the Authority, could establish a private, non-profit land trust or land conservancy organization to take legal title to mitigation lands and be responsible for their maintenance. In either case, an operations and maintenance budget sufficient to meet the needs of the organization for five years (or a period determined by the resource agencies) should be established. This ten year period corresponds with typical biological monitoring periods imposed by state and federal regulatory agencies.

(h) The Authority shall monitor the use and condition of the mitigation lands for a minimum period of five years or a period specified by state and federal regulatory agencies. Annual reports documenting general condition, habitat (vegetation) characterization, and wildlife use will be submitted to USFWS, CDFG, and Corps for their review.

The final mitigation plan for wetlands restoration shall be based on the final roadway alignment. The final mitigation plan shall be submitted as part of the Project construction drawings or prior to approval of a grading permit, whichever occurs first. Modifications of the final design may be required as a result of permit requirements imposed by the Corps or CDFG. The drawings may include the following components:

(a) A plan identifying existing topography and proposed grading. Grading shall identify proposed excavation and fill as well as earth movement quantities. The grading plan shall also identify final hydrology and drainage supported by engineering calculations.

(b) Cross-sections of proposed grading for wetlands restoration.

(c) A planting program for all wetland areas and surrounding buffer zones. Selected species shall be consistent with the guidelines established by planting list approved by the Corps and the CDFG (if applicable).

(d) The final program shall include site construction techniques for resource protection. Techniques shall include fencing around existing wetlands and detailed erosion and sediment control measures.

(e) A final irrigation plan that will include specifications on installation and a schedule identifying the frequency of irrigation for each selected area.

A monitoring and management plan shall be submitted with the final mitigation plan. This program shall identify monitoring and management techniques for a period of five years (or a period determined by the resource agencies) following implementation. The monitoring and management plan shall include the following components:

(a) The plan shall establish success criteria and describe steps to be taken to replace vegetation or modify wetland management not meeting the success criteria.

(b) Plant survival shall be evaluated with field surveys. Trees and shrubs shall be tagged during the first year of implementation, cataloged in a data base, and surveyed for survival, growth and vigor. Grasses and forbs shall be surveyed for species richness and cover.

(c) Monitoring reports are to be prepared annually. At the end of the monitoring period, a compilation of the annual reports shall be submitted to the Corps and CDFG. The annual reports shall include monitoring data and shall discuss any corrective actions needed. At the end of the ten-year monitoring period, the report shall evaluate the success of the mitigation program against the initial goals and purpose. Appropriate corrective actions shall be taken if the initial goals and purpose have not been met.

Management techniques for wetland development shall include recommendations for hydrology/water levels and flushing.

In addition to the mitigation outlined above, the Authority is currently coordinating with the Corps to determine the extent of their jurisdiction pursuant to Section 404 of the Federal Clean Water Act. Corps permitting for the roadway may include a series of permits. For example, separate nationwide permits for stream corridors and possibly an individual permit for wetlands and/or waters that support federally listed species. The following measures may be required by the Corps.

(a) Conduct a Section 404 (b)(1) alternatives analysis for areas covered under an individual permit. In order for the Corps to issue an individual permit to allow the filling to proceed, it must be demonstrated that there are no practicable alternatives, either on- or off-site, that would avoid or minimize filling of wetlands, such as through Project alteration.

(b) If no such alternatives are found, the Corps' would require mitigation for the portion of wetland acreage lost or degraded to development. This could be at least partially accomplished by purchasing, enhancing/restoration, monitoring, and dedicating as permanent open space lands containing similar wetlands in the vicinity of the proposed expressway. A detailed evaluation of the hydrological

effects of the proposed Project on adjacent wetlands would likely also be required to ensure adequacy of this mitigation because of the development's location within at least a portion of these wetland's watershed.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.J.11: *Construction of the Project would impact riparian corridors. Although implementation of the Project would result in the loss of approximately 1.04 acres of stream channel, only 0.6 acres of stream channel (along Sand Creek, the tributary to Deer Creek, and Marsh Creek) support riparian vegetation. The remaining channels support only herbaceous or weedy vegetation. The loss or degradation of riparian vegetation would be considered significant because of its local and regional scarcity, potential classification as jurisdictional wetlands or waters, ongoing community depletion, increased threats to dependent special status species, and its importance to dependent common plant and wildlife species. Major impacts to riparian woodlands include direct removal of vegetation; lining of stream channels; loss of canopy complexity within the woodland; reduction of nesting, resting, and perch sites; reduction in standing crop of plant species used for forage and browse, and mast crop (acorns) produced by oaks; and obstruction of animal feeding trails and movement patterns. Increasing the amount of impervious surfaces (roadways) present within the watershed of riparian corridors would both affect the volume and contaminant loads of waters entering these drainages, thereby degrading the area and potentially resulting in the functional alteration of these waters. The removal, filling, or alteration to these rare communities would be considered a significant impact by the CDFG, the USFWS, and the Corps.*

Mitigation Adopted by the Authority

III.J.11. Four levels of mitigation are considered as part of this plan: 1) tree preservation techniques, 2) avoidance of significant trees when feasible, 3) a revegetation program, and 4) habitat acquisition. This plan proposes the following:

(a) Conduct surveys to characterize riparian habitats that will be lost or degraded due to project implementation. These surveys shall include documentation of all native trees six inches at diameter breast height (dbh) or greater which would be directly or indirectly affected due to Project. This survey should be conducted by a qualified plant ecologist, and should include identification to species, the diameter breast height of each individual, condition of tree, location on a topographic map, and general nature of impact each tree will receive due to the proposed Project.

(b) When possible, reduce significant tree removal or impact.

(c) Obtain the necessary permission for vegetation removal from the City of Brentwood (depending on location of removed vegetation).

(d) Trees to be retained within the Project right-of-way should be fenced off at a distance of 1.5 times the drip-line (approximately equal to the area covered by the tree's canopy) prior to any construction related activities in order to prevent accidental damage due to construction activities. These fences should remain in place until all construction related activities have ceased.

(e) Irrigation or potential runoff associated with the proposed Project should be diverted away Revegetate along the roadway system where grading (cut and fill) results in tree removal.

(f) Require replanting at a ratio of 1:1 for native trees lost that are less than 2 inches in trunk diameter. In general, require a 3:1 replanting (or a ratio determined by responsible agencies) for loss of native trees with trunk diameters of 2 inches or greater. Replacement vegetation should be planted in various age and size classes to mimic natural community structure.

(g) Plant a combination of species, primarily focusing on oaks and natives. Trees shall be planted at a combination of sizes, ranging from seedlings on up. Spacing shall range from 5 feet to 15 feet, depending on species, location and size of initial planting.

(h) An on-site acorn and cutting collection system shall be implemented. Acorns and cuttings shall be collected from the immediate area during selected times of the year and used for establishment of seedlings/saplings. This collection system shall be a priority as use of on-site material promotes revegetation with native plantings and genetic sustainability within the population.

The final mitigation plan for tree/vegetation planting shall be based on the final roadway design layout. The final mitigation plan shall be submitted as part of the Final design process or prior to approval of a grading permit for improvement plans, whichever occurs first. Prior to implementation, the final plan shall be approved by the City of Brentwood, CDFG, and Corps. This plan may include the following components, as required by the permitting agencies:

(a) A plan identifying existing topography and proposed grading. Grading shall identify proposed excavation and fill as well as earth movement quantities. The grading plan shall also identify final hydrology and drainage supported by engineering calculations.

(b) A planting program. Selected species shall be consistent with the guidelines established by a planting list approved by the CDFG.

(c) The final program shall include site construction techniques for resource protection. Techniques shall include fencing around existing trees proposed for preservation at a distance of 1.5 times the distance from the trunk to the drip line, establishment of a root protection zone for trees and detailed erosion and sediment control measures.

(d) Proposed grade changes within tree root zones shall be reviewed to identify trees that could be jeopardized in the long term (that would die slowly following construction) and implement measures to prevent damage to those trees.

(e) Construction around trees shall be monitored periodically by a qualified ecologist to ensure that trees are not damaged or removed unnecessarily.

(f) A final irrigation plan that will include specifications on installation and a schedule identifying the frequency of irrigation for each selected area.

(g) Long-term irrigation or potential runoff associated with the proposed development shall be diverted away from retained oaks to guard against fungal root infections.

(h) Replacement trees shall be planted as contiguous habitat, and not as isolated, scattered trees, to provide similar community structure and habitat value for wildlife.

(i) The Authority shall provide calculations of 1) riparian woodland directly and indirectly impacted due to Project implementation, 2) riparian woodland retained within the corridor, 3) riparian woodland proposed to be created (this calculation

shall not include areas planted with trees not native to the area or trees planted along the roadway), and 4) riparian woodland acquired and preserved as a mitigation area.

A monitoring and management plan shall be submitted with the final mitigation plan. This program shall identify monitoring and management techniques for a period of five years (or a period determined by responsible agencies) following implementation. The monitoring and management plan may include the following components:

(a) The plan shall establish success criteria and describe steps to be taken to replace vegetation not meeting the success criteria.

(b) Plant survival shall be evaluated with field surveys. Trees and shrubs shall be tagged during the first year of implementation, cataloged in a data base, and surveyed for survival, growth and vigor.

(c) Monitoring reports are to be prepared annually. At the end of the monitoring period, a compilation of the annual reports shall be submitted to the City of Brentwood, Corps, and CDFG. The annual reports shall include monitoring data and shall discuss any corrective actions needed and/or taken. At the end of the monitoring period, the report shall evaluate the success of the mitigation program against the initial goals and purpose. Appropriate corrective action shall be taken if the initial goals and purpose have not been met.

In addition to the above measures, the Project applicant shall enter into a "Streambed Alteration Agreement" (SAA) with the CDFG pursuant to Fish and Game Code 1601-1603. This agreement is necessary to allow alteration and bridging of creeks under current corridor plans. The CDFG will only grant a SAA once all other permits (for example Corps, USFWS) and certifications are obtained. Construction would not be permitted by the CDFG until a SAA is executed.

(a) A formal creek realignment and revegetation plan should be submitted to the CDFG for their review and approval. Such a plan should include planned dimensions of modified watercourses; documentation of use of specific native species of trees, shrubs, and herbs as riparian vegetation; methods for bank stabilization/erosion control both during construction and operational phases; methods for maintaining plantings in a healthy state given the soil characteristics; appropriate contingency plans; maintenance requirements; and monitoring periods and conditions. (Note: species used for the revegetation of individual creeks should be consistent with native species currently occurring along these waterways). If bank stabilization or food control measures are deemed necessary, creek modifications should be devised on a creek-by-creek basis. Lining of waterways with concrete should be avoided because of the detrimental effect this has on the aquatic environment. Other techniques that could be used instead of

concrete include wood crib walls and rock and earth filled gabions that provide a medium for native plantings.

(b) In addition to the above mitigations, streams and creeks may also be classified as "waters of the US" subject to Corps jurisdiction and would require the above mitigations/permits in addition to those listed under Mitigation Measure III.J.15 above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact III.J.13: Development of the Project would result in a loss of non-native grassland. Project development would result in a loss of a substantial number of acres of non-native grassland. Grasslands within the ROW have potential to support San Joaquin kit fox (a state and federally listed species). For this reason, loss or degradation of grasslands south of Marsh Creek Road are considered potentially significant. Refer to Impact III.J.9 for details concerning impacts to San Joaquin kit fox.

Mitigation Adopted by the Authority

III.J.13. Implementation of measures identified under Mitigation Measure III.J.9 would reduce project related impacts to non-native grasslands to below the level of significance.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate

and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the measures to protect and mitigate for the Kit fox will reduce the importance of destruction of non-native grasslands.
(FEIR, page II.91.)

Significant Impact III.J.16: Development of the project corridor could facilitate increased growth in eastern Contra Costa County, which could increase significant impacts to biological resources. Examples of such impacts include direct removal or destruction of sensitive habitats and/or species and increased barriers to wildlife movement corridors. These impacts would be considered significant.

Mitigation Adopted by the Authority

III.J.16. Condition approval of any development project in the State route 4 Bypass area, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, upon provision of mitigation measures to reduce identified biological resource impacts to below the level of significance.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the relevant jurisdictions have been directed to mitigate impacts and identify biological resources.
(FEIR, page II.92)

With regard to this mitigation measure, the Authority also finds that the Project approval process is within the responsibility and jurisdiction of the County of Contra Costa or Cities of Antioch or Brentwood, and not the Authority. Each of these jurisdictions has adopted this mitigation or can and should adopt this mitigation.

11. Findings Concerning Cultural Resources Impacts

The identified cultural resources impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.K.1: Although no archaeological or subsurface cultural resources of significance or potential significance were observed along the segments of the Project accessible to field reconnaissance, impacts to undiscovered prehistoric resources could occur through implementation of the Project. Undiscovered cultural resources could exist in the portions of the

Project that were not surveyed. In addition, many segments of the Project that were surveyed were covered by a thick blanket of tall grasses and weeds, which severely impaired visual inspection of the ground surface. Based on the natural topography, it is unlikely that significant cultural resources exist within these portions of the Project area. However, due to the generally poor surface visibility, the potential for discovering cultural resources still exists in these areas. This would be a significant impact.

Mitigation Adopted by the Authority

III.K.1(a). Retain the services of a qualified archaeological consultant to serve as an on-site archaeological monitor to provide appropriate consulting services throughout the course of grading and other topographic modification associated with the proposed Project. The principal task of the designated archaeological consultant would be to insure that no significant cultural resources of either prehistoric/protohistoric or historic period age or character would suffer adverse impacts as a consequence of planned construction within the Project right-of-way.

III.K.1(b). If prehistoric and/or historic cultural resources are discovered during construction work avoid damaging identified archaeological sites to the extent feasible. Examples of such methods include:

(i) avoid identified archaeological sites;

(ii) "capping" or covering identified archaeological sites with a layer of soil before building any homes, roadways, or other structures (capping may be used where the soils to be covered will not suffer serious compaction, the covering materials are not chemically active, the site is one in which the natural processes of deterioration have been effectively arrested, and the site has been recorded); or

(iii) deeding identified archaeological sites into permanent conservation easements.

III.K.1(c). If archaeological resources are discovered during development, suspend all work in the immediate vicinity (approximately 250 feet) and avoid altering the materials and their context pending site investigation by qualified professionals. Use a qualified archaeologist or cultural resources consultant to assess the materials and determine their significance. If the qualified professional determines that the site will yield new information or important verification of previous findings, the sites should not be destroyed. Construction work should not commence again until the qualified professional has been given an opportunity to examine the findings, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of and/or mitigation of adverse impacts to any significant (or potentially significant) cultural resources which have been encountered.

III.K.1(d). If avoidance of a discovered important archaeological resource would not be feasible, require an excavation plan. An excavation plan would consist of the methodical excavation of those portions of the site(s) that would be adversely affected. The work should be accomplished within the context of a detailed research design and in accordance with current professional standards. The plan should result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research consideration, should be performed by qualified professionals, and should result in detailed technical reports.

III.K.1(e). Allow only a qualified archaeologist or cultural resources consultant to collect any cultural resources discovered in the Project right-of-way.

III.K.1.(f). Prohibit project personnel from collecting any cultural resources discovered during development of the Project. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls, structures and remains with square nails; and refuse deposits, often in old wells and privies.

III.K.1(g). If prehistoric archaeological deposits that include human remains are discovered, notify the County Coroner immediately. If the remains are found to be Native American, the Native American Heritage Commission must be notified within 24 hours. The most likely descendant of the deceased Native American will be notified and given the chance to make recommendations for the remains. If no recommendations are made within 24 hours, remains may be reinterred elsewhere on the property. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measures are incorporated into the proposed Project. The Authority further finds that this mitigation measures are appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the identified performance criteria will ensure protection of any cultural and archeological resources discovered during Project construction.
(DEIR, Volume 3, page III.K.21.)

<u>Significant Impact III.K.2:</u> Construction of the Project could impact adjacent structures, some of which have the potential to qualify for the National Register of Historic Places. A total of 26 potentially significant historical cultural resources lying in or very close to the Project right-of-way have been identified, mostly along Marsh Creek Road. Twenty-three of these resources are buildings or building complexes. This would be a significant impact.

<u>Mitigation Adopted by the Authority</u>

III.K.2. There are a number of structures along Marsh Creek Road that are over 50 years and could possibly qualify for the National Register of Historic Places should they meet the National Register criteria. To be eligible for the National Register, a property must meet one or more of the four specific criteria to represent a significant theme or pattern in the history, architecture, archaeology, engineering, or culture of an area (36 C.F.R. 60.4 [1989]) (criteria for inclusion in the National Register of Historic Places). These four criteria include properties:

(a) that are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A); or,

(b) that are associated with the lives of persons significant in our past (Criterion B); or,

(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that posses high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction (Criterion C); or,

(d) that have yielded, or may be likely to yield, information important in prehistory or history (Criterion D).

These properties may also meet the criteria for inclusion in the California Register of Historic Places, which are:

(a) Places associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(b) Places associated with the lives of persons important in California or American history.

(c) Places that embody the distinctive characteristics of a type, period, region or method of construction, or represent the work of an important creative individual, or possess high artistic value.

(d) Places which have yielded or may be likely to yield information important in prehistory or history.

Should any of these structures meet the criteria and be altered, relocated or demolished by construction of the Project, preparation of an Historic Property Clearance Report (HPCP) would be required under California Law (if there was no federal involvement), or preparation of an Historic Architectural Survey Report (HASR) would be required under the Section 106 federal process. Such a study would use the historic overview, photos, and other information developed as part of this report. For historic properties comprising the built environment, mitigation practices under CEQA parallel those undertaken for Federal projects.

The abandoned farmstead (Attachment A, number 26) should be recorded and evaluated as a potential historic archaeological site. The Sand Creek Bridge (resource number 25), a small bridge on Sand Creek Road, crosses Sand Creek in Section 10 TIN R2E MDM near the Project area. This bridge, Caltrans number 28CO174, was rated as a 5 (not significant) on the Caltrans Bridge Inventory (Hope, 1993). Therefore, it would not qualify for the National Register of Historic Places.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

12. Findings Concerning Energy Impacts

The identified energy impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

<u>Significant Impact III.L.1:</u> Construction of the Project would require both direct and indirect expenditures of energy. The refined petroleum products needed to operate highway construction equipment would be a direct expenditure of energy. Indirect energy is consumed through sectors that provide inputs to an activity, rather than the energy consumed by the activity itself. For example, the use of steel reinforcement rod in highway construction indirectly represents energy consumed in all of the industries that contributed to the production of the rod (e.g., energy consumed through the mining and extraction of the raw materials, manufacturing, and transportation). Energy that would be expended in the operation of a roadway system includes direct and indirect transportation energy. The direct energy refers to the energy used in the combustion of fuels by motor vehicles that use the roadway or other roadways in the transportation network that would be affected by the roadway. The indirect energy is that energy associated with the wear and tear of motor vehicles using the roadway or other affected roadways in the transportation network, such as the lubricating oil replacement, tire wear, vehicle wear, vehicle maintenance and roadway maintenance. The increase in annual energy consumption due to the Project would be approximately 210 billion Btu under Phase I and approximately 250 billion Btu under Phase II, primarily due to energy consumed for roadway construction and roadway maintenance. This would be a significant impact.

<u>Mitigation Adopted by the Authority</u>

III.L.1. Implement the following measures to reduce energy expended in construction and maintenance:

(a) Minimize the number of trips transporting material to and from construction sites.

(b) Turn off truck and construction equipment engines when unneeded for substantial periods, as feasible.

(c) Require that all construction equipment engines be properly tuned.

(d) Encourage ridesharing by construction personnel traveling to and from construction sites.

(e) Plan construction activities so as to minimize the use of all on-site construction equipment.

(f) Select pavement materials on the basis of their future potential to be recycled.

To reduce the energy related to the increase in VMT, the Project under Phase II could include (HOV) lanes and/or bus-only lanes during peak periods.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

13. Findings Concerning Utilities Impacts

The identified utilities impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.M.1: The Project would cross major water collection and distribution facilities. The Bypass would cross the Contra Costa Water District's surface-level Contra Costa Canal west of Neroly Road; the underground Mokelumne Aqueduct (EBMUD) south of Lone Tree Way; the East Contra Costa Irrigation District (ECCID) Main Canal (a surface-level facility), east of Concord Avenue; and the planned alignment of the main distribution and supplemental intake pipelines for the proposed Los Vaqueros Reservoir near the Contra Costa Canal and east of Walnut Boulevard, and south of Camino Diablo, respectively. The Bypass would cross smaller underground water pipelines that serve Oakley (adjacent to the Contra Costa Canal) and Brentwood (between San Jose Avenue and Balfour Road). In addition, the Project right-of-way includes several north-south surface-level irrigation ditches operated by the ECCID. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.1. Coordinate with the appropriate public utilities and/or private operators during the Project construction to minimize potential impacts to existing water transmission facilities. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery.

Coordinate with the CCWD Los Vaqueros Project to ensure that the Pipeline is constructed such that the impact from Bypass roadway construction will be minimized.

The State Route 4 Bypass Authority will work with CCWD to ensure that the final adopted Bypass alignment will cause minimal impact and disruption to the Pipeline where the two cross.

Encase underground pipelines in large diameter concrete pipe or other suitable means, to ensure that the pipelines are not damaged by either construction or operation of the roadway and to protect the roadway in the event of failure.

Coordinate with the Vasco Road and Utility Relocation Project to minimize disruptions to utilities where the expressway would connect to the relocated Vasco Road. Slight revisions to the Bypass Project alignment should be implemented where the revisions would reduce or eliminate impacts to the pipelines for the Los Vaqueros Project.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the measure will ensure coordination with relevant utility operators to minimize potential impacts to water transmission facilities.
(DEIR, Volume 3, page III.M.8.)

Significant Impact III.M.3: The Project would cross natural gas pipelines. Underground PG&E and oil and chemical company natural gas pipelines would be crossed by the Bypass west of Neroly Road, west of Live Oak Avenue and at Lone Tree Way. The right-of-way would also intersect underground natural gas pipelines at Balfour Road and Concord Avenue. There are natural gas lines within the Southern Pacific Railroad right-of-way southeast of Antioch. Additionally, the Bypass would be within or adjacent to the right-of-way of an existing gas line from Concord Avenue to approximately Camino Diablo Road. PG&E also operates a natural gas compressor (pumping) station on its pipeline routes just west of the point where Concord Avenue turns north. This facility is adjacent to the Bypass. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.3. Coordinate with the appropriate public utilities and/or private operators during Project construction to minimize potential impacts to existing natural gas pipelines. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery. Coordinate with the Vasco Road and Utility Relocation Project to minimize disruptions to utilities where the expressway would connect to the relocated Vasco Road.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the measure will ensure coordination with relevant utility operators to minimize potential impacts to gas pipelines.
(DEIR, Volume 3, page III.M.8.)

Significant Impact III.M.4: The Project would cross oil pipelines. Oil pipelines would be crossed at Sand Creek Road, San Jose Avenue, and Balfour Road. Additionally, the Bypass is within the existing alignment of an oil pipeline along the Southern Pacific Railroad right-of-way southeast of Antioch, between Sand Creek Road and San Jose Avenue (where there are also oil wells), and between Concord Avenue and approximately Camino Diablo. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.4. Coordinate with the appropriate public utilities and/or private operators during Project construction to minimize potential impacts to existing oil pipelines. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the measure will ensure coordination with relevant utility operators to minimize potential impacts to oil pipelines.
(DEIR, Volume 3, page III.M.8.)

Significant Impact III.M.5: The Project could cross proposed sewer lines. The Bypass could be within the right-of-way of the City of Antioch's proposed Lone Tree Way sewage line at the north portion of this outfall, along the Southern Pacific Railroad tracks. The Bypass would cross the route of the sewer line, once it were constructed, at Lone Tree Way. Several developments are also proposed adjacent to the Bypass by the City of Brentwood. These developments would be adjacent to Sand Creek Road, Balfour and Marsh Creek Roads which would cross the Bypass. The Bypass could therefore cross proposed sewer lines that would serve this development. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.5. Should proposed sewer lines be scheduled for construction prior to Project construction, establish a formal agreement between the cities of Antioch and Brentwood, and the developers to incorporate relocation and/or encasement of the sewer line into the Project construction plan.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because coordination with the affected jurisdictions will ensure protection of proposed sewer lines.
(DEIR, Volume 3, page III.M.9.)

With regard to this mitigation measure, the Authority also finds that the consultation and agreement process are within the responsibility and jurisdiction of the Cities of Antioch and Brentwood and not the Authority. The Cities of Antioch and Brentwood have adopted this mitigation or can and should adopt this mitigation.

Significant Impact III.M.7: Construction of the Project could result in interruptions of local deliveries of water and electricity. Local service deliveries of water and electricity to residential and commercial customers could be temporarily affected in the immediate vicinity of any construction work. However, these interruptions would be expected to be brief and could be scheduled to inconvenience the fewest number of customers possible. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.7. Ensure that the public is adequately informed of expected or potential interruptions of local deliveries of water and electricity. Publish notices of construction location, schedule and locations of detours in local newspapers so that public and service providers are informed of activities and the resultant need for temporary re-routing and adjustments to delivery schedules.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate

and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the published notices will provide sufficient information to apprise the public of Project construction.
(DEIR, Volume 3, page III.M.9.)

Significant Impact III.M.8: Development of the Project could facilitate increased growth in eastern Contra Costa County, which could generate increased demand for public utilities. Development of the Bypass and Marsh Creek Road connector could provide or improve access to areas that are not currently readily accessible and could result in residential and/or commercial development that would increase the demand for utilities in the area. This would be a significant impact.

Mitigation Adopted by the Authority

III.M.8. Condition approval of any development project in the Project area upon the provision of adequate utilities. This condition of approval is consistent with the Growth Management Element of the Contra Costa County General Plan, which states that the County shall require new development to demonstrate that adequate water quantity and quality and adequate sanitary sewer quantity and quality can be provided. The Growth Management Element also states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and public services.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

14. Findings Concerning Public Services Impacts

The identified public services impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.N.1: Construction of the Project could temporarily disrupt emergency police response, and could temporarily increase the number of emergency responses. Emergency responses could be hindered and/or response times increased by construction activities. Delays could occur as responding vehicles queue up to pass alongside construction sites. Project construction activities could also result in a short-term increase in demand for police services because of the increased possibility of accidents occurring in the vicinity of construction activities. from conflicts between construction equipment and highway traffic. This would be a significant impact.

Mitigation Adopted by the Authority

III.N.1. During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of police services. Notify the police departments of construction schedules.

During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the changes that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one lane of a roadway is open.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because coordination with the police department will minimize conflicts between construction equipment and highway traffic.
(DEIR, Volume 3, pages III.N.1. and 2.)

Significant Impact III.N.2: Construction of the Project could temporarily disrupt emergency fire response and could temporarily increase the number of emergency responses. Emergency responses could be hindered and/or response times increased by construction activities. Delays could occur as responding vehicles queue up to pass alongside construction sites. Project construction could also generate a short-term increase in demand for emergency responses as a result of the increased possibility of grass fires. Construction activities could also result in the

temporary loss of water for firefighting in urban and suburban areas should water pipes be accidentally damaged. This would be a significant impact.

Mitigation Adopted by the Authority

III.N.2. During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of fire protection services. Notify the fire departments of construction schedules.

During construction, ensure that construction contractor(s) follow standard industry safety precautions to guard against on-the-job injuries. Ensure that the contractor(s) take precautions to minimize the risk of accidental fire. Such precautions could include consulting local fire districts, maintaining equipment in good working order, proper storage of flammable materials (including fuels), and keeping water on hand for extinguishing small fires. If water supply is to be disrupted, provide a temporary bypass pipeline to ensure adequate fire flow.

During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the changes that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one lane of a roadway is open.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because coordination with public safety providers will minimize or eliminate interferences with fire protection services.
(DEIR, Volume 3, page III.N.2.)

Significant Impact III.N.3: Construction of the Project could temporarily disrupt emergency ambulance response and could temporarily increase the number of emergency responses. Emergency responses could be hindered and/or response times increased by construction activities. Delays could occur as responding vehicles queue up to pass alongside construction sites. Project construction could also generate a short-term increase in demand for emergency responses as a result of the increased hazards to the public and to construction workers associated with heavy construction: traffic congestion, rough roads, open trenches and heavy equipment operating near traffic could increase accidents, and construction workers would be subject to on-site injuries. This would be a significant impact.

Mitigation Adopted by the Authority

III.N.3. During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of emergency medical services. Notify the ambulance services of construction schedules.

During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the changes that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one lane of a roadway is open. During construction, ensure that construction contractor(s) follow standard industry safety precautions to guard against on-the-job injuries.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because coordination with public safety providers will minimize or eliminate interferences with emergency response teams.
(DEIR, Volume 3, page III.N.2.)

Significant Impact III.N.9: Development of the Project could facilitate growth in eastern Contra Costa County, which could generate increased demand for public services. Development of the Project would, in combination with already anticipated local roadway improvements, improve access to some areas near the Bypass that are not currently readily accessible and could thereby facilitate future residential and/or commercial development that would increase the demand for public services in the area. Future development within or adjacent to the Project would be subject to additional environmental review. This would be a significant impact.

Mitigation Adopted by the Authority

III.N.9. Condition approval of any development project in the Project area, whether by the County or by one or more cities, upon provision of adequate public services. This condition of approval is consistent with the Growth Management Element of the Contra Costa County General Plan, which states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and public services.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives which the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

15. Findings Concerning Hazardous and Toxic Waste Impacts

The identified hazardous and toxic waste impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact III.O.1: Construction of the Project may expose workers to hazardous materials located at the Brentwood Gun Club. The environmental concern with shooting ranges is the high concentrations of lead in the soils of the firing range. The target area of the Brentwood Gun Club has soil that can reasonably be expected to qualify as hazardous waste under both state and federal regulation. Any contaminated soil present will need to be delineated prior to any excavation; and some level of site remediation will be required. This would be a significant impact.

Mitigation Adopted by the Authority

III.O.1 - III.O.6: A comprehensive investigation of soil quality at the sites identified in this report shall be done by the State Route 4 Bypass Authority ("Authority"). The investigation will be done after alignment surveying has been completed but prior to any construction or excavation work in the alignment that would encroach across the identified sites. The soil quality investigation will also include surveying for hazardous wastes that could be found along shoulders of existing roadways, as soils that are excavated during widening of roadways may exhibit hazardous waste characteristics. The results of such an investigation, together with all available soil reports and chemical analyses shall be submitted to the oversight agency for approval. In order to determine whether contaminants at an impaired site would pose a potential threat to human health and safety or to the environment, the Department of Toxic Substances Control may require a Human

Health Screening Evaluation as part of a Preliminary Endangerment Assessment (PEA), as described in the DTSC Preliminary Endangerment Guidance Manual (1994).

The PEA is designed to be a standard approach for evaluating sites contaminated with hazardous substances in order to determine if cleanup or other remedial action is required to protect public health or the environment. The PEA is the initial step in the overall site mitigation process to abate health or environmental threats posed by a parcel where hazardous waste has been released or has a significant potential to be released.

The Department of Toxic Substances Control provides oversight for the PEA process, which includes an initial site evaluation and preparation of a PEA report, followed by an evaluation and approval of the PEA report by DTSC. Depending on the results of the PEA, a Remedial Investigation / Feasibility Study (RI/FS) and a Remedial Action Plan may be needed eventually for site cleanup.

The PEA should include the following information: a site description and site history, including a description of past and current site activities and a description of handling procedures for hazardous substances associated with the site business activities; a description of the apparent problem such as documentation or spills or releases, and the results of any sampling and analysis that has been completed to characterize these; a description of potential pathways for exposure to chemicals (such as soil, water and air); a description of any sampling and analysis performed to evaluate the extent of chemicals identified in the soil and/or groundwater; an assessment of the threat to the public health and the environment; an identification of possible remediation strategies; and conclusions and recommendations. Specific details to be included in the PEA are described in the DTSC Preliminary Endangerment Assessment Guidance Manual (1994).

Implementation Procedure

As part of the site assessment process, the Authority will collect soil samples at locations to be affected by the project. The number of samples collected would be based on the size of the contaminated site, site activities, and possible transport or migration routes. Samples might include soil, soil gas, or groundwater, depending on the nature of the contaminants suspected to be present. The Authority shall prepare a soil sampling plan for each identified site prior to initiation of excavation or construction. Each site specific sampling plan shall be submitted to the Contra Costa County Department of Environmental Health for approval before sampling begins. The sampling plan shall contain all proposed sampling locations, sample collection procedures, name of the certified laboratory doing the chemical analysis, sample handling procedures, test methodology in conformance with the following analysis protocol, chain of custody requirements, site safety plan, and quality assurance plan to verify the laboratory results.

The sampling plan shall also include the reporting format for all laboratory analysis sheets, field logs, Chain of Custody forms and laboratory quality control information.

Each sampling plan shall specify that all soil and groundwater chemical analyses shall be performed by a California-certified laboratory, using standard EPA and California chemical testing methods in the following sequence:

(a) Metals Analysis (III.O.1 - III.O.3)

For soil samples collected from the Brentwood Gun Club and both the Neroly Road Debris Dump and the Laurel Interchange Junk Yard, a tiered soils analysis approach is required.

First Tier - All samples shall be analyzed for Soluble Threshold Limit Concentrations (STLC) under the methodology of the California Waste Extraction Test. All samples shall also be tested for Total Threshold Limit Concentrations (TTLC) of metals. All samples that have an STLC less than the state limit for soluble metals are representative of a non-hazardous soil. All samples with an STLC equal to or greater than the state limit for soluble metals are regulated in California and are subject to additional testing under the provisions of the federal Resource Conservation and Recovery Act (RCRA).

Second Tier - Samples with an STLC equal to or greater than the state limit for soluble metals shall be tested using the Toxicity Characteristic Leaching Procedure (TCLP). Those samples having results above the TCLP threshold are considered representative of a RCRA hazardous wastes and must be remediated as such. Those samples having results below the TCLP threshold are California regulated waste and may be disposed of as hazardous waste or reclassified by request as non-hazardous waste for purposes of an identified disposal option.

(b) Crude Oil Analysis (III.O.4-III.O.5)

For soil samples collected from the area of the Sand Creek oil field and the San Jose Tank Farm, soil samples shall be analyzed for total petroleum hydrocarbons and flammability. Soil samples with total petroleum hydrocarbons above 100 parts per million shall be subject to additional characterization for waste classification. Soils with elevated levels of hydrocarbon that can qualify as recycled materials for reprocessing shall be recycled.

(c) PCB Analysis (III.O.6)

(d) If the transformers at the Lopez farm are to be removed by the Authority, the transformers shall be tested for the presence of PCB-containing fluids. Soils directly under the transformers shall also be tested for PCBs. In addition to oil,

metals, and PCBs as specified above, sample analysis could include semivolatile organics, total petroleum hydrocarbons as diesel and gasoline, pesticides, asbestos, and pH. Sampling locations for these tests, such as along shoulders of existing roadways, would be specified at the discretion of the oversight agency during preparation of the sampling plans.

Remedial Action Plan

Using the information generated from the sampling and analysis program, a remedial action plan shall be prepared. If hazardous wastes are identified in soil or groundwater at levels that present a risk to the public, to construction workers, or to the environment, it would be necessary to remediate the site in compliance with applicable laws and regulations prior to construction to reduce the potential for exposing persons to hazardous substances during construction activities. Prior to implementing the remediation, a detailed remediation plan would be developed by the Authority and submitted to regulatory agencies for review to ensure their concurrence with the plans and compliance with applicable laws and regulations. Following remediation of the project site, a report documenting the remedial process would be submitted to the agencies. The remedial action plan shall also identify the disposal or treatment alternatives to be employed.

Without prior knowledge of specific contaminants to be encountered along the right-of-way, it is not feasible to identify specific remedial measures in advance. However, the types of contaminants likely to be found would not be unusually dangerous nor pose unmanageable health risks. Routine mitigation methods for excavated sites include hauling contaminated soils to an off-site disposal facility for treatment, disposal, or reuse (such as manufacturing asphalt from oil-tainted soil), or else encapsulating the contaminated soil under paved surfaces. Groundwater remediation, if required, could entail *in situ* treatment on site, containment behind slurry walls, pump and treat, removal, or some combination of methods.

In accordance with OSHA requirements, a Site Safety Plan would be prepared and be in force prior to commencing work at any contaminated locations. The Site Safety Plan would be prepared in conformance with guideline of the *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (National Institute for Occupational Safety and health and Occupational Safety and health Administration, 1985). The legally mandated safety regulations required by this measure would protect project construction workers from exposure to soil and groundwater contaminants and would also help protect the public and the environment.

Monitoring and Reporting Actions

The Authority shall perform, or have performed by a qualified consultant, all mitigation measures identified. Monitoring reports, sampling plans, test results, remediation plans,

and confirmation reports describing the remedial actions that were taken, including analytical data, would be prepared and submitted to the oversight agency for review and approval.

Monitoring Responsibilities

The Authority shall be responsible for having the Contra Costa County Department of Public Health Services, Environmental Division, or a qualified Registered Environmental Assessor monitor the mitigation measures. The Department of Public Works shall make all reports and supporting documentation part of the Project's administrative file. This documentation shall be part of the public record.

Monitoring Schedule

Prior to the initiation of construction or excavation in connection with the Project, all soil sampling shall be finished, remediation plans prepared, and all identified remediation actions shall be completed. Final verification testing shall also be completed prior to initiation of construction or excavation in order to eliminate all monitoring during or after construction.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.
(FEIR, pages II.120 through 125.)

Significant Impact III.O.2: Construction of the Project may expose workers to hazardous materials located on the Laurel Interchange Junk Yard. The junkyard appears to have been used for storage of a large quantity of "salvage" materials. In general, old junkyards and salvage yards were operated with poor environmental practices and are characteristically contaminated with heavy metals, PCB's, asbestos debris, and polynuclear aromatic hydrocarbons (PNA's). The primary impacts associated with metal-contaminated soils are the health effects of metal poisoning. This would be a significant impact.

Mitigation Adopted by the Authority

Implement mitigation measure III.O.1. above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.
(FEIR, pages II.120 through 125.)

Significant Impact III.O.3: Construction of the Project may expose workers to hazardous materials located at the Neroly Road Debris Dump. The area appears to be a "wildcat dump" that is being, used as an illegal dump site for the disposal of household garbage. There is some indication within the debris piles that the site has also been used as a disposal site for some commercial waste. Several old 55-gallon drums were observed near the collapsed garage structure and one five-gallon drum was observed in the debris piles. The primary impacts associated with this site are the potential presence of almost any hazardous waste in the general debris. This would be a significant impact.

Mitigation Adopted by the Authority

Implement mitigation measure III.O.1. above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.
(FEIR, pages II.120 through 125.)

Significant Impact III.O.4: Construction of the Project may expose workers to hazardous materials located at the Sand Creek Oil Wells. Six oil wells are situated within or immediately adjacent to the identified alignment. Four of these appear to be actively producing oil and the other two are pads, each with a capped-off well casing. One potential impact from oil wells is the presence of oil-contaminated soils in the immediate vicinity of the well head. Proper closure of the oil wells must be performed to prevent future problems at the site due to possible buildup of explosive gases or ground subsidence and roadway failure at the well location. This would be a significant impact.

Mitigation Adopted by the Authority

Implement Mitigation Measure III.O.1. above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.
(FEIR, pages II.120 through 125.)

Significant Impact III.O.5: Construction of the Project may expose workers to hazardous materials at the San Jose Avenue Crude Oil Tank Farm. The environmental concern at this site is soil contamination at locations where spillage has occurred. This would be a significant impact.

Mitigation Adopted by the Authority

Implement Mitigation Measure III.O.1. above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.
(FEIR, pages II.120 through 125.)

Significant Impact III.O.6: Construction of the Project may expose workers to hazardous materials related to the private transformers at the Lopez Farm. After World War II, farms often used military surplus transformers to generate electricity. Many of these transformers were an oil-filled variety that used oil as both an insulating dielectric and a cooling fluid. The oil that was used from 1927 through 1976 was Askarel, which was pure polychlorinated biphenyls (PCBs), a listed carcinogen. If the transformers are in the alignment and contain PCBs, they would have to be disposed of as hazardous waste. This would be a significant impact.

Mitigation Adopted by the Authority

Implement Mitigation Measure III.O.1. above.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation.

The Authority finds that the above-stated mitigation measure is incorporated into the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because the comprehensive program to address hazardous waste will ensure protection from exposure.

16. Findings Concerning Growth Inducing Impacts

The identified growth inducing impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact V.A.1: The Bypass Project will induce growth in East Contra Costa County. It is anticipated that the Project will improve access to a substantial amount of undeveloped land, thus removing an obstacle to further real estate development in this region. The degree of increased development attributable to the Project is unclear, and it is also unclear whether the Bypass alone would allow for growth beyond that allowed for in County and local General Plans. However, the Bypass is expected to affect the timing and rate of allowed growth. This would be a significant impact.

Mitigation Adopted by the Authority

V.A.1. The following combination of mitigation measures could reduce the impact of growth inducement. These include: limiting allowable development through the General Plan Amendment process at County and local levels; commit to the development of urban core areas of East County prior to developing open space and agricultural land. Adopt community planning guidelines and design features that promote efficient land use with a high degree of multi-modal accessibility between land uses; cluster residential units into medium densities to promote use of transit, and develop where transit service is currently available. These combination of measures could mitigate the impact to a less-than-significant level. However, the lead agency does not have the authority to implement them. Therefore, this impact remains significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

17. Findings Concerning Cumulative Impacts

The identified cumulative impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact V.B.1: The Bypass project would induce growth in East Contra Costa County. In combination with anticipated planned growth, this would be a significant cumulative impact, with attendant secondary cumulative impacts.

Mitigation Adopted by the Authority

V.B.1. Growth in Alameda and Contra Costal Counties outside of planned growth in the general plans of cities and counties would require a General Plan Amendment. Amendments to general plans to control the location, rate, and timing of growth could mitigate land use impact from induced growth. However, because general plan amendments are not within the Bypass Authority's control, this would remain a significant and unavoidable impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is

feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.2: Development of the Project would result in cumulative disruption of established communities through the removal and/or relocation of existing residential and commercial structures within the right-of-way and potential relocation within the contemplated growth areas under general plans. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.2: Amendments to general plans to control the location, rate, and timing of growth could mitigate potential community disruption. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to land uses, in particular potential community disruption and would propose mitigation measures. However, because neither general plan amendment or project-level mitigation is within the Bypass Authority's control, this would remain a significant and unavoidable impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.3: Development of the Project, in combination with anticipated urban development under general plans, would result in direct and secondary removal of prime agricultural land and Farmland of Statewide Importance. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.3. Amendments to general plans to control the location, rate, and timing of growth could mitigate impacts from conversion of prime agricultural lands. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to land uses, in particular conversion of prime agricultural land and would propose mitigation measure. However, because neither general plan amendments or project-level mitigation is within the Bypass Authority's control, this would remain a significant and unavoidable impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

A. Socioeconomic Impacts

Significant Impact V.B.4: The development of the Project, by inducing growth in the project area, would contribute to a cumulative increase in population and attendant demand for and availability of housing. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.4. Amendments to general plans to control the location, rate, and timing of growth could mitigate potential impacts to population growth and thus maintain appropriate jobs-housing balances. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to

socioeconomic and would propose mitigation measure(s). However, because neither general plan amendments or project-level mitigation is under the Bypass Authority-s control mt his would remain a significant and unavoidable impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.5: The Bypass project would contribute to cumulative development, resulting in potential displacement and closure or relocation of commercial land uses including agriculture. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.5. Amendments to general plan to control the location, rate, and timing of growth could mitigate potential impacts to population growth and thus minimize impacts to commercial land uses from development, especially conversion of prime agricultural lands. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to socioeconomic, including conversion of commercial land uses such as prime agricultural land and would propose mitigation measure(s). However, because neither general plan amendments or project-level mitigation is under the Bypass Authority's control, this would remain a significant unavoidable impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental

effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

B. Visual Resources Impacts

Significant Impact V.B.6: Development of the Bypass project would directly and indirectly, by inducing growth, contribute regional, cumulative loss of open space vistas by introducing visually intrusive urban features into the natural landscape. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.6. To minimize the individual visual impacts of Bypass development, mitigation listed in Table III.1, Impact and Mitigation III.D.21., can be employed; to minimize the visual disruption resulting from introducing urban features into natural landscapes, would require defining and enforcing appropriate general plan policies and ordinances, and identifying aesthetic conditions (mitigation) for individual project plan review, such as set-backs, height and mass limits, landscaping, etc. The Authority does not have control over imposition of these mitigation beyond the Bypass project itself.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

C. Traffic and Transportation Impacts

Significant Impact V.B.7: The East County Corridor and other cumulative transportation projects (i.e. Antioch BART, Brentwood Commuter Rail, Toll Road) would generally have a beneficial impact on traffic flow on key roadway lings and intersections in the study area, with the exception of SR4 between SR160 and Lone Tree Way. The traffic analysis for the East County Corridor Program in DEIR Volume 2, Section E describes the cumulative traffic volumes and system performance both with and without the Corridor. As for Bypass Project 2010(+) scenario, the Corridor would have generally beneficial impacts on parallel area roadways such as Deer Valley Road, Lone Tree Way, and existing State Route 4. Traffic demand on the State Route 4 freeway would be slightly greater with the proposed Project under the cumulative condition.

Mitigation Adopted by the Authority

V.B.7. Same as proposed in Volume 3, Section III.E (Impact and Mitigation III.E.4). Otherwise, no mitigation is needed to address the impacts of the cumulative transportation projects.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.8: A new transportation facility through the East County Corridor, including Toll Road, would not be consistent with the regional plans for Alameda County. Therefore, implementation would conflict with those plans, including the Alameda East County Area Plan, North Livermore General Plan Amendment, Alameda County Congestion Management Plan CIP, and the Metropolitan Transportation Commission RTP. The inconsistency with established plans and policies would be a significant impact.

Mitigation Adopted by the Authority

V.B.8. Prior to considering transportation improvements through the East County Corridor, include the Corridor on appropriate transportation and land use plans. The modification of these plans to include the Corridor would require additional environmental analyses under CEQA and under NEPA if federal funds are involved. However, the Bypass Authority has no authority to implement these changes and the impact would remain significant.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.9: The additional transportation capacity from the Project in conjunction with other cumulative transportation projects, combined with additional proposed development, may hasten or induce development growth to proceed toward allowable levels quicker than would otherwise be the case, particularly as a "free" (i.e. non-toll facility) roadways.

Mitigation Adopted by the Authority

V.B.9. The Authority shall implement mitigation proposed in Volume 3 of the EIR to reduce identified cumulative impacts (2010+) on the State Route 4 Bypass to a less-than-significant level. In addition, Contra Costa County, Caltrans, and Alameda County should coordinate efforts to complete the regional transportation system within the MTC's constrained funding scenario, advancing those projects deemed most beneficial to maintain regional traffic service goals. However, the Bypass Authority lacks the authority to insure that this occurs.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.10: Cumulative impacts of the Mid-State Toll Road, with or without the East County Corridor (including the Bypass Project segment), and with other roadway improvements and additional development, could occur under the following scenarios: (1) Entire Mid-State Toll Road Built, (2) Only I-580/I-680 Bypass Built, or (3) Only Brentwood-Tracy Portion Built. However, even with these improvements, the overall effect of cumulative development would be that peak period travel demand would exceed the capacity of most regional routes in eastern Contra Costa and Alameda County. This would be a significant impact.

Mitigation Adopted by the Authority

V.B.10. The only means available to prevent the chronic congestion forecasted for the regional roadways in eastern Contra Costa and Alameda Counties will be to limit not yet approved development, allowing it to occur based on forecasted residual transportation capacity on the transforation network. However, this will require a high degree of inter-regional cooperation; the Bypass Authority lacks the authority to insure that this occurs over time.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.11: Development of the Bypass project, in combination with the southern segment of the East County Corridor and/or Mid-State Toll Road, would result in a significant cumulative increase in noise levels between Lone Tree Way and Interstate 580 due to redistributing traffic in the East County subregion. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.11. Development of either the Corridor or Mid-State Toll Road would occur only after subsequent environmental review. Additional berms, walls, or increased heights to barriers developed as a part of the project may be required to meet FHWA/Caltrans Noise Abatement criteria. However, even assuming that FHWA/Caltrans Noise Abatement criteria are met, significant cumulative noise increases would still occur, particularly in the north Livermore area.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.12: Assuming that commuter service from Oakland to Brentwood would use the Southern Pacific rail line just east of the northern-most portion of the proposed Bypass, there could be more extensive noise impacts than those described for the project for residences near the proposed State Route 4/Bypass Interchange in the vicinity of Frandoras Circle. This is because increased rail noise would add cumulatively to the noise level that would increase due

to higher future traffic volumes on the proposed Bypass, State Route 4, and the proposed extension of Sunset Drive. This could result in a significant cumulative impact.

Mitigation Adopted by the Authority

V.B.12. Commuter rail service from Oakland to Brentwood would also occur only after subsequent environmental review; such review would probably provide the basis for additional nose mitigation along the rail line consistent with Federal Transit Administration (FTA) standards and regulations. Additional mitigation could include additional walls and berms, or improved track but it would be speculative to conclude whether future FTA nose abatement standards and regulations would reduce the cumulative impact to less-than-significant.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because subsequent environmental review would incorporate noise mitigation measures.
(FEIR, page II-222.)

D. Air Quality Impacts

Significant Impact V.B.13: Reasonably foreseeable secondary land use development includes development envisioned by general and area plans (short-term), and specific projects--Mountain House, Discovery Bay West, and Cowell Ranch (long-term). Cumulative development, particularly the East County Corridor and Mid-State Toll Road in conjunction with the 2010(+) scenario, would result in additional vehicle trips and/or vehicle miles-traveled (VMT) through diversion of person-trips from other routes and other forms of transportation, increasing vehicle trip lengths, and secondary land use development pressures along affected roadways in Contra Costa and Alameda Counties. Under both scenarios, new and/or longer trips would result in additional emissions of ozone precursors [i.e. hydrocarbons (HC) and nitrogen oxides (NO_x)] and respirable particulate matter (PM_{10}). This would be a significant impact.

Mitigation Adopted by the Authority

V.B.13. Since significant cumulative air quality impacts are regional in nature and apply to two regions, the San Francisco Bay Area and San Joaquin Valley, the most reasonable approach to mitigation would involve coordinating the activities and decisions of all relevant agencies that affect transforation infrastructure, air quality management, and land use development. These agencies include, among others, the Metropolitan Transportation

Commission, Contra Costa Transportation Agency, State Route 4 Bypass Authority, San Joaquin counties' regional transportation agencies, air quality regulatory agencies (Bay Area Air Quality Management District and San Joaquin Valley Air Pollution Control District), and local cities and counties. Effective, long-term mitigation for cumulative air quality impacts would involve a greater degree of emphasis on air quality concerns from local and county jurisdictions in their land use decisions which, historically has been difficult to do given that the benefits (e.g. increased tax revenue and political power) of development are local and the adverse effects are spread over two wide regions.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

E. Geology, Seismicity, and Soils Impacts

Significant Impact V.B.15: Urban development envisioned by general plans and specific development projects not yet included in general plans, in combination with the Bypass project, would increase residential and employment populations and traffic throughout previously undeveloped areas of Contra Costa County, thus increasing the number of people exposed to earthquake-related risks. Transportation projects considered in the long-term cumulative scenario would exacerbate this increase by removing obstacles to development. In the aggregate, this would be a significant impact.

Mitigation Adopted by the Authority

V.B.15. Project-level environmental review for each project analyzed as part of this cumulative development scenario would review the hazards (impacts) associated with geology, seismicity and soils and propose mitigation measures. Mitigation for earthquake-related risks such as avoidance of known fault lines and areas of liquefaction could reduce

the magnitude of seismic impacts, but not below the threshold of significance.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.16: Cumulative development would also result in removal of vegetation and alterations to drainage and slopes in varying degree. In addition, alteration of existing geologic features and development in areas of high shrink-swell characteristics would continue. This would be a significant impact. Development of the southern segment of the corridor would extend these secondary geologic-related significant impacts of growth south to I-580, and development of the Toll Road would extend them south of I-580 to Sunol.

Mitigation Adopted by the Authority

V.B.16. Project-level mitigation for soil-related impacts such as revegetation, replacement of high shrink-swell potential soils with engineered fill and construction standards to avoid soil erosion could reduce project-related and thus cumulative impacts to a less-than-significant level. However, because the Bypass Authority will not have control over environmental review of future projects, this remains a significant unavoidable cumulative impact.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse

environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

F. Hydrology and Drainage Impacts

Significant Impact V.B.17: Cumulative land development allowed under general plans plus residential and commercial projects assumed in this cumulative analysis, in conjunction with induced growth resulting from the Bypass and other transportation projects, would result in the further alteration of floodplains and fold routing. This would increase the number of people exposed to flood-related hazards, including dam failure. This would be a significant impact.

Mitigation Adopted by the Authority

V.B.17. Mitigation for flood-related risks such as avoidance of high flood ares, designing structure and roadways to withstand 100-year floods and inundation from dam failure, and implementation of flood control measures such as new channels or storm water detention basin could, for individual projects, generally reduce the magnitude of flooding impacts to a less-than-significant level. However, because the Bypass Authority does not have control over environmental review of future projects, this impact remains significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or

eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.18: Construction near existing waterways would contribute to the alteration of existing stream patterns and development in general would alter existing flow patterns of rainfall runoff resulting in significant impacts. Development of the southern Corridor segment would extend cumulative impacts to hydrologic resources south to I-580, and development of the Toll Road would extend them further south to Sunol.

Mitigation Adopted by the Authority

V.B.18. Alteration of existing stream or runoff flow patterns would require permitted approval from the U.S. Army Corps of Engineers and the California Department of fish and Game on a project-by-project basis. Permits from the ese agencies generally are not approved without mitigation measures than for CEQA purposes, would reduce both individual and cumulative impacts to less-than-significant level. However, because the Authority will not have control over individual permits, this impact remains significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

G. Biological Resources and Wetlands Impacts

Significant Impact V.B.19: Direct cumulative impacts to sensitive biological resources would occur form the Bypass project, in combination with cumulative land development, because biological resources within the Bypass right-of-way would be removed. Future development induced by the Project, in combination with build-out assumed under general plan, would result in secondary impacts to significant natural communities and special-status plant and wildlife

species within the right-of-way and on lands subject to development and increased barriers to wildlife movement corridors. The Contra Costa County General Plan EIR (December 1991) discusses cumulative impacts to vegetation from buildout of plans in the Bypass project area. This cumulative discussion is incorporated here by reference.

Mitigation Adopted by the Authority

V.B.19. Environmental review for specific development projects would identify site specific impacts to biological resources and would propose mitigation. If conditional approval is required for any development project in the State Route 4 Bypass area, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, upon provision of mitigation measures to reduce identified project-related biological resource impacts to below the level of significance, then the cumulative impact would be reduced to a less-than-significant level. However, since the Bypass Authority does not have direct control over the environmental review of future development projects, the cumulative impacts cited above would be significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

Significant Impact V.B.20: Future development induced by the Project, in combination with build-out of specific long-term development projects (Mountain House, Discovery Bay West, and Cowell Ranch) would result in secondary impacts to significant natural communities and special-status plan and wildlife species in eastern Contra Costa and western San Joaquin Counties. The resources in eastern Contra Costa County are described in Chapters III.J. of the DEIR, Volumes 2 and 3. Expansion of the Byron Airport would contribute marginally to this cumulative impact. This would be a significant, cumulative impact.

Mitigation Adopted by the Authority

V.B.20. Environmental review for specific development projects would identify site specific impacts to biological resources and would propose mitigation. If conditional approval is required for any development project in the State Route 4 Bypass area, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, upon provision of mitigation measures to reduce identified project-related biological resource impacts to below the level of significance, then the cumulative impact would be reduced to a less-than-significant level. However, since the Bypass Authority does not have direct control over the environmental review of future development projects, the cumulative impacts cited above would be significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

H. Cultural Resources Impacts

The identified cultural resources impacts that are significant or potentially significant without mitigation, the adopted mitigation measures and findings of the Authority regarding those impacts with the adopted mitigation, are as follows:

Significant Impact V.B.21: Development in this area could have a significant impact on potential archaeological and cultural resource sites. Development of the southern Corridor segment would extend cumulative impacts to cultural resources south to I-580. Development of the Toll Road would also extend cumulative impacts to cultural resources south of I-580 to Sunol. While development has the potential to increase knowledge of prehistoric and historic activities from archaeological findings and associated mitigation measures, some resources are unique and could be affected by increase population density and resulting increased access to the sites. This would be a significant impact.

Mitigation Adopted by the Authority

V.B.21. Environmental review for specific development project would identify site specific impacts to cultural resources and propose mitigation. If conditional approval of any development project in the State Route 4 Bypass area requires, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, provision of mitigation measures to reduce identified project-related cultural resource impacts to below the level of significance, then the cumulative impact would be reduced to a less-than-significant level. However, since the Bypass Authority does not have control of environmental review or permitting of future projects, the impact remains significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

I. Energy Impacts

Significant Impact V.B.22: Cumulative development would add to the significant impact of increased consumption f non-renewable energy sources. Proposed new development under existing general plans and other development projects in the Bypass area increase consumption of non-renewable energy sources by generating more vehicular traffic. Development of the southern segment of the Corridor or the Mid-State Toll Road would result in an even greater impact on energy consumption of non-renewable energy than that described for the Project due to the overall increase in construction energy consumption and the increase in VMT (associated gallons of gasoline and diesel fuel). Extension of BART to Hillcrest Road and establishment of Commuter Rail service from Oakland to Brentwood would offset some of the increase in energy consumption related to roadway development, provided that future roadway projects would not in themselves reduce the attractiveness of these alternate transportation modes. However, the level of congestion forecasted in the cumulative scenario may increase the attractiveness of transit options. Nonetheless, in combination with impacts of the Bypass project, this would be a significant cumulative impact.

Mitigation Adopted by the Authority

V.B.22. Effective, long-term mitigation for cumulative energy impacts would involve a greater emphasis on minimizing transportation-related energy expenditures by local and county jurisdictions in their land use decisions. This would necessitate local agencies cooperating with the California Air Resources Board and planning new development along existing or future transit corridors (i.e., along BART extension to Hillcrest Road.) However, since the Bypass Authority does not have control of environmental review ore permitting of future project, the impact remains significant and unavoidable. In addition, new roadway projects by definition would cause significant, unavoidable energy impacts from increased vehicular traffic.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

J. Utilities Impacts

Significant Impact V.B.23: Future urban development assumed in this cumulative analysis, in combination with development induced by the Bypass project, would cumulatively contribute to impacts to utilities. Development of residential and commercial projects would create the demand for new facilities and infrastructure, while transforation projects would provide or improve access to areas of the not readily accessible and could result in induced growth, causing additional demand for public utilities. In combination with impacts of the Bypass project, this would be a significant impact.

Mitigation Adopted by the Authority

V.B.23. Environmental review for specific development projects would identify impacts to public utilities and propose mitigation. Development projects in Contra Costa County must provide adequate utility services to receive project approval. This condition of

approval is consistent with the Growth Management Element of the Contra Costa County General Plan, which states that the County shall require new development to demonstrate that adequate water quantity and quality and adequate sewer quantity and quality can be provided. The Growth Management Element also states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and public services. Public utility services are generally handled on a fee-for-service basis, so increased demand would not likely create impacts. After mitigation, the impact to public utilities would be reduced to a less-than-significant level.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Project. The Authority further finds that this mitigation measure is appropriate and feasible and will substantially lessen or avoid the above-described potential adverse environmental effect because subsequent environmental review will incorporate mitigation to reduce impacts to utilities.
(FEIR, page II-228.)

K. Public Services Impacts

Significant Impact V.B.24: Future development assumed in this cumulative analysis would contribute to impacts to public services. Development of residential and commercial projects would create the demand for expanded public services, while transportation projects would provide or improve access to areas of the counties not currently readily accessible and could result in induced growth, causing additional impacts to public services. This would be significant.

Mitigation Adopted by the Authority

V.B.24. Environmental review for specific development project would identity impacts to public services and propose mitigation. Development projects in Alameda and Contra Costa Counties must provide adequate public service to receive project approval. In Contra Costa County, this condition of approval is consistent with the Growth Management Element of the Contra Costa County General Plan, which states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the additional costs to public services and utilities. However, developer fees to fund public services, especially new schools, are not guaranteed. Also, the Bypass Authority has no control over payment of developer fees to local jurisdictions for other cumulative projects considered. Therefore, the impact to public services would remain significant and unavoidable.

Findings Concerning Adopted Mitigation Measures

Significance With Mitigation

The Authority finds that the above-stated mitigation measure is incorporated in the proposed Bypass Project. The Authority further finds that this mitigation measure is feasible and will lessen, but not necessarily eliminate the potential adverse environmental effect associated with the Bypass Project. Thus, this impact is significant and unavoidable.

The Authority finds that there are no other feasible mitigation measures or alternatives the Authority can adopt at this time, which would reduce the impact to less than significant. To the extent that this adverse impact will not be substantially lessened or eliminated, the Authority finds that specific, economic, legal, social, technological, or other considerations identified in the Statement of Overriding Considerations support approval of the Bypass Project.

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ENVIRONMENTAL IMPACT REPORT

STATE ROUTE 4 BYPASS PROJECT

EXHIBIT B: FINDINGS CONCERNING REJECTION OF PROJECT ALTERNATIVES

STATE ROUTE 4 BYPASS AUTHORITY

DECEMBER 13, 1994

EXHIBIT B: FINDINGS ON STATE ROUTE 4 BYPASS PROJECT ALTERNATIVES

SECTION A: PROJECT ALTERNATIVES

In order to evaluate the possible environmental impacts resulting from a range of reasonable alternatives which could feasibility attain the basic objectives of the Project, the seven State Route 4 Bypass Project alternatives considered in the Draft Environmental Impact Report (DEIR) were:

(1) No Project alternative
(2) Arterial Upgrade Alternative
(3) Transit Alternative
(4) Toll Road Alternative
(5) Short Route Alternative
(6) Cowell Alternative
(7) The Nunn Alternative

During the environmental review process, federal and state resource agencies indicated that the tributary to Kellogg Creek is considered a high quality wetland in the area west of the Domegine Sandstone rock outcrop. Accordingly, the project alignment for three alternatives considered in the DEIR were modified, and used in the analysis in the Addenda to the Draft EIR. (FEIR, page II-2 through II-38.) The three revised alternatives considered were:

(1) Project "Mitigated" Alternative
(2) Cowell "Mitigated" Alternative
(3) Nunn "Mitigated" Alternative

These revised alignments are essentially the same as the initial alignments in the DEIR except for the modifications related to the Kellogg Creek tributary and Domegine Sandstone outcrop. Accordingly, they were used in the final analysis of alternatives. The "Cowell Alternative" is now the "Cowell Mitigated Alternative" and the "Nunn Alternative" is now the "Nunn Mitigated Alternative." Where the "Project" is used, it is now the "Project Mitigated Alternative."

For the east/west portion of the State Route 4 Bypass Project, Marsh Creek Road was considered as the connector for the proposed Project. In addition, three alternative connector alignments considered in the DEIR in addition to the Marsh Creek Road were the:

(1) Balfour Road Connector
(2) East Contra Costa Irrigation District Canal Connector
(3) Payne Avenue Connector

During the DEIR comment period, members of the public suggested an additional four alignment alternatives for the east/west connector, as follows:

(1) Taylor Lane/Borden Junction Alternative
(2) Hoffman Lane/CCWD Alignment Alternative
(3) Armstrong Road/Byron Airport Alternative
(4) Camino Diablo Alternative

These alternatives were examined in the Addenda to the DEIR (FEIR, pages II-3 through II-20), and the reasons for their rejection are described below.

SECTION B: PROJECT ALTERNATIVES CONSIDERED AND REJECTED

The formulation of the alternatives to the State Route 4 Bypass Project considered three factors:

(a) The ability of each alternative to provide an effective bypass to direct traffic off of existing State Route 4 between Antioch and Brentwood, and to take regional traffic out of Oakley, Brentwood, and Antioch;

(b) The reasonability and feasibility of each alternative; and

(c) The ability of each alternative to reduce the environmental impacts identified in the State Route 4 Bypass Project. (FEIR, page II-2).

The Bypass Authority has selected road alignments for the Bypass and the East-West Connector based on the following criteria: avoid relocation of existing residents, avoid permanent land uses, avoid agricultural core lands, avoid severance of land parcels, protect archeological sites, protect habitats of endangered species, protect wetlands and riparian habitat, coordinate with existing and proposed utilities, and minimize project costs. Each criteria generally has equal priority and the goal is to obtain a proper balance between all of the various criteria, with the primary goal having an alignment that achieves the primary goals.

1. No Project Alternative

a. Description of Alternative

The No Project Alternative offers the Authority the opportunity to compare the impacts of the proposed project with the impacts that could occur if the State Route 4 Bypass Project is not constructed. Other approved future roadway improvements, such as the Vasco Road relocation project, would be implemented. The projected growth allowed under the County and cities general plans would still be expected to occur under the No Project Alternative. As a result, there would be an increase in traffic along existing traffic transportation facilities, which would impact air quality emissions. The level of air quality impacts would not substantially differ from those resulting from the proposed Project. The No Project Alternative would generate fewer vehicle miles traveled than the Phase I and Phase II Project for the comparison years studied, and the average speed under the No Project Alternative would be comparable to the Project.

b. Rejection of the No Project Alternative

The authority finds the No Project Alternative is rejected because it would not feasibly attain most of the basic objectives of the Project. The purpose of the Project is to provide a new route for State Route 4 that bypasses the communities of Antioch, Oakley and Brentwood to alleviate traffic-related noise and congestion on local streets, pursuant to the approved general plans for Antioch, Brentwood, and Contra Costa County and the Caltrans adopted Route Concept

Report for State Route 4. (Draft EIR, page II.39.)

Because growth allowed under the County and cities General Plans would still be expected to occur under this alternative, congestion along local roadways in the project area would increase. This would result in a worsening of volume to capacity (V/C) ratios than would be expected to occur under the Phase I and Phase II Project, which means the roadways would be more overloaded than under the Project. (DEIR, page IV.9.)

The No Project Alternative also fails to provide a new route to alleviate the regional traffic through the communities of Antioch, Oakley and Brentwood, one of the basic purposes of the project. (DEIR, page II-39.) It would also not be consistent with the programs and policies in the general plans for Antioch, Brentwood, and Contra Costa County. Each of these general plans includes a bypass project, sometimes referred to as the Delta Expressway. In particular, Contra Costa County's general plan includes an alignment for the project and calls for the State to incorporate the State Route 4 Bypass Project into the state highway system and to upgrade the facility to a freeway. (County General Plan, Goal 3-51.) The State Route 4 Bypass Project (Delta Expressway) is also a central tenet of Brentwood's circulation plan. (Brentwood General Plan, Chapter III.)

In addition, one of the primary goals of the Transportation and Circulation element of the Contra Costa County General Plan is to reduce cumulative regional traffic impacts of development through participation and cooperation in multi-jurisdictional planning processes and forums such as the State Route 4 Bypass Project, and to ensure the compatibility of land uses adjacent to major transportation facilities. (Goals 5-F, 5-H.)

The County General Plan also includes a policy that transportation rights-of-way be preserved to meet requirements of the Circulation Element and to serve future urban areas indicated in the Land Use Element. In addition, the development of a secondary road system of expressways shall be considered as part of a solution to congested freeways. (Policies 5-5, 5-9.)

The County General Plan also includes implementation measures such as 5-i with which the No Project Alternative is inconsistent. Measure 5-i requires the County to establish precise alignment plans for new or expanded arterials, expressways, and freeways in order to reserve adequate rights-of-way for alternate road system improvements indicated in the Road Network Plan. (e.g., Delta Expressway; State Route 4 Bypass Project, SR 4, etc.)

The No Project Alternative would be inconsistent with East County Area policies which propose restriction of access on State Route 4, encourage development of a bypass to State Route 4, and propose coordination with Caltrans and the cities in developing plans for State Route 4. More specifically, the No Project Alternative would be inconsistent with County General Plan goals 5-E, 5-F, policies 3-50, 3-51, 5-5, 5-9, and implementation measures 5-I, and 5-L.

The City of Antioch General Plan also identifies a proposed freeway or expressway extending south from State Route 4 on the eastern portion of Antioch. Antioch's General Plan Circulation Element policies include the coordination of circulation plans and elements with other jurisdictions in the east county, in particular, the planning, funding, and construction of the Delta Expressway (State Route 4 Bypass Project). The No Project Alternative would be inconsistent with the City of Antioch's policies for this proposed freeway or expressway. Although Antioch's General Plan identifies the proposed State Route 4 Bypass project as a 2-lane expressway, one of the mitigation measures for the project includes the amendment of the Antioch General Plan to provide for a 4-lane expressway.

The City of Brentwood's General Plan includes as a central planning assumption a proposed expressway along the western portion of the Brentwood planning area. In the City of Brentwood's General Plan, it is called the Delta Expressway, and is assumed that it will be a 4-lane freeway. The No Project Alternative would be inconsistent with these policies, including Transportation Goals 2 and 5. (Goal 2: Provide adequate connections between Brentwood, neighboring communities, and the region; Goal 5: Lessen through traffic on Highway 4 through downtown.) The No Project Alternative would also be inconsistent with Transportation Policies 2.1.3, 2.5.3, 2.1.4, 5.1, 5.1.1, 5.1.2, and 5.1.3. (DEIR, Page II.A.10 through II.A.14.)

The No Project Alternative also fails to provide a means of addressing inevitable growth identified in the County, Antioch and Brentwood general plans, and conflicts with the policies which direct orderly growth and mandate an adequate level of services. (See, e.g., Contra Costa County General Plan, Chapter 2; Goals 3-A, 3-H; and Policies 3-5, 3-6, and 3-7.) The Antioch and Brentwood general plans each include a Growth Management Element as required by Contra Costa County Measure C (1988). Both growth management elements include performance standards for public facilities and the local transportation network. The transportation standards apply to so-called "Basic Routes" and "Routes of Regional Significance," and require maintenance of a certain level of service for intersection operations. In the eastern Antioch and Brentwood areas, these Routes of Regional Significance include SR 4 and the proposed SR 4 Bypass. If the Bypass is not constructed and the requirements of Measure C are not met, it may deprive Antioch, Brentwood, and the County of sales tax revenue for roadway construction. (FEIR, Response to Comments C-4, page IV-24.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the No Project Alternative is not appropriate and is therefore rejected for each of these reasons.

2. Arterial Upgrade Alternative

a. Description of Alternative

This alternative would upgrade the existing arterial network to accommodate the increase in the volume of traffic. Under this alternative, the additional north-south capacity along the arterials would provide the same overall level of service as the Phase I State Route 4 Bypass Project (year 2000.) For example, Lone Tree Way and Hillcrest Avenue would be in excess of 8 lanes. This alternative is described in more detail in the Draft EIR, Volume 3, page IV.14.

b. Rejection of the Short Route Alternative

Because the Arterial Short Route would avoid the most significant impacts associated with development of the Project right of way, it is the environmentally superior alternative. However, for the reasons discussed below, the Authority finds that this alternative is infeasible and would not meet one of the principle Project objectives of discouraging regional traffice from using local streets.

The Contra Costa County General Plan and the cities of Antioch and Brentwood's General Plans all indicate an alignment for the State Route 4 Bypass project, formerly called the Delta Expressway on the Land Use and Circulation Maps. Under the Arterial Upgrade Alternative, land designated for this future transportation project could be developed in other uses, which would conflict with the general plans. This alternative would also conflict with policies in each of these plans that encourage development of a bypass to State Route 4 and specifically reference

the Delta Expressway. This alternative would also be inconsistent with the objectives of moving regional traffic, particularly trucks, off local streets.

The Arterial Upgrade Alternative would require the relocation of existing residences and commercial properties adjacent to recently constructed roads and development, and would require reconstruction of those roads. It would also require relocation of utilities aligned with the current roadways. The widening of arterials in lieu of the State Route 4 Bypass would require the reconstruction of intersections and would still result in congested arterials, streets, and intersections throughout Brentwood and Oakley, and would therefore not accomplish one of the principle Project objectives of discouraging regional traffic from using local streets. This alternative was also rejected because it would have a significant impact on noise levels on residential and commercial land uses along the upgraded arterials designated as a truck route. (DEIR, pages IV.9 through IV.18.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Arterial Upgrade Alternative is not appropriate and is therefore rejected for each of these reasons.

3. Transit Alternative

a. Description of Transit Alternative

The Transit Alternative would apply the cost of the State Route 4 Bypass Project, approximately $175 million, to purchase transit equipment and pay operating expenses for these services. The Project would not be constructed; rather the buses would operate on existing roads and designated transit routes. It is estimated that approximately 52 buses could be purchased. (DEIR, page IV-19.)

b. Rejection of Transit Alternative

The Contra Costa County General Plan and the cities of Antioch and Brentwood General Plans indicate an alignment for the State Route Bypass Project on their land use and circulation maps. Under the Transit Alternative, lands designated for this future transportation project could be developed in other uses instead of the Bypass, which would conflict with the general plans. The Transit Alternative would also conflict with the policies in each of these plans that encourage development of a bypass to State Route 4 and specifically reference the Bypass Project (as the Delta Expressway).

The Antioch and Brentwood general plans each include a Growth Management Element as required by Contra Costa County Measure C (1988). Both growth management elements include performance standards for public facilities and the local transportation network. The transportation standards apply to so-called "Basic Routes" and "Routes of Regional Significance," and require maintenance of a certain level of service for intersection operations. In the eastern Antioch and Brentwood areas, these Routes of Regional Significance include SR 4 and the proposed SR 4 Bypass. If the Bypass is not constructed and the requirements of Measure C are not met, it may deprive Antioch, Brentwood, and the County of sales tax revenue for roadway construction. (FEIR, Response to Comments C-4, page IV-24.)

Under this alternative, county-wide growth anticipated by the general plans of each jurisdiction would occur, resulting in an increase in traffic on the local transportation network. As a result, congestion along local roadways and the project area would increase substantially. The East County model estimates that the increase in transit use would represent 1,200 passengers, or about twenty-four percent (24%) of the peak-direction, peak-hour demand for the Phase II expressway. (Contra Costa County Transportation Authority East County Model.) These 1,200 passengers would provide some measure of congestion relief in the Project area, although not as high as the proposed expressway, and therefore significant traffic impacts will result from this alternative. In addition, the Transit Alternative would not provide a highway bypass for trucks through Oakley and Brentwood, one of the primary objectives of the State Route 4 Bypass Project. Traffic impacts, therefore, would be greater than under the project and would not shift trucks off existing Highway 4.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Transit Alternative is not appropriate and is therefore rejected for each of these reasons.

4. Toll Road Alternative

a. Description of Toll Road Alternative

Under the Toll Road Alternative, it is assumed that the 9.3 mile-long State Route 4 Bypass Project is established as a Toll Road using the same right-of-way as the Project. The Toll Road would extend from Antioch to the Project's connection with the relocated Vasco Road, south of Camino Diablo.

b. Rejection of Toll Road Alternative

The Toll Road Alternative would require improvements in the local circulation systems to accommodate the Toll Road design requiring 1 mile interchange spacing, i.e., longer distances between interchanges than for the Bypass. This would result in some short-haul trips avoiding the Toll Road and using the local streets instead. (FEIR, page IV-23, Response to Comments C-1.) As a result, the effect of the Toll Road would be to divert shorter trips off the Toll Road to local roads, thereby increasing the traffic impacts on local roads. This would be in conflict with one of the basic objectives of the Project, i.e., to avoid regional through traffic using local streets in Oakley and Brentwood.

In addition, to the extent that the development would compete with the Mid-State Toll Road, it may not be permitted by Caltrans. The Development Franchise Agreement for a Privatized Transportation Project by and between California Toll Road Company and the State of California's Department of Transportation, January 4, 1991, prohibits Caltrans from issuing permits to facilities that will compete with the Mid-State Toll Road. (FEIR, page IV-56, Comment I.6.) Moreover, the California Toll Road Company has a state franchise for a mid-state tollway, which would include the State Route 4 Bypass, until the year 2004. Consequently, the Authority would not have authority to operate a toll way until after the 2004.

The Toll Road Alternative would also require additional improvements to collect tolls, which would not otherwise be needed, such toll collection barriers and booths.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Toll Road Alternative is not appropriate and is therefore rejected for each of these reasons.

5. **Short Route Alternative**

a. **Description of Alternative**

The Short Route Alternative would provide a bypass of Hillcrest Avenue and existing State Route 4 through Oakley, the portion of the roadway network anticipated to have the highest congestion levels. It would include a partial interchange at SR 4/SR 160 (to and from the west), and at-grade intersections at Laurel and Lone Tree Way. Lone Tree Way would be upgraded to an expressway east to SR 4, and extended east to Sellers Avenue as an expressway. The bypass of downtown Brentwood would be accomplished on the east, rather than the west of the city, via the extension of Lone Tree Way and upgrading of Sellers Avenue.

The Short Route Alternative would avoid the most significant impacts associated with the development of the project right-of-way, and is therefore the environmentally superior alternative. (DEIR, page IV-2.)

b. **Rejection of Short Route Alternative**

The Contra Costa County General Plan and the Cities of Antioch and Brentwood General Plans indicate an alignment for the State Route Bypass Project (formerly called the Delta Expressway) under land use and circulation maps. This alignment extends from Antioch to south of Brentwood, on the west side of the City of Brentwood. Since the Short Route Alternative would be on the east side, it would also conflict with these plans. There is considerable existing development and planned growth on the east side of Brentwood. Construction of the Bypass on the east side would significantly impact the existing residences and conflict with planned infrastructure and residential and commercial development on the east side.

Under the Short Route Alternative, since only a portion of the project would be constructed, lands designated for this future transportation project could be developed in other uses, which would also conflict with the general plans. The Short Route Alternative would also conflict with policies in each jurisdiction's general plan, which provide for development of a bypass to State Route 4, and specifically reference the State Route 4 Bypass Project (as the Delta Expressway). (DEIR, pages IV.28 through IV.30.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Short Route Alternative is not appropriate and is therefore rejected for each of these reasons.

6. **Cowell "Mitigated" Alternative**

a. **Description of Alternative**

This alternative would relocate the southern section of the Bypass between Marsh Creek Road and the connection with the relocated Vasco Road to the east as indicated on Figure IV.5 of the DEIR. (Page IV-31.) The roadway improvements and right-of-way width would be the same as under the Project. Based on consultations with state and federal resource agencies, this alternative was revised to avoid the tributary to Kellogg Creek and the area west of the Domegine Sandstone rock outcrop. Because this revised alternative is essentially the same as the Cowell Alterative with this mitigation incorporated, it is described as the Cowell "Mitigated" Alternative for purposes of this analysis.

b. Definition of Primary/Secondary Impact as Used in the Final EIR and The State Route 4 Bypass Alternative Alignment Study

Definitions of direct impact and secondary impact used in the Final EIR is somewhat different from the definition used in the State Route 4 Bypass Alternative Alignment Study, dated November 21, 1994. However, although the definition and methodology of assessing the Agricultural Core impact differs slightly, the result of the analysis in both cases leads to similar results in terms of the total amount of Agricultural Core acreage which will be significantly impacted by the Bypass Project. The basis for these different definitions as used in each is discussed above, in Section 6.b. "Direct impact" is defined in the Final EIR as the direct physical intrusion due to Bypass right-of-way and any parcels which would not be farmable (or be able to sustain a substantial decrease in agricultural utility) as a result of the alignment eliminating access to Marsh Creek Road. Also included in the definition of impact is the ability to use the acreage for agricultural purposes after the location of utility lines in conjunction with the roadway.

"Secondary impact" is defined n the Final EIR as the acreage separated by the Bypass project from the main Agricultural Core lands, thus reducing the agricultural usefulness of that separated portion. The DEIR suggests that the area split from the core may eventually be rezoned to an urban use.

In the FEIR, the Nunn "Mitigated" and Project "Mitigated" Alternatives have only direct impacts. The secondary impact attributed to the Cowell "Mitigated" Alignment is based on the separation from the Agricultural Core lands. The EIR states that the degree of this impact is unknown and that the Bypass Authority may consider further investigation to clearly define "secondary impact."

In the State Route 4 Bypass Alternative Alignment Study, direct impact is defined as land used only for the Bypass right-of-way. Secondary impact is defined as area separated from the main agricultural core. It is assumed in this analysis that if a parcel has had its access to Marsh Creek Road eliminated, that an alternate access would be found. It also assumes that an agricultural use that would be considered acceptable by the Water District in the area of the Los Vaqueros Pipeline would be found so that these parcels could maintain their agricultural usefulness.

c. Rejection of Cowell "Mitigated" Alternative

The Cowell Mitigated Alternative would directly impact approximately 57.8 acres of Agricultural Core land by using that land for the Bypass construction. This acreage includes the area located within the limits of the Bypass right-of-way and the southern remainder of the Lindsey property since the size of the parcel would have decreased utility for agricultural production. A secondary impact to the Agricultural Core is the approximately 59 acres of agricultural land which will be separated from the main Agricultural Core, for a total of impacts to almost 120 acres of Agricultural Core lands. As a result of the severance, this property will have less utility as farm land. (FEIR, page II-31.)

The Cowell Mitigated Alternative also requires the acquisition and/or relocation of a commercial site. In the Final EIR, the alignment analyzed had not accounted for the mitigation at the south end approximately at or near the Domegine Sandstone deposit. As a result, the analysis indicated that the alignment avoided both relocating the residence and the business. Once this mitigation was applied to the Cowell alignment, the business again required relocation, as stated in the State Route 4 Bypass Alternative Alignment Study. As a result, the

socioeconomic impacts are undesirable.

The impacts to the Kellogg Creek tributary and Domegine Sandstone deposit are similar to those in the Nunn Mitigated and Project Mitigated alternatives. However, the Cowell Mitigated Alternative will have slightly greater noise impacts than either the Project "Mitigated" or the Nunn "Mitigated" alternatives on residences within the 60 dBA contour. (FEIR, page II-28.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Cowell Alternative is not appropriate and is therefore rejected for each of these reasons.

7. The Project "Mitigated" Alternative

a. Description of Project "Mitigated" Alternative

The "Project" is defined in the DEIR, page II.2, and described in the first portion of these Findings of Fact, Exhibit A to the Authority's Resolution. As a result of consultations with state and federal resource agencies, the Project described in the Draft EIR was modified to avoid the tributary to Kellogg Creek in the wetland area west of the Domegine Sandstone rock outcrop. The revised Project alignment is referred to as the Project "Mitigated" Alternative and is more specifically described in the Addenda to the Draft EIR in Figure II.A-7 (FEIR, page II-24).

b. Rejection of Project "Mitigated" Alternative

The direct impact of the Project "Mitigated" Alternative on the Agricultural Core lands would be approximately 66.2 acres. (FEIR, page II-26.) This is greater than the impact on the Agricultural Core lands from the "Nunn Mitigated" Alternative and is inconsistent with agricultural land preservation policies of the County of Contra Costa and cities of Brentwood and Antioch.

Definitions of direct impact and secondary impact used in the Final EIR is somewhat different from the definition used in the State Route 4 Bypass Alternative Alignment Study, dated November 21, 1994. However, although the definition and methodology of assessing the Agricultural Core impact differs slightly, the result of the analysis in both cases leads to similar results in terms of the total acreage of Agricultural Core land which will be significantly impacted by the Bypass Project. In order to explain the basis for these different definitions as used in each is discussed above, in Section 6.b.

The Project Mitigated Alternative alignment also has a significant effect on two houses because they are located within the 60 dBA noise contours for this alternative. (FEIR, page II-25.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Project "Mitigated" Alternative is not appropriate and is therefore rejected for each of these reasons.

SECTION C: ALTERNATIVE EAST/WEST CONNECTOR ALIGNMENTS

As part of its evaluation of the SR 4 Bypass Project, the State Route 4 Bypass Authority considered alternatives for the portion of the project described as the east/west connection

between the roadway alternatives and SR 4. The Bypass Authority staff determined that Marsh Creek Road would be the preferred east/west connector to SR 4, and the impacts that alignment are therefore considered as part of the Project in the DEIR. The proposed improvements to Marsh Creek Road would include upgrading the two-lane road to state highway standards, which would include the provision of 10-foot shoulders along the alignment, signalized intersections, and protected turning movements. While Marsh Creek Road would remain a two-lane road, the Bypass Authority would protect a 110-foot right-of-way as requested by Caltrans to allow for the option of future improvements. For the east/west portion of the Bypass Project, three connectors in addition to Marsh Creek Road were considered during preliminary analysis. During the DEIR Comment period, members of the public suggested an additional four alignment alternatives for the east/west connector. A description of those alternatives, and the reasons for rejection of these alternatives, are provided below.

The Marsh Creek Road Connector Alternative, which is included in the Project, proposes to improve Marsh Creek Road with wider shoulders and turn-lane intersections and to preserve additional right-of-way. Because this alternative will have the least impact (as well as the least cost) it is recommended by the State Route 4 Bypass Authority staff.

1. **Balfour Road Connector**

a. **Description of Alternative**

This connector would travel east from the Bypass to existing State Route 4 along Balfour Road for approximately 2.3 miles. The existing alignment is very flat and straight. Since this is an existing roadway, grading would be minimal. (DEIR, page IV, 36 through 39.)

b. **Rejection of the Balfour Road Connector**

This alternative is rejected because it does not fulfill one of the primary Bypass Project objectives, which is to route regional traffic around the community of Brentwood. In addition, Balfour Road between the Bypass and downtown Brentwood is fronted by numerous residences. The Brentwood General Plan indicates considerable development planned at the interchange area, as well as at the intersection with SR 4. Future widening would therefore impact a large number of residences and development. In addition, this connector would have to carry regional traffic as well as local traffic if it is the selected route and its regional traffic would pass through residential areas. This would conflict with one of the primary Project objectives. (DEIR, page IV-38, FEIR, page II-3.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Balfour Road Connector Alternative is not appropriate and is therefore rejected for each of these reasons.

2. **East Contra Costa Irrigation District Canal Connector**

a. **Description of Alternative**

This connector would extend to the east from the Bypass to State Route 4 at a point approximately .5 miles south of Balfour Road. This connector would be approximately 2.6 miles in length, and would be very flat with some minor curvature at the west end of the alignment.

b. **Rejection of the East Contra Costa Irrigation District Canal Connector**

This alternative was rejected because access from the Bypass would be via the Balfour Road interchange, which would not provide a direct connection to the Project. In addition, the connection to SR 4 would be adjacent to the Southern Pacific Railroad, which would result in a very expensive and complex connection. The vertical clearance required for the road would be approximately 23 feet; therefore, the east/west connector must be elevated at least 25 feet in the air. The proposed connection with SR 4 is adjacent to the railroad, and these limited distance between the overpass over the railroad and the connection to SR 4 would make it impossible to descend to the current elevation at the SR 4 interchange. In addition, the crossing at Marsh Creek could impact the riparian habitat.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the East Contra Costa Irrigation District Canal Connector Alternative is not appropriate and is therefore rejected for each of these reasons.

3. **Payne Avenue Connector**

a. **Description of Alternative**

This 2.6 mile-long connector would extend east from the Bypass to State Route 4 at a point approximately 1 mile south of Balfour Road, partially along existing Payne Avenue alignment and partially on a new alignment (Extension of Payne Avenue to the west.) The alignment would be very flat and straight, and would cross Marsh Creek on the portion that would be new construction. The Marsh Creek crossing would be a culvert and low bridge installation. (DEIR, page IV-38; FEIR, page II-4.)

b. **Rejection of Payne Avenue Connector**

This alternative to the State Route 4 Bypass would not be a direct connection, because a direct connection would violate the minimum 1 mile space in between interchanges/intersections for the Bypass required by design standards. To connect to the Bypass would require a connection to the Balfour interchange or the Marsh Creek Road intersection and connecting roads. The connector would require substantial improvements to most of the alignments and new construction to the west. It would also require substantial improvements at its intersection with SR 4 because of the proximity of the Southern Pacific Railroad. In addition, it would require a new crossing of Marsh Creek. These involve substantial construction and related environmental impacts not required for the Marsh Creek Road alignment because it utilizes an existing road. (DEIR, page IV-38, 39.)

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Payne Avenue Connector Alternative is not appropriate and is therefore rejected for each of these reasons.

4. **Taylor Lane/Borden Junction Alternative**

a. **Description of Alternative**

This alignment would begin at the new Vasco Road just southeast of Walnut Boulevard and extend due east to join with SR 4 at Borden Junction. This would be a 3.1 mile route, and would be entirely new roadway construction. (Addenda to Draft EIR, II-4, II-5.)

Of the 3.1 miles, 2.6 miles of the proposed new road would be through open space. The remaining .5 miles would be along the existing Taylor Lane alignment; however this would be complete by new pavement reconstruction since the existing pavement is not adequate. (FEIR, page II-4; State Route 4 Bypass East-West Connector Alternatives Study, page 8.)

b. Rejection of Taylor Lane/Borden Junction

This connector would include more than 2.5 miles of the route in Agricultural Core land, which is in conflict with the polices and general plans of Contra Costa County, Brentwood, and Antioch. The proximity of the ultimate Walnut Boulevard interchange and intersection of the alternative connector to the new Vasco Road causes a problem because the distance between the interchange and intersection does not provide the 1-mile separation required by the design standards.

This project is also rejected because of the environmental impacts associated with it. The 2.6 miles of new road pavement through existing open space and agricultural land is a significant environmental impact. The direct impact to Agricultural Core land is approximately 35 to 40 acres, and this conflicts with one of the project criteria as well as the communities' general plans. In addition, portions of the area are considered potential San Joaquin kit fox habitat. The San Joaquin kit fox is a federal endangered species and a state-listed threatened species. In addition, this alternative would impact 19 homes and 2 businesses and would split several ranches.

Because this alternative includes the construction of a new Southern Pacific Railroad Crossing, a grade separation would be required. In contrast, Marsh Creek Road is an existing road so the current at-grade railroad crossing would remain. For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Taylor Lane/Borden Junction Alternative is not appropriate and is therefore rejected for each of these reasons.

4. Hoffman Lane/CCWD Alignment Alternative

a. Description of Alternative

This connector alignment would begin at the new Vasco Road almost one mile southeast of Walnut Boulevard and extend due east 3.1 miles following the CCWD Old River Pipeline Alignment to join with Byron Highway in the vicinity of existing Hoffman Lane. The road would then continue, joining SR 4 east of Gordon Junction. The entire east/west connector would be a 3.6 mile route with 3.1 miles of proposed new roadway through agricultural land and open space. A remaining .5 miles would be along the existing Hoffman Lane alignment; however, this would be complete pavement reconstruction since the existing pavement is not adequate. (FEIR, page II-4, State Route 4 Bypass East-West Connector Alternatives Study, page 10-11.)

b. Rejection of Hoffman Lane/CCWD Alignment Alternative

The direct impact to Agricultural Core land is approximately 40-42 acres, which conflicts with the Project selection criteria and the three communities general plans. A portion of this area is considered kit fox habitat, which could make construction difficult or impossible because of the protected status of the San Joaquin kit fox. (FEIR, page II-74.) The San Joaquin kit fox is listed by the federal government as endangered and by the State of California as a threatened species. This alternative also would include two crossings of Kellogg Creek.

In addition, since the Hoffman Lane Alternative includes the construction of a new Southern Pacific Railroad Crossing, a grade separation would be required. In contrast, Marsh Creek Road Alternative would not require this improvement since Marsh Creek Road has an existing at-grade railroad crossing.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the the Hoffman Lane/CCWD Alignment Alternative is not appropriate and is therefore rejected for each of these reasons.

6. **Armstrong Road-Byron Airport Alternative**

a. **Description of Alternative**

The existing Armstrong Road would be extended to the west to join with new Vasco Road and also extend to the east to join with Byron Highway in the vicinity of the Byron Airport. This alternative would be 2.3 miles with .7 miles of new roadway. (FEIR, II-4, II-5.)

b. **Rejection of Armstrong Road Connector Alternative**

This alternative is rejected primarily because it would not significantly reduce traffic occurring on Marsh Creek Road. This is a logical result from the traffic model since Armstrong Road is located 3.5 miles south of Borden Junction. Marsh Creek Road would therefore continue to carry SR 4 traffic traveling to Discovery Bay or the Central Valley and would operate as a defacto connector.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Armstrong Road-Byron Airport Alternative is not appropriate and is therefore rejected for each of these reasons.

7. **Camino Diablo Connector Alternative**

a. **Description of Alternative**

Camino Diablo currently extends approximately 1.5 miles from the proposed crossing with the new Vasco Road to Byron Highway. To connect back to SR 4, traffic must utilize 1.3 miles of Byron Highway to reach SR 4 at Borden Junction as well as 1,000 feet of Holway Drive. This segment of Byron Highway (1.3 miles) would need to be improved in order to meet State Highway Standards. It is anticipated that .5 miles of Camino Diablo would require horizontal and vertical realignment and road reconstruction in order to meet State Highway Standards. The remaining mile of Camino Diablo and the entire portion of Holway Drive would be improved by partial overlay and partial pavement reconstruction.

b. **Rejection of Camino Diablo Connector Alternative**

This alternative is rejected primarily because it will not have a significant benefit to Marsh Creek Road, because it is not a direct route between SR 4 and the Bypass. Marsh Creek Road will continue to be used as a de facto connector. Marsh Creek Road would have significant traffic impacts.

In addition, approximately 50 to 60 homes would be impacted by this alternative and maybe an associated negative economic impact to the community of Byron. It is the intent of the Bypass project to route regional traffic away from town centers in order to improve safety and improve the character of these communities. This alternative would conflict with this

objective of the Project. (Insert: Because it is not a direct route between SR 4 and the Bypass.)

This alternative would cross the Southern Pacific right-of-way adjacent to Byron Highway, which would require grade separation and could disrupt local circulation and land uses.

For the reasons stated throughout these findings and particularly as stated in the Statement of Overriding Considerations, the Authority finds that the Camino Diablo Connector Alternative is not appropriate and is therefore rejected for each of these reasons.

ENVIRONMENTAL IMPACT REPORT

STATE ROUTE 4 BYPASS PROJECT

EXHIBIT C: STATEMENT OF OVERRIDING CONSIDERATIONS

STATE ROUTE 4 BYPASS AUTHORITY

DECEMBER 13, 1994

EXHIBIT C: STATEMENT OF OVERRIDING CONSIDERATIONS

SECTION A: GENERAL INTRODUCTION

In approving the State Route 4 Bypass Project (the "Project") which is the subject of the Final Environmental Impact Report ("FEIR"), the Authority makes the following Statement of Overriding Considerations in support of its findings on the FEIR. The Authority has considered the information contained in the FEIR, and has fully reviewed and considered the public testimony and record in this proceeding.

The Authority has carefully balanced the benefits of the proposed Project against the unavoidable adverse impacts identified in the FEIR. Notwithstanding the disclosure of impacts identified in the FEIR as significant and potentially significant, and which have not been eliminated or mitigated to a level of insignificance, the Authority, acting pursuant to section 15093 of the State CEQA Guidelines, hereby determines that the benefits of the Project outweigh the significant unmitigated adverse environmental impacts.

The FEIR identifies each of the potential adverse impacts which cannot be mitigated to a level of insignificance if the project is implemented with adopted mitigation measures. These impacts are listed below by impact number:

> III.A.3, III.A.4, III.B.1, III.B.2, III.B.4, III.C.1, III.C.2, III.D.1, III.D.2, III.E.3, III.F.2, III.G.2, III.G.5, III.H.4, III.H.5, III.J.9-II, III.J.10, III.J.11, III.K.2, III.L.1, III.M.8, III.N.9, V.A.1, V.B.1, V.B.2, V.B.3, V.B.4, V.B.5, V.B.6, V.B.7, V.B.8, V.B.9, V.B.10, V.B.11, V.B.13, V.B.15, V.B.16, V.B.17, V.B.18, V.B.19, V.B.20, V.B.21, V.B.22, and V.B.24

Although the Authority believes that many of the unavoidable and irreversible environmental effects identified in the FEIR, as well as many of the environmental effects which have not been mitigated to a point of insignificance will be substantially lessened by the mitigation measures incorporated into the proposed Project, it recognizes that implementation of the Project introduces certain unavoidable and irreversible environmental impacts.

SECTION B: SPECIFIC FINDINGS

1. Project Benefits Outweigh Unavoidable Impacts

The remaining unavoidable and irreversible impacts of the Project are acceptable in light of the economic, fiscal, social, planning, land use and other considerations set forth herein because the benefits of the Project outweigh any significant and unavoidable or irreversible adverse environmental impacts of the Project.

2. Balance of Competing Goals

The Authority finds it is imperative to balance competing goals in approving the Project and the environmental documentation for the Project. Not every policy or environmental concern has been fully satisfied because of the need to satisfy competing concerns to a certain extent. Accordingly, in some instances the Authority has chosen to accept certain environmental impacts because to eliminate them would unduly compromise some other important economic, social or other goals. The Authority finds and determines that the text of the Project and the supporting environmental documentation provide for a positive balance of the competing goals and that the economic, fiscal, social, planning, land use and other benefits to be obtained by the Project outweigh the environmental and related potential detriment of the Project.

SECTION C: OVERRIDING CONSIDERATIONS

The Authority specifically finds that to the extent the identified adverse or potentially adverse impacts have not been mitigated to less than significant levels, there are specific economic, social, planning, land use and other considerations which support approval of the proposed Project, as follows. Moreover, the Authority finds that where more than one reason exists for any finding, the Authority finds that each reason independently supports these findings.

1. Economic Considerations

Substantial evidence is included in the record of these proceedings and in the relevant jurisdictional planning documents for the region, demonstrating the economic benefits which would result from the implementation of the proposed Project. The Authority has balanced these economic considerations against the unavoidable and irreversible environmental risks identified in the FEIR and has concluded that those impacts are outweighed by the economic and other benefits. They are addressed in the Authority's Findings of Fact. In particular, the Authority considered those impacts relating to existing plans and policies, land use, transportation/circulation, air quality, noise, visual and aesthetic resources, biological resources, soils, geology and seismicity, hydrology, flooding, and drainage, public services, utilities, hazardous materials, public health and safety, energy, and cultural resources. Upon balancing the environmental risks and countervailing benefits, the Authority concludes that the economic benefits which will result from the implementation of the Project outweigh those environmental risks.

(a) Balance of Land Uses

One of the fastest growing commutes in the Bay Area is from East Contra Costa County across the Diablo Range into and through the Central County. The primary route through this commute is Highway 4, a four-lane freeway from Central County across Willow Pass to Antioch, and a 2-lane highway from Antioch through Brentwood to San Joaquin County. To achieve the planned and approved development in East County, especially in the east Antioch, Oakley, and

Brentwood areas, additional transportation capacity will be needed. Officials in the East County rank a bypass to Highway 4 from Antioch past Brentwood as one of two facilities having the highest transportation priority in the area. (Preliminary Draft, Contra Costa County Comprehensive Transportation Plan, July 20, 1994).

Although the jurisdictions in East County plan for significant job growth, significantly more housing growth is forecast. The area already contains substantially more houses than jobs with the result that many workers commute to jobs outside of East County. Many of these jobs are located in Central County, the Tri-Valley, other parts of Alameda County and even Santa Clara and San Francisco. The recently-adopted Brentwood General Plan would allow a five-fold increase to about 60,000 persons over the next 20 years. The City of Antioch has approved development agreements and tentative maps for around 12,000 new housing units. In total, East County jurisdictions have approved about 23,000 new housing units. Proposed developments in unincorporated Contra Costa County such as the Cowell Ranch would, if approved, add more development, including both jobs and housing. East County jurisdictions have relied on additional transportation improvements in their planning, and these improvements will be needed to support forecasted development. (Preliminary Draft, Contra Costa Countywide Comprehensive Transportation Plan, July 1994.)

Travel conditions in Contra Costa County are greatly influenced by its location on the eastern side of the San Francisco Bay Metropolitan Region. Commute patterns are especially affected by the employment centers in San Francisco and Alameda County and the residential areas of Solano County. Over eighteen percent (18%) of all trips and forty-six percent (46%) of work trips originating in Contra Costa County are destined for another Bay Area county (Contra Costa County General Plan ("G.P.") 1991, page 5-4.) Such inter-County patterns are recognized not only in the Contra Costa County General Plan, but also in the General Plans of Antioch and the City of Brentwood.

In attempting to provide for the travel demand forecasts, certain goals and policies were identified in individual general plans to guide the County, and the Cities of Antioch and Brentwood in their future facilities construction. Among those various goals and policies has been the identified need to provide for transportation improvements to accommodate the estimated 1.5 million person trips generated each weekday by the year 2005. (Contra Costa G.P., page 5-10.)

Although transportation design is only one component of a development, conservation, and economic blueprint for a local jurisdiction, a well-balanced and planned transportation network provides for and accommodates anticipated employment and residential growth and helps to relieve existing congested roadways. State Route 4 has been recognized in all of the regions general plans as part of a refined transportation network, which gives public and private interests a vision of needed improvements and an opportunity to assess costs and develop funding programs well in advance of actual growth.

The existing State Route 4 is an at-grade limited-capacity highway with direct access

to the roadway from adjacent schools, shopping centers, and residences. Under this existing situation regional traffic (particularly truck traffic) is mixed with local traffic. Because of low speeds on local roads and heavy cross traffic, lane capacity on existing State Route 4 is limited and opportunities to improve capacity are limited due to the proximity of the existing adjacent land uses. Major disruptions and relocations would result if the existing State Route 4 were improved and the increase to capacity would not be adequate to serve both local and regional traffic.

The Project will balance land uses by providing a new route for State Route 4 that bypasses the communities of Antioch, Oakley, and Brentwood in order to alleviate traffic-related noise and congestion on local streets pursuant to the adopted general plans for Antioch, Brentwood, and Contra Costa County, and Caltrans adopted Route Concept Report for State Route 4 (DEIR, Volume 3, II.39.)

Land Use and Transportation Policies in the Contra Costa County General Plan which support the establishment of the Bypass Project include Policies 3-50, 3-51, 3-66, 3-67, Goal goals 5.E, 5.F, 5.H, and 5.R. Also relevant are Circulation Phasing and Coordination Policies 5.1, 5-3, and 5-5. Moreover, Policies 5-9 and 5-10 encourage development of a secondary road system to minimize use of freeways for community circulation. The Project will fulfill these goals reducing cumulative regional traffic impacts of development through participation and cooperative multi-jurisdictional planning processes which designate State Route 4 as an identified transit way.

Buildout of the Brentwood General Plan will result in an estimated population of 79,000 and employment of nearly 28,000. This growth will result in daily travel in Brentwood growing to approximately 316,700 trips by buildout. The new State Route 4 is identified in the City of Brentwood's Roadway Circulation Plan. (Page 3.3-4.) Moreover, Policies 2.1.1 through 2.1.6 encourage mitigation of regional traffic impacts and direct the City to continue to participate with the State Route 4 Bypass Authority to improve regional circulation.

Finally, the Project will implement Antioch's goals for the location of a transportation corridor extending south from State Route 4 in the eastern portion of Antioch, and will fulfill circulation Policies 1, 3, and 4 accommodating projected future traffic levels in coordination with other local jurisdictions.

In sum, the Project is directly tied to the balance of land use patterns that have been approved and continue to evolve in the County of Contra Costa and the Cities of Brentwood and Antioch. These in turn, provide the necessary infrastructure to accomodate transportation needs for commercial and residential land uses and associated employment opportunities in the region.

(b) Positive Fiscal Impacts

The Project provides for economic development in that it provides access to lands designated in the General Plans for commercial and office uses. This provides a balance for a significant number of homes already allowed under the general plans and eliminates or reduces out-commuting in some areas. (Antioch, Brentwood, and Contra Costa County General Plans.)

For example, the Brentwood General Plan recognizes that employment centers along the project are anticipated to provide for more employment and regional retail opportunities. Moreover, Brentwood anticipates that the proposed Project will function as a window to the community and that uses along its alignment should reflect the community's high quality development standards. The Project supports Brentwood's Land Use, Goal 3, Policy 3.2.1, Goal 4, and Policies 4.3.1 and 4.3.2. (Brentwood General Plan, II.1.5.)

Likewise, the City of Antioch has provided for economic growth in Future Urbanization Area Nos. 1 and 2 which envision residential uses supported by nonresidential uses including employment, commercial, retail special use, open space, and schools with a strong focus on the inclusion of employment generating land uses in area No. 2 (Antioch G.P. 1988, and Antioch Infrastructure Plan, 1992.) The Project is specifically assumed as part of area No. 2 to facilitate transit for the proposed employment opportunities.

Implementation of the Project will ensure that the economic growth is realized, thereby resulting in positive fiscal impacts to the region.

(c) Economic Benefits from Construction

There are several economic benefits that will come from the construction of the Project. These benefits will accrue to the Project region and will last throughout the buildout of the Project. The costs of Project construction, combined with costs of construction of associated proposed or assumed new development, will contribute construction income to the region by creating temporary construction jobs and permanent maintenance jobs.

As proposed, the Project would be implemented in two phases: Phase I would be completed in the year 2000, and Phase II would be completed by the year 2010. The Project will create construction jobs as well as call for the purchase of materials from local suppliers. The estimated cost for the project is $175,000,000.00 assuming right-of-way dedication, and 195,000,000.00 assuming right-of-way acquisition. (Technical Advisory Committee Staff Report, January 26, 1993; DEIR, Volume III, page I.2; and Draft 1993 Contra Costa Congestion Management Program, page E.1.).

(d) Economic Growth Through Retail Commercial and Industrial Development

The Project fulfills the goals of the County of Contra Costa and Cities of Antioch and Brentwood by enabling balanced land uses resulting in economic growth. The Project provides regional access to commercial, retail, and industrial sites consistent with the Brentwood General Plan Policy 3.2 to establish a regional commercial center in Brentwood, concentrating regional commercial development in the Project at Land Creek Road. Brentwood's goal for economic development which are fulfilled by the Project include Goals 1, 2, 3, 4, and 5, and Policies 1.4.4, 1.4.6, 2.1.2, 3.2.2, 3.3.1, and 3.3.2.

In Antioch, Future Urbanization Area No.2, which assumes the Project as a component of that area, promotes the inclusion of employment generating commercial, retail, and industrial land uses as well. (Antioch G.P. 1988.)

Similarly, the Contra Costa County General Plan mandates concentrations of commercial and industrial development near major transportation corridors and facilities (Policy 3-41). It also envisions business and employment opportunities via retail commercial and industrial development coupled with transportation policies to facilitate this growth, which policies specifically incorporate the Project (Contra Costa G.P. Policies 3-49, 3-50, 3-54, and 3-52.)

2. Social Considerations

These proceedings contain substantial evidence that the implementation of the proposed Project provides a mechanism to further social goals that have been adopted by the Authority. In an attempt to retain and enhance the region's quality of life, while comprehensively addressing future development issues on the basis of region-wide needs, the proposed Project provides various social benefits including but not limited to the following:

The project will provide access to an area that provides lower cost housing (Contra Costa County General Plan).

(a) Permanent Job Creation

The Project will ensure that the necessary transportation facilities will be available to job creating businesses.

The Project will provide access to facilitate the creation of an employment base in the region. As discussed above, the need for job creation was heralded by the Antioch, Brentwood, and Contra Costa County General Plans and will be implemented by the identified goals and policies. One way the Project accomplishes this is by eliminating regional traffic from downtown areas of Brentwood and Oakley to allow for development of local businesses and redevelopment. (County and Brentwood General Plans - Oakley Redevelopment Plans.

The Authority finds that adoption and implementation of the proposed Project will best promote the transportation needs of the region in the face of growth pressures. For example, while the east Contra Costa County area was a fast-growing residential area, the number of jobs created there have lagged far behind housing construction. (Contra Costa County G.P. Appendix, page 13.)

(b) <u>Planning and Land Use Consideration</u>

It has become increasingly apparent that regional growth influences have required the Authority to take affirmative planning steps that will handle increased traffic and limited capacity of the existing State Route 4, by enhancing transportation capabilities to provide for future development. The Project reaffirms this pre-existing accomodation policy and, with mitigation, establishes detailed implementation programs that will both preserve and promote the balance of community interests addressed in the General Plans.

The Project is a fundamental local transportation improvement necessary for accommodating local and regional growth and it would implement important local and regional development plans and circulation policies. For example, in the City of Antioch an extension of Wildhorse Road from the Nelson Ranch subdivision limits, a proposed frontage road called Sunset Drive, and an extension of Laurel Road to connect with Hillcrest Avenue, are anticipated and compatible projects. (DEIR, Volume 3, page 2-13 and 2-14.)

Moreover, the Project would be located along the eastern boundary of a development of 300 single-family homes on approximately 100 acres located west of the City of Brentwood. Also, near the City of Brentwood is the Hancock project specific plan, a 920 six-unit single-family residential project clustered around an 18-hole golf course. It would include an on-site neighborhood shopping center and neighborhood parks would also be included in the proposed development. Access to the development would be facilitated by the Project, which would extend along the edge of the Hancock project (DEIR, Volume 3, page II.18.) The Project would also extend along the eastern edge of the development site of the A. G. Spanos Brentwood Hills Country Club, a proposed development to construct 1622 single-family residences clustered around an 18-hole golf course on a 751 acre site located immediately southwest of Brentwood. An on-site neighborhood shopping center and employment center, 600-student elementary school, 40-student daycare facility, and on-site parks would also serve the residents (DEIR, Volume 3, page II.20.)

An easement for the Project is specifically indicated on the preliminary site plans for the Lake project and the Country Club project on an approximately 1,000 acre site located in the southwestern portion of the City of Brentwood. (DEIR, Volume 3, page II.20.) The Project will accommodate the increased capacity needed as a result of these as well as other projects.

The Project is consistent with policy 5-32 of the Contra Costa County General Plan which requires appropriate buffers adjacent to noise sensitive land uses located along major transportation facilities. The Project is explicitly compatible with the Contra Costa County General Plan as it is indicated on the Contra Costa County Roadwork Network Plan and Scenic Routes Plan. Finally, it is consistent with the Roadway and Transit Network Plans developed in the County General Plan since it was assumed in all three planning scenarios.

The Project comports with East County Area Policies which propose restrictions to access on State Route 4, encourage development of a bypass to State Route 4, and propose coordination with Caltrans and the Cities of Brentwood and Antioch in developing State Route 4. The Project is consistent with transportation and circulation policies and overall implementation measures that establish a framework for implementation of a regional roadway network. (Contra Costa County General Plan, Policies 5-40, 5-42, 5-B, 5-F, 5-G, 5-I, 5-1, 5-S, 5-AD, 5-AL.)

The enhancement of transportation facilities as furthered by the Project is consistent with the Antioch General Plan Circulation Policies 1, 3, and 4. The Project is compatible with the Antioch General Plan in that a transportation corridor has been approved on the General Plan's Land Use Map and identified as a proposed freeway or expressway.

The Project recognizes a growing number of truck and other traffic generated by the existing State Route 4, and is of great concern to the City of Brentwood. The Project mitigates this concern by proposing a circulation system to accommodate traffic generated by development within the region. (Brentwood General Plan, Goals 1, 2, 3, 4, and 5.)

The Authority has carefully considered the evidence received in the lengthy planning process in arriving at its decision to adopt the proposed Project. The Authority has concluded that such a decision renews, revitalizes, and takes affirmative steps to implement efforts to control and plan for urban development and the resulting increases in traffic. Furthermore, the Authority has concluded that adoption of the Project is the most logical and most feasible method of assuring that adequate transportation facilities in the region will be provided.

The Authority believes that existing natural resources and community attributes can only be protected and enhanced by recognizing the inadequacy of the existing State Route 4 in handling existing and projected transportation. Approval of the Project avoids a piece-meal approach to transportation planning for the region. The adoption and implementation of the Project with mitigation will result in implementation of the goals and policies for the development of facilities within the region. The result will be an identification of the transportation facilities and the means to finance such improvements in a timely fashion to meet the demand for such facilities.

The most significant "unavoidable" and "irreversible" environmental impacts identified in the FEIR relate to traffic/circulation, open space, air quality, biological resources, and visual impacts. The Authority has considered these environmental impacts identified in the FEIR as unavoidable and irreversible as well as those impacts that may only be lessened or substantially lessened. It has concluded that with all environmental trade-offs of the Project taken into account, the net positive fiscal impacts, and achievement of balanced orderly growth and transportation network which will result from implementation of the Project, outweigh the irreversible impacts resulting from the implementation of the Project.

The Authority believes that the above-described social benefits which will be derived from implementation of the Project with mitigation, when weighed against the inherent uncertainties affecting the future growth without the Project, override the significant, unavoidable and irreversible environmental impacts of the proposed Project as identified above.

The Authority has balanced these social considerations against the unavoidable environmental risk identified in the Project, particularly those relating to open space, visual quality, air quality and biological impacts and the Authority has concluded that the social benefits which will be derived from the implementation of the proposed Project outweigh those unavoidable environmental risks.

SECTION D. CONCLUSION

In conclusion, the Authority has determined that any remaining effects on the environment attributable to the proposed Project which are found to be unavoidable in the preceding Findings of Fact are acceptable due to the overriding concerns set forth in Section B of this Statement of Overriding Considerations. The Authority has concluded that with all environmental trade-offs the proposed Project with mitigation should be adopted.

9411.06.3

Addendum to the Environmental Impact Report for the State Route 4 Bypass Project

Addendum #9: Specific to the SR 4 / SR 160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors

Prepared by Staff to the
State Route 4 Bypass Authority
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June 2011

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SECTION 1 – INTRODUCTION

A. Reasons for this Addendum

This document is an Addendum to the Final Environmental Impact Report (FEIR) certified in December 1994 for the State Route 4 Bypass Project (Bypass Project) located in the cities of Oakley, Antioch and Brentwood and unincorporated areas of eastern Contra Costa County. This Addendum was prepared in conformance with the California Environmental Quality Act (CEQA) and CEQA Guidelines §15164.

The FEIR examined two phases for implementing the Bypass Project:

- Phase 1 would involve construction of a two-lane limited access expressway from the existing State Route (SR 4) freeway to Walnut Boulevard, with a partial interchange provided at the SR 4 freeway.
- Phase 2 would expand the Project to Phase II would expand the Project to a four-lane expressway from the SR 4 freeway to Balfour Road, including the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors, which are the subject of this Addendum.

The SR4 Bypass Authority is now moving forward with the implementation of the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors. As part of this effort, additional preliminary engineering has been completed and it has been determined that auxiliary lanes between the SR160/East 18th/Main Street interchange and the SR4/SR160 Interchange will be required as part of the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors.

B. CEQA Basis for this Addendum

State CEQA Guidelines §15164(a) requires that the lead agency or responsible agency prepare an Addendum to a previously certified EIR "if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred". An Addendum need not be circulated for public review per CEQA Guidelines §15164(c) but can be included or attached to the FEIR or adopted negative declaration.

As analyzed in Section 3 of this document, the changes being proposed for this Project would not result in any new significant environmental effects or substantial increases in the severity of previously identified significant impacts. Consequently, major revisions to the previous FEIR are not required, and none of the conditions listed in §15162(a) have occurred. Therefore, the appropriate level of analysis for the proposed Project revision is an Addendum to the FEIR. This conclusion is based on the analysis provided in this document and information in the FEIR.

C. Intended Uses of this Addendum

An Addendum to an EIR is an informational document used in the planning and decision-making process. The intent of this Addendum to the FEIR is to provide the State Route 4 Bypass Authority (Authority) with additional information regarding the Project's potential environmental impacts that was not available at the time of the certification of the FEIR.

SECTION 2 – PROJECT DESCRIPTION

This section provides a description of the Project evaluated in the FEIR and the modifications proposed by the Authority.

A. Purpose and Need (as presented in the 1994 FEIR)

Eastern Contra Costa County has been experiencing significant residential growth due to the availability of land, proximity to job centers, and the need for affordable housing. This growth has been acknowledged in the Contra Costa County General Plan, and the General Plans of each of the cities in eastern Contra Costa County, each of which was approved following full CEQA review. The result of this projected growth will be increasing traffic demands on State Route 4 and the local roadway network.

State Route 4 was designed as a regional route connecting the San Francisco Bay Area with California's Central Valley. The existing SR4 between the proposed connection points of the Bypass traverses downtown areas of Brentwood and Oakley. The existing SR4 through these communities is an at-grade, limited capacity highway located adjacent to schools, shopping and residences with direct access to the highway. Due to the current alignment and the proximity of the many residences and businesses it is impractical and not economically feasible to widen the existing SR4 roadway to provide adequate safety and capacity for the local and regional traffic demand.

The primary purpose of the Bypass, as described in the FEIR, is to relocate the existing SR4 as a regional route outside of urban areas such as Brentwood and Antioch. The construction of a limited access Bypass with improved east-west connections to SR4 will improve regional circulation through eastern Contra Costa County and provide a more balanced distribution of current and future traffic over the local road network in this area.

The Bypass consists of right of way protection and acquisition for a minimum 250 foot wide transportation corridor as well as the phased construction of a limited access highway. **Figure 1** shows the general location of the Bypass.

B. Previous Environmental Analysis

The Authority has served as the CEQA lead agency for the SR4 Bypass Project. In October 1993, the Authority released for public review the State Route 4 Bypass Project DEIR. A 60-day public review period began on November 2, 1993, and closed on January 3, 1994. A Final EIR was prepared in November 1994 and included responses to comments received on the DEIR. On November 21 and December 8, 1994, the Authority held public hearings on the Bypass Project and supporting environmental documents. The Authority approved the Project and certified the EIR on December 13, 1994. Since that time eight Addenda and one supplemental EIR have been prepared and adopted by the Authority, as discussed below.

- December 13, 1994 - An Addendum was prepared to address a proposed modification to the connection from Marsh Creek Road to existing SR4.
- November, 1997 - A second Addendum was prepared to consider the effects of a variety of long-range area planning projects on the preferred alternative alignment for Segment 3. This Addendum was certified by the Authority in November 1997.
- December, 1998 - A third Addendum was prepared to address the modified construction phasing plan which involved construction of Segment 2 as a first phase.
- January, 2003 - A fourth Addendum was prepared to address modifications to the Lone Tree Way Interchange.
- November, 2003 - A fifth Addendum was prepared to address modifications to Segment 1 of the Bypass.
- October 2004 - A Supplemental EIR was prepared to evaluate proposed refinements to the alignment of Segment 3.
- May 2006 - A sixth Addendum was prepared to evaluate proposed relocations of an existing Chevron pipeline.
- November 2007 - A seventh Addendum was prepared to evaluate the Sand Creek Road Interchange.
- April 2009 – An eighth Addendum was prepared to evaluate the Mokelumne Trail Bicycle / Pedestrian Overcrossing

The four-volume 1993 Draft EIR for the Bypass Project, together with the 1994 EIR volume, the eight Addenda, and the Supplemental EIR now comprise the approved EIR and environmental record for the SR4 Bypass Project. Once completed, this Addendum will be added to the environmental record.

C. Project Description Modifications

The Authority plans to move forward with the design and construction of the SR 4 / SR 160 Interchange SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors which, as depicted in the FEIR, will construct a freeway to freeway connector in each direction between the SR 4 Bypass and SR 160, which is the approach to the Antioch Bridge. The project will be constructed within the existing right of way. **Figure 2** illustrates the location of the project and **Figure 3** illustrates the proposed improvements described below.

The FEIR analyzed the construction of connector ramps between the SR 4 Bypass and SR 160 that would merge onto SR 160 in the vicinity of Madeira Court (northbound) and Frandoras Circle (southbound), with the geometry allowing for the connector ramps to merge directly into the SR4 E and SR160 connectors, without requiring auxiliary lanes between the SR 160/E. 18th Street/Main Street Interchange and the SR4/SR160 Interchange.

Subsequent operations analysis has indicated that as part of the construction of the connector ramps, a single, 12-foot wide auxiliary lane extending further north to the SR 160/E. 18th Street/Main Street Interchange will need to be constructed. An addendum has been prepared to address the increased project footprint for these 12 foot auxiliary lanes (between the SR 160/E. 18th Street/Main Street Interchange and the SR4/SR160 Interchange) and to assess whether the project would result in new environmental impacts that were not analyzed in the FEIR.

Northbound Connector

The northbound connector ramp will exit from west bound SR 4 Bypass using standard freeway to freeway connector geometry, widening to two lanes for approximately 1,200 feet, and crossing over the UPRR right of way. The second lane will be dropped before connecting to the existing northbound SR 160 connector. The single lane connector transitions into a new lane alongside the SR 160 connector from SR4, and continues as an auxiliary lane (12-foot outside widening) for approximately 3,000 feet to the SR160/East 18th/Main Street Interchange. The existing sound wall on the east side of the SR 4 Bypass will be extended to Oakley Road. The north bound connector will not be metered.

Southbound Connector

In a similar manner to the Northbound SR160 Connector, an auxiliary lane for the Southbound SR 160 will also be required (12-foot outside widening), which will start at the SR 160/E. 18th/Main Street Interchange and extend 1,400 feet under the Oakley Road Overcrossing. The southbound SR 160 to SR 4 Bypass connector will utilize a standard freeway to freeway connector diverge geometry to connect to west bound SR 4.

The mainline—SR 160 to east bound SR 4 Bypass—will be widened to two lanes immediately after the west bound SR 4 exit. The two lanes will rise up and cross over several features (the UPRR right of way, the east bound SR 4 to north bound SR 160 connector, and the SR 4 Bypass). This new two-lane overcrossing will extend approximately 3,300 feet before dropping a lane at the ramp metering limit line and merging into the east bound SR 4 Bypass.

SECTION 3 – IMPACT ANALYSIS

A. Summary of Project Impacts Addressed in the FEIR

The environmental impacts of building the SR 4 / SR 160 Interchange ramps are comparable, if not the same, as the impacts of the Bypass Project evaluated in the 1994 FEIR. The level of significance of impacts resulting from this modification would not result in any new impacts that were not previously disclosed, nor has the environmental baseline in the project area changed since the 1994 EIR, such that new impacts would be created.

The following environmental categories were specifically examined in the context of the new project description:

- Biological Resources
- Cultural Resources
- Hazardous Materials
- Noise
- Transportation and Circulation

For these categories, additional analysis has been conducted and the results are presented below. All other environmental categories examined in the FEIR have been assessed and found not to have any material change from what has already been presented in the Draft and Final EIR. The mitigation measures adopted in the 1994 FEIR continue to remain in effect, except where they have been refined pursuant to the adopted Contra Costa County Habitat Conservation Plan (HCP). The HCP lists specific actions that the United States Fish and Wildlife Service (USFWS) and the member cities and county have adopted for all development affecting covered species. The refined mitigation monitoring and reporting program (MMRP) that incorporates the HCP actions is on file at the Bypass Authority offices and is included as **Appendix A**.

B. Biological Resources

1. Prior Analysis

The 1994 FEIR identified possible effects of the Bypass Project on habitats, wetlands, and species of concern, and the potential for direct effects on these species relative to harm or harassment resulting from construction activities. The FEIR included 14 significant, unavoidable effects that would potentially occur despite implementation of the proposed mitigation measures.

Construction of the Bypass Project was found to adversely impact riparian corridors, such as Sand Creek. Sand Creek runs perpendicularly under the Bypass just north of Sand Creek Road. The potential loss or degradation of the riparian habitats would be significant because of their local and regional scarcity, possible classification as jurisdictional waters, continuing depletion, and increased threats to dependent species of concern. The increasing amount of roadways within the vicinity of streams and riparian corridors would impact the volume of water and thus degrade the area and potentially alter the functions of the waterways. To mitigate these impacts, the DEIR called for the establishment of a Streambed Alteration Agreement to allow alternation of bridging of creeks under current corridor plans.

Following the certification of the FEIR in 1994, a biological assessment was prepared in 1999 by Environmental Science Associates (ESA) to support a Biological Opinion (BO) from the U.S. Fish and Wildlife Service for construction of a 2-lane expressway through the Segment 2 limits.

A complete wetland delineation was prepared by ESA in 1998 for the entire Bypass Project, and was subsequently verified by the U.S. Army Corps of Engineers (USACE) in 1999. The wetland delineation verification is valid for a period of five years, and expired on April 27, 2004.

No new plants or wildlife have been recorded in the Bypass Project area since the 1999 study. However, one species, the California tiger salamander, was upgraded to a federal listing of threatened in 2004.

A Habitat Conservation Plan for East Contra Costa County (HCP) was developed in consultation with the U.S. Fish and Wildlife Service and adopted by Contra Costa County and all East County cities, with the exception of the City of Antioch, in July 2007. The Supplemental EIR prepared in 2004 for Segment 3 of the Bypass included revisions to the MMRP to reflect the HCP's new mitigation language for biological resources.

2. Updated Analysis Prepared in 2010

A Biological Resources Review (Biology Review) was prepared by RCL Ecology in August 2010. The Biology Review is based on field surveys conducted on August 3 and August 9, 2010, intended to determine any changes to previous biological surveys. The Biology Review is included in **Appendix B**.

The field surveys determined that land cover in the project area consists of ruderal and non-native annual grassland and urban cover types consisting of the existing concrete roadways and bridges connecting SR 4 to east bound SR 4 Bypass, and SR 4 to north bound SR 160. No wetlands or waters of the United States are present in this area, nor is there habitat for special-status plants.

The field surveys found that breeding habitat occurs for the western burrowing owl, and that potential breeding habitat exists for the San Joaquin kit fox and the white-tailed kite. A freshly killed California vole was seen at the entrance to a burrow south of the railroad tracks between east bound and west bound SR4 indicating the presence of burrowing owls. **Figure 4** shows the location of the burrow. To address potential impacts to burrowing owl, San Joaquin kit fox and white-tailed kite habitat, preconstruction surveys will be required pursuant to the standard conservation measures included in the HCP, as outlined below.

Western Burrowing Owl

Preconstruction Surveys

Prior to initiating covered activities, conduct surveys for burrowing owl as described below. This measure incorporates avoidance and minimization guidelines from CDFG's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995). A USFWS/CDFG–approved biologist will identify potential burrowing owl breeding habitat (Section 6.3.1, Planning Surveys). If the Project does not fully avoid impacts to suitable breeding habitat, preconstruction surveys will be required.

Prior to the start of the breeding season (February 1), a USFWS/CDFG-approved biologist will conduct preconstruction surveys of the project area to determine the presence of burrowing owls.

Avoidance and Minimization Measures

If present, the birds will be evicted from the site using passive relocation techniques. The site will then be continuously monitored until the start of construction in order to ensure that owls do not reoccupy the area. All surveys and passive relocation will be carried out in accordance with CDFG survey guidelines (California Department of Fish and Game 1993). Passive relocation procedures include installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows will be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure will be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

San Joaquin Kit Fox

Preconstruction Surveys

Prior to any ground disturbance related to covered activities, a USFWS/CDFG-approved biologist will conduct a preconstruction survey of the project area. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (U.S. Fish and Wildlife Service 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. Within the ROW for the proposed project, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the avoidance and minimization measures described in the section below will be implemented.

Avoidance and Minimization Measures

If a San Joaquin kit fox is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFG-approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. Unoccupied dens will be destroyed immediately to prevent subsequent use. If a natal den or pupping den is found, USFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG. If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternately, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e. during the animals' normal foraging activities).

Construction Monitoring

If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion

zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

White-tailed Kite

Preconstruction Surveys

If project construction begins during the breeding season (February 1- August 31), preconstruction surveys should be conducted within the project area and a 300-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, or surface-disturbing activities. If no active nests are found within the project footprint and a 300-foot buffer, no further mitigation is necessary.

Avoidance and Minimization Measures

If active nests (i.e. nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the project footprint, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with the California Department of Fish and Game and the U. S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the California Department of Fish and Game and the U.S. Fish and Wildlife Service should be contacted for further guidance.

C. Cultural Resources

1. Prior FEIR Analysis

Archeological Resources

In July 1992, an archaeological resources survey was performed for the entire Bypass Project study area. **Figure 1** illustrates the Bypass Project area. The 1994 FEIR concluded that no archaeological surface or subsurface cultural resources of significance exist within the Bypass Project right-of-way.

Historic Resources

A historic resources survey was conducted in February 1993. The FEIR identified a potentially historic archaeological site (an abandoned farmstead) in Oakley near Neroly Road, to the east of the SR 4 Bypass and SR 160 connector ramps project area.

2. Updated Analysis Prepared in 2010

William Self Associates, Inc. (WSA) performed an archaeological survey and cultural resources assessment in November 2010. The survey was conducted to evaluate the potential occurrence of cultural and archaeological resources within the project area. A records search of the project vicinity was conducted by the California Historical Resources Information System, Northwest Information Center at Sonoma State University on behalf of WSA. WSA also conducted an archaeological field survey to evaluate for the presence of historic or prehistoric site indicators. The survey is provided as **Appendix C**. The results of the record search and the field survey indicated that the likelihood of encountering significant cultural resources within the area of the SR 4/SR 160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors (Connectors) is low.

Results from the records search show that the project area has been included in 24 previous archaeological studies. The records search conducted for this project indicates that there is one previously recorded archaeological site within the project area (P-07-813) and one previously recorded archaeological site within 1/4-mile of the project area (P-07-2923). Site P-07-813 is a segment of the Union Pacific Railroad, which passes through the middle portion of the project area. According to a previous cultural resources study conducted in 2007, this segment is not eligible for the National Register. Site P-07-2923 is an industrial building known as the Newlove Oil Pumping Station, located within 1/4-mile west of the project area along the UPRR rail line. According to a previous cultural resources survey conducted in 2008, the building does not appear to be eligible for the National Register. No evaluated bridges on the Caltrans Bridge Inventory appear in the project area or its vicinity. Furthermore, no listings appear within the project area or the records search area in the Revised Preliminary Historic Resources Inventory Contra Costa County California (1989), the California Inventory of Historic Resources (March 1976), or the Historic Property Data File provided by the Office of Historic Preservation.

The field survey area comprised land on both the east and west sides of SR 160 bounded by the beginning of the SR 160/E. 18th Street/Main Street exit to the north, and ending approximately 130 meters south of the Union Pacific Railroad and south of SR 4 and the SR 4 Bypass. Because parts of the project area have been intensively surveyed previously, only those segments that had not been previously surveyed were selected to be surveyed for this project. No artifacts, cultural soils, or other archaeological cultural resources were observed or collected within the survey area besides the previously recorded segment of the Union Pacific Railroad.

As stated above, the likelihood of encountering significant cultural resources within the project area is low. However, previously undiscovered historic or prehistoric resources could be found during construction. In the event that previously undiscovered historic or prehistoric resources are discovered, the following mitigation measures from the 1994 Final EIR should be followed.

- **MITIGATION MEASURE III.K.1(a)**: Retain the services of a qualified archaeological consultant to serve as an on-site archaeological monitor to provide appropriate consulting services throughout the course of grading and other topographic modification associated with the proposed Project. The principal task of the designated archaeological consultant would be to insure that no significant cultural resources of either prehistoric/protohistoric or historic period age or character would suffer adverse impacts as a consequence of planned construction within the Project right-of-way.

- **MITIGATION MEASURE III.K.1(h)**: If prehistoric and/or historic cultural resources are discovered during construction work, avoid damaging identified archaeological sites to the extent feasible. Examples of such methods include:

    - avoiding identified archaeological sites;

    - "capping" or covering identified archaeological sites with a layer of soil before building any homes, roadways, or other structures (capping may be used where the soils to be covered will not suffer serious compaction, the covering materials are not chemically active, the site is one in which the natural processes of deterioration have been effectively arrested, and the site has been recorded); or,

    - deeding identified archaeological sites into permanent conservation easements.

- **MITIGATION MEASURE III.K.1(c)**: If archaeological resources are discovered during development, suspend all work in the immediate vicinity (within approximately 250 feet) and avoid altering the materials and their context pending site investigation by qualified professionals. Use a qualified archaeologist or cultural resources consultant to assess the materials, determine their significance, and establish the area to be preserved. If the qualified professional determines that the site will yield new information or important verification of previous findings, the sites should not be destroyed. Construction work should not commence again until the qualified professional has been given an opportunity to examine the findings, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of and/or mitigation of adverse impacts to any significant (or potentially significant) cultural resources which have been encountered.

- **MITIGATION MEASURE III.K.1(d)**: If avoidance of a discovered important archaeological resource would not be feasible, require an excavation plan. An excavation plan would consist of the methodical excavation of those portions of the site(s) that would be adversely affected. The work should be accomplished within the context of a detailed research design and in accordance with current professional standards. The plan should

result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research consideration, should be performed by qualified professionals, and should result in detailed technical reports.

- **MITIGATION MEASURE III.K.1(e)**: Allow only a qualified archaeologist or cultural resources consultant to collect any cultural resources discovered in the Project right-of-way.

- **MITIGATION MEASURE III.K.1(f)**: Prohibit project personnel from collecting any cultural resources discovered during development of the Project. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat affected rock, or human burials. Historic resources include stone or adobe foundations or walls, structures and remains with square nails; and refuse deposits, often in old wells and privies.

- **MITIGATION MEASURE III.K.1(g)**: If prehistoric archaeological deposits that include human remains are discovered, notify the County Coroner immediately. If the remains are found to be Native American, the Native American Heritage Commission must be notified within 24 hours. The most likely descendant of the deceased Native American will be notified and given the chance to make recommendations for the remains. If no recommendations are made within 24 hours, remains may be reinterred elsewhere on the property. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.

D. Hazardous Materials

1. Prior FEIR Analysis

The 1994 FEIR analyzed potential locations in the project area that could contain hazardous wastes left by former property users. At the time, the zoning along the project right of way (ROW) allowed agricultural uses and well-head activities associated with a small oil field in the Sand Creek Area. The FEIR concluded that there were six locations where hazardous wastes could be present. These included a shooting range, two debris yards, a series of oil wells, a crude oil storage facility, and an electrical transformer site. The FEIR included mitigation measures requiring a comprehensive investigation of soil quality at the sites to be conducted by the County Department of Public Works. The mitigation measures reduced the potential impacts to less-than-significant levels.

2. Updated Analysis Prepared in 2010

An Initial Site Assessment (ISA) was performed by GEOCON Consultants, Inc., in October 2010. The ISA was conducted to evaluate the presence of potential contaminated properties within

the project area that may impact selection of project build alternatives, temporary construction easements, and construction of the proposed improvements. A reconnaissance survey of the existing SR 4 corridor, SR 4 / SR 160 interchanges and connectors, and Caltrans ROW at the project site was conducted. In addition, visual observations of properties adjacent to the project site were conducted from public thoroughfares to attempt to identify visual indicators of potential contaminated properties/impacts. The ISA is included in **Appendix D**.

The ISA concluded that there are 17 known and potential contaminated properties within the project area. However, based on the project location and proposed construction activities, potential impacts at 13 of the identified and potentially contaminated facilities within the project area represent a low risk to the design and construction of the planned project. There are potential environmental constraints in four locations within the SR 4 / SR 160 right of way. The ISA recommends that prior to final design for the project, preliminary site investigations should be performed to further evaluate potential and documented environmental impairments within the project boundaries. The following discussion provides recommendations to address potential impacts in accordance with general guidance provided in the mitigation included in the 1994 Final EIR.

Aerially Deposited Lead

Concentrations of aerially deposited lead (ADL) at levels exceeding hazardous waste criteria may be present in shallow soil within the unpaved shoulders and median of the existing SR 4 and SR 160 right of way. Additionally, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing west bound SR 4 and east bound SR 4 connectors to SR 160. According to the as-built plans, a small portion of the buried area of ADL soil is located adjacent to the "Future SR-160 to SR-4 Connector Ramp (southbound to eastbound)." **Figure 4** shows the location of the buried ADL-containing soil.

Mitigation II.O.1 in the 1994 Final EIR provided guidance regarding how soil and groundwater sampling should be undertaken for a variety of contaminants. The following guidance provides direction for the sampling and possible remediation of ADL within the project area, following the protocol established by the 1994 EIR, including oversight by the appropriate regulatory agencies.

An ADL investigation shall be performed along the SR-4 and SR-160 corridors to evaluate lead concentrations in planned excavation areas and associated soil material management and disposal requirements. The investigation shall be done after alignment surveying has been completed but prior to any construction or excavation work in the alignment that would encroach across the identified site.

The results of such an investigation, together with all available soil reports and chemical analyses shall be reviewed by a Registered Environmental Assessor (REA) to determine if

elevated levels of contaminants are present. Through use of California Applied Action Levels (AALs) or an equivalent site-specific risk analysis method, an evaluation of potential hazard for construction workers shall be made[1]. The need for additional soil testing and/or potential remediation or plan redesign shall be determined through environmental review of precise developmental plans. If actions are taken to ensure that, in the opinion of the REA, no non-cancer health effects would be anticipated, and exposures to carcinogens and reproductive toxins would fall below levels requiring warnings under Proposition 65, then this potential impact would be considered mitigated to a non-significant level.

Should contaminated soils be found in excess of federal and state thresholds they will be required to be removed from the site and remediated as required by law. Contaminated soils are defined in 40 CPR Part 261 of federal regulations, and Title 22, Chapter 11 of the California Code of Regulations.

Implementation Procedure

The Bypass Authority shall collect shallow soil samples from up to 30 locations on the identified sites. Sampling locations shall be selected through two different methods. Up to twenty locations at each site shall be selected on the basis of a statistical grid over the entire Project site, these samples are intended to provide (without bias) information as to the general conditions at the site. Up to ten additional sampling locations shall be selected on the basis of professional judgment --allowing specific sampling of areas of concern.

The Bypass Authority shall prepare a soil sampling plan for each identified site prior to initiation of excavation or construction. Each site specific sampling plan shall be submitted to the Contra Costa County Department of Environmental Health for approval before sampling begins. The sampling plan shall contain all proposed sampling locations, sample collection procedures, name of the certified laboratory doing the chemical analysis, sample handling procedures, test methodology in conformance with the following analysis protocol, chain of custody requirements, site safety plan, and quality assurance plan to verify the laboratory results. The sampling plan shall also include the reporting format for all laboratory analysis sheets, field logs, Chain of Custody forms and laboratory quality control information.

Each sampling plan shall specify that all soil and groundwater chemical analyses shall be performed by a California-certified laboratory, using standard EPA and California chemical testing methods.

[1] AALs are exposure criteria set through procedures specified by Department of Toxic Substance Control in its California Site Mitigation Decision Tree Manual. AALs delineate concentrations of toxic substances that, when exceeded, place an exposed person or group at risk. Mitigation criteria are determined by this process on a case by case basis to keep the exposure below the AAL. (California Department of Health Services, 1986)

Remedial Action Plan

Using the information generated from the sampling and analysis program, a remedial action plan shall be prepared identifying areas that are RCRA hazardous wastes, California designated wastes, and non-hazardous soil. The remedial Action Plan shall identify procedures to remove the two types of contaminated soils (if both are present) including further testing for disposal characterization. The remedial action plan shall also identify the disposal or treatment alternatives to be employed.

Monitoring and Reporting Actions

The Bypass Authority shall perform, or have performed by a qualified consultant, all mitigation measures identified. The Bypass Authority shall have the Contra Costa County Department of Public Health Services, Environmental Division, or a qualified Registered Environmental Assessor, under Section 25570.3 of the California Health and Safety Code, review the mitigation measure for all sites and prepare a letter of concurrence with the initial investigation and results. The Bypass Authority shall submit the soil sampling plan, test results, site remediation plan and all supporting documentation to the Contra Costa County Department of Public Health Services, Environmental Division.

Asbestos and Lead Containing Materials

Suspect asbestos-containing materials and possible lead containing paint may be present in the project area and UPRR bridge overcrossing structure materials. Yellow thermoplastic and paint striping, potentially containing lead chromate, was observed on roadway surfaces at the site. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans Special Provisions. Asbestos containing pipe and treated-wood may also be encountered during planned demolition and construction of new highway improvements. Any encountered asbestos-containing pipe or treated-wood shall be handled and disposed of in accordance with regulatory requirements.

UPRR Tracks

The Union Pacific Railroad (UPRR) tracks cross the central portion of the project site. Potential accidental releases or impacts from railroad construction and historical operations (e.g., railroad ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the site. Soil sampling should be conducted within the SR 160 ROW adjacent to the UPRR ROW to evaluate potential impacts.

E. Noise

1. *Prior FEIR Analysis*

The 1994 FEIR concluded that development of the Bypass Project would result in significant impacts related to noise. Specifically, the FEIR concluded that construction activities would temporarily increase ambient noise levels in the area, and that development of the Bypass Project would create operational noise levels exceeding compatibility guidelines for residential uses. Following the certification of the FEIR, residential development projects were required to construct their own sound barriers sufficient to mitigate potential noise impacts to a less-than-significant level. The cities of Antioch and Brentwood have diligently implemented this requirement for all of the residential subdivisions being proposed along the Bypass Project.

Mitigation measures outlined in the FEIR include open space buffers, sound barriers, and installation of noise insulation for existing residences. The FEIR did not provide any guidance as to the proposed location or height of the recommended noise barriers.

2. *Updated Analysis Prepared in 2010*

Existing Noise Levels

An environmental noise assessment was prepared by Illingworth & Rodkin, Inc. in September 2010. Existing noise levels were quantified at representative receiver locations throughout the study area between Friday, August 13, 2010, and Monday, August 16, 2010. **Figure 4** shows the noise measurement locations. The noise assessment is included as **Appendix E**.

Noise sensitive land uses in the project vicinity include single-family residences located northeast of the SR 4 / SR 160 interchange, a church located west of SR 160 just north of Oakley Road, and a new residential subdivision (Monterra) located southwest of the interchange. Existing noise levels were monitored at three locations for a period of at least 36-hours and at ten additional locations for a period of ten minutes each. The noise assessment determined that existing noise levels at all but one receiver are within the 65 dBA L_{dn}/CNEL threshold identified in the General Plans for the City of Oakley and the City of Antioch. The only exception is at Calle De Oro in Oakley, about 230 feet from the nearest lane of SR 160, where noise levels currently exceed the 65 dBA L_{dn}/CNEL threshold.

City of Oakley General Plan Policy 9.1.5 states that noise levels resulting from transportation noise sources shall be maintained at or below 65 dBA L_{dn} at residential outdoor use areas. Similarly, City of Antioch noise levels at outdoor residential living areas adjacent to planned freeway expansions are acceptable at or below 65 dBA CNEL.

Future Noise Levels

With the addition of project traffic, in the year 2035, noise levels are calculated to range from 66 to 68 dBA L_{dn} at the Calle de Oro, Frandoras Circle, Madeira Court locations (ST-3), assuming these receivers remain unshielded. This would exceed the 65 dBA CNEL level established by the City of Oakley General Plan Policy 9.1.5.

All other locations were found to remain within acceptable levels (at or below 65 dBA L_{dn}), as shown in **Table 1**:

- At receivers north of Oakley Road, future (2035) traffic noise levels would range from 61 to 62 dBA L_{dn}, well below the allowable exterior noise level of 65 dBA Ldn.
- For receivers located north of the SR 4 Bypass that are currently shielded by noise barriers, Future (2035) noise levels in 2035 with the project are calculated to range from 60 to 65 dBA L_{dn}.
- First-row receivers within the Monterra Subdivision in Antioch would be exposed to future (2035) noise levels up to 65 dBA CNEL.

Table 1. Noise Reduction Provided by Noise Barrier (dBA, L_{dn}/CNEL)

Receiver	2035 Plus Project								
	Future Sound Level without a Noise Barrier	8-foot Barrier		10-foot Barrier		12-foot Barrier		14-foot Barrier	
		Noise Level	I.L*	Noise Level	I.L	Noise Level	I.L	Noise Level	I.L
ST-3	**68**	**66**	2	**66**	2	65	3	62	6
LT-1	63	61	2	61	2	59	4	58	5
ST-4	**66**	64	2	64	2	62	4	61	5
ST-5	61	59	2	59	2	57	4	56	5
LT-2	64	63	1	63	1	63	1	63	1

* I.L. = Insertion Loss, or noise reduction provided by noise barrier.
Numbers in bold text (**66**) indicate sound levels that exceed the 65 dBA CNEL level established by the City of Oakley General Plan Policy 9.1.5.

Implementation of Adopted Mitigation from 1994 FEIR

Mitigation measures outlined in the FEIR include open space buffers, sound barriers, and installation of noise insulation for existing residences. The FEIR did not provide any guidance as to the proposed location or height of the recommended sound barriers.

To determine the location or height of the recommended noise barrier for the Calle de Oro, Frandoras Circle, Madeira Court locations, the Bypass Authority evaluated the proposed sound level associated with construction and operation, as discussed below.

The overall duration of construction would extend approximately two construction seasons. The northbound connector would be completed within approximately one year and the southbound connector would require approximately one and one-half years to complete. Ambient noise levels in the project vicinity will be substantially increased over a temporary period of time resulting in a significant impact. Therefore, measures to reduce noise at the construction site will be required as outlined below.

Noise Barriers

A 14-foot noise barrier shall be constructed along the northbound connector ramp between westbound SR 4 Bypass and northbound SR 160. The barrier top-of-wall height shall be relative to the final elevation of the roadway. The noise barrier shall connect to the existing noise barrier along the westbound side of the SR 4 Bypass (Westbound SR 4 Bypass Station 87+00) and run along the roadway edge-of-shoulder terminating at the Oakley Road overcrossing (Northbound SR 160 Station 87+50). **Figure 3** shows the proposed location of the noise barrier. **Table 1** summarizes the noise reduction provided by noise barriers ranging from 8 to 14 feet in height. The construction of a minimum 14-foot noise barrier will provide at least 5 dBA of noise reduction reducing 2035 plus project traffic noise levels to below existing ambient conditions.

Construction Noise

The 1994 FEIR included several mitigation measures designed to reduce impacts related to construction noise. These construction-period noise mitigation measures were updated in 2003 as part of a Supplemental EIR prepared by the Bypass Authority for Segment 3. These updated measures remain in effect for all Bypass construction work. No additional mitigation is required.

F. Traffic

1. <u>Prior FEIR Analysis</u>

The 1994 FEIR analyzed potential impacts of the SR 4 Bypass project on traffic and transportation in the project area. The FEIR concluded that the general impact of the project was beneficial to traffic levels of service on roadways in the project area. There were several locations where levels of service would worsen as a result of the project. However, these locations are not in the area of the proposed project. The FEIR included three significant, unavoidable effects that would potentially occur despite implementation of the proposed mitigation measures.

2. Updated Analysis Prepared in 2011

A traffic operations analysis (analysis) for the SR 4 / SR 160 Interchange ramps project was prepared by Fehr & Peers in March 2011. The analysis forecasts traffic volumes for the freeway segments and ramps for the years 2015 and 2035. The analysis focuses on the freeway mainline and ramp merge/diverge sections that would be affected by the new SR 4 / SR 160 Interchange project. The traffic operations analysis is provided as **Appendix F**.

Existing Conditions

The existing traffic volumes and current operations of the freeway in the study area were documented in the technical memorandum, *SR 4 Bypass – SR 160 Connector Ramps Evaluation, Existing Conditions*, dated August 13, 2010. As described in that memo, all of the freeway mainline and ramp junctions that are part of the traffic operations analysis currently operate at LOS D or better.

2015 Conditions

The traffic operations analysis forecasts AM and PM peak hour mainline and ramp volumes under 2015 Without Ramps and 2015 With Ramps conditions, respectively. The analysis concludes that all study freeway sections and ramp junctions will operate at acceptable levels in 2015. All the study segments are found to operate at LOS B or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a very small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario, indicating that the addition of the connector ramps will not adversely affect the operations of the adjacent freeway segments.

2035 Conditions

The traffic operations analysis forecasts AM and PM peak hour mainline and ramp volumes under 2035 Without Ramps and 2035 With Ramps conditions, respectively. The analysis concludes that all the study segments will operate at LOS D or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a relatively small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario. The largest effect is on the SR 4 Bypass segment north of the Laurel Road interchange, but even on that segment the change in density is approximately three or four vehicles per lane per mile, and it does not cause a change in LOS. These results indicate that the addition of the connector ramps will not adversely affect the operations of the adjacent freeway segments.

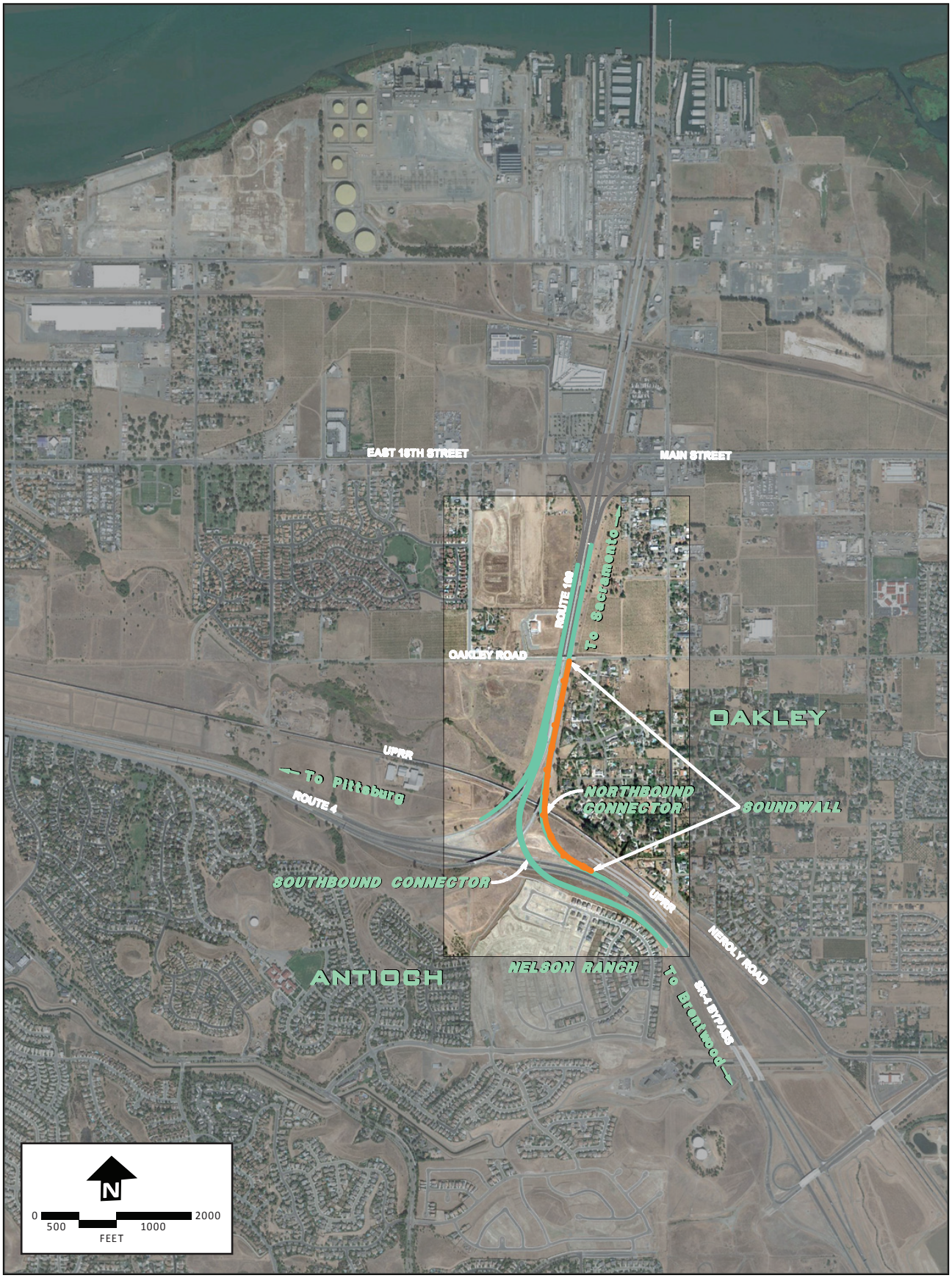
G. Conclusion

Construction of the SR 4 / SR 160 Interchange ramps project would not result in any new significant environmental effects or substantially increase any previously identified significant effects.

None of the conditions described in §15162 of the State CEQA Guidelines requiring for the preparation of a subsequent EIR have occurred. Therefore, this Addendum to the EIR is an appropriate level of environmental review for the construction of the SR 4 / SR 160 connector ramps, as identified in §15164 of the State CEQA Guidelines.

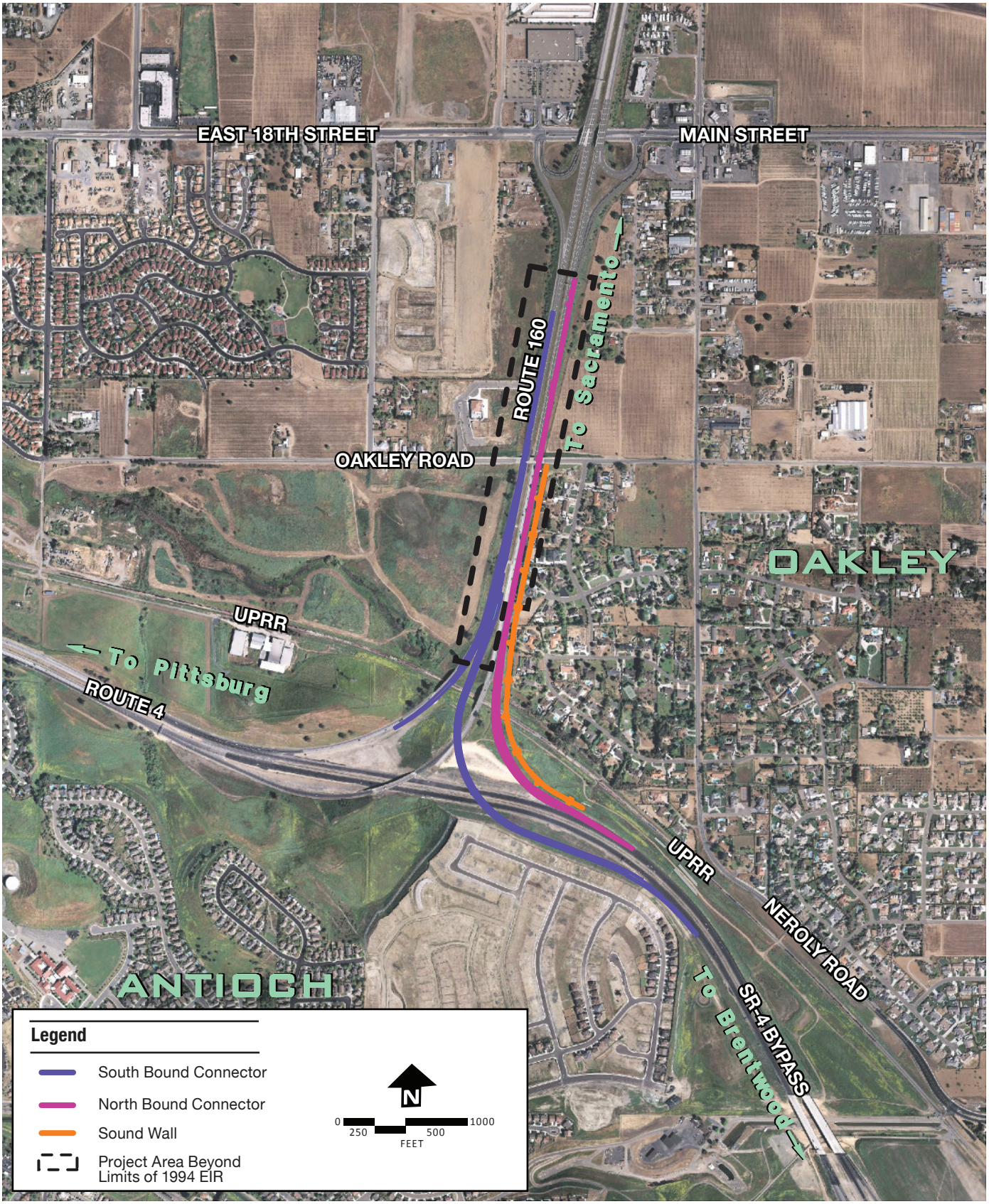
State Route 4 Bypass Project Figure 1

Source: Mark Thomas & Company, Inc., 2004,



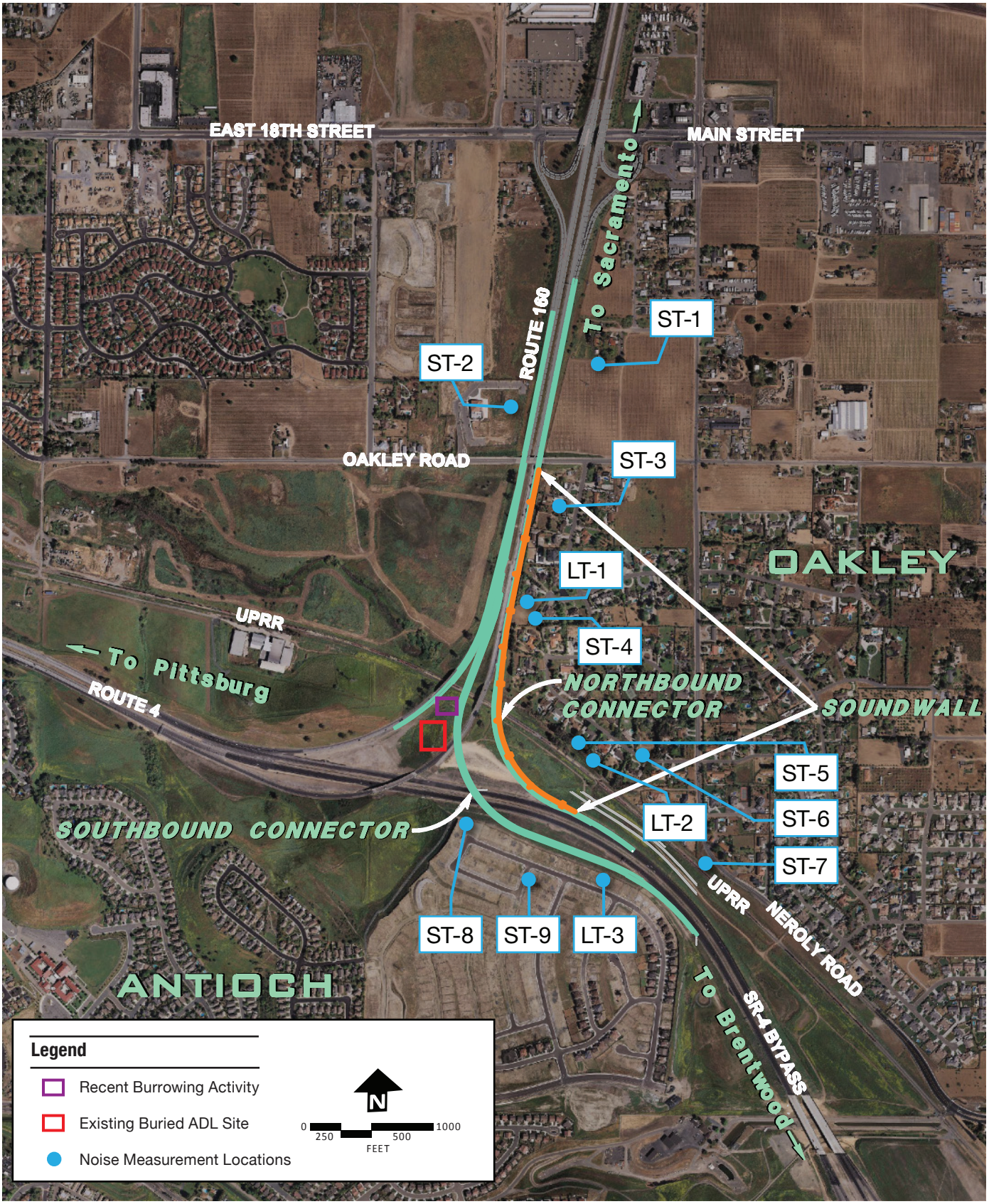
Location Map Figure 2

Source: Mark Thomas & Company, Inc., 2010.



Project Plan Figure 3

Source: Mark Thomas & Company, Inc., 2010.



Biological Resources, Noise, Hazardous Materials

Figure 4

Source: Mark Thomas & Company, Inc., 2010.

APPENDIX A

Mitigation Monitoring and Reporting Program

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
A. CONSISTENCY WITH EXISTING PLANS AND POLICIES					
III.A.2 Development of the Project as a four-lane expressway is not consistent with the language of the Antioch General Plan which assumes a two-lane expressway.	III.A.2 Modify the language in Antioch's General Plan Circulation Element to describe the State Route 4 Bypass Project as a four-lane expressway. **(UNAVOIDABLY SIGNIFICANT)**	(1) State Route 4 Bypass Joint Powers Authority (hereafter the Authority) will apply for a General Plan Amendment. (2) City will mail public notices of the General Plan Amendment and public hearing to required parties pursuant to Section 65352 and 65090. (3) City will hold public hearing. (4) City Council will consider public comments and vote to approve or deny the General Plan Amendment.	(1) Add a copy of mailing and record of public hearing to administrative record.	Authority, City of Antioch.	(1) Prior to project approval.
III.A.3 Project Development would conflict with a goal in ABAG's adopted "Land Use Policy Framework for the San Francisco Bay Area"; The goal is to "Allow for development of new communities along transit corridors where interurban transit service and capacity are available or committed when they would be consistent with regional or subregional goals and objectives and not negatively impact existing communities."	III.A.3 Communities located within the study area would change their General Plans to limit new development to areas within incorporated municipalities or County lands that are already developed and are served by mass transit services. **(UNAVOIDABLY SIGNIFICANT)**	See discussion above for III.A.2, which would apply to each jurisdiction proposing a General Plan Amendment.	See discussion above for III.A.2, which would apply to each jurisdiction proposing a General Plan Amendment.	See discussion above for III.A.2, which would apply to each jurisdiction proposing a General Plan Amendment.	Prior to Construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.A.4 The Project could induce growth outside the city of Antioch's Urban Core before completion of development in the core. This is inconsistent with Goal A of the City's General Plan.	III.A.4 This impact could be mitigated through changes in the General Plan land use element but the lead agency has no authority to enact such changes. **(UNAVOIDABLY SIGNIFICANT)**	Same as for III.A.3.	Same as for III.A.3.	Same as for III.A.3.	Same as for III.A.3.
B. LAND USE					
III.B.1 Development of the Project would result in the removal and relocation of existing residential and commercial land uses.	III.B.1 A relocation and assistance plan shall be developed as required by the California Relocation Assistance and Property Acquisition Act of 1971, Government Code 7260 et seq., for any residences or businesses displaced by the Project. This Act establishes policies and practices for the real property acquisition (including determination of just compensation), acquisition of buildings, structures and improvements, reimbursement for expenses incidental to transfer of title, and reimbursement of property owner's court costs in certain well-defined situations. The Act applies equally to all property owners regardless of race, color, religion, sex, or national origin. All actions taken by an acquiring agency must be in compliance with the non-discrimination requirements of Title VI of the Civil Rights Act of 1964. The process set out in the Act is initiated following the procurement of funding for a public project. **(UNAVOIDABLY SIGNIFICANT)**	(1) Develop and implement a relocation and assistance plan in accordance with the California Relocation Assistance and Property Acquisition Act of 1971.	(2) Add a copy of plan to the administrative record; verify compliance.	Authority.	(1) Prior to construction.
III.B.2 Development of the Project would result in the removal of prime agricultural land and Farmland of Statewide Importance.	***III.B.2 Provide mitigation for farmland impacts through the acquisition of agricultural easements to confirm the property stays in agriculture, or through the payment of an agricultural mitigation fee to the Brentwood Agricultural Land Trust or the Contra Costa County Resource Conservation District for a total contribution not to exceed $500,000.***	(1) Review design of final alignment to ensure minimization of impacts to prime agricultural land. (2) Include requirements for location of final alignment and staging	(1) Review alignment design and construction contract specifications to verify incorporation of mitigation measures; add to administrative record.	Authority.	(1) Prior to the approval of final design and construction contract specifications. (2) Monthly during construction period.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	The mitigation for farmland impacts shall be implemented prior to the completion of the project. ***Following mitigation, the impacts to agricultural resources will remain significant and unavoidable.*** ~~**Design the final alignment to minimize impacts to prime agricultural lands. During construction, locate staging areas away from prime agricultural land as much as possible.**~~ **(UNAVOIDABLY SIGNIFICANT)**	areas in construction contract specifications.	(2) Inspect construction activity periodically; verify compliance.		
III.B.3 Development of the Project would conflict with residential, religious and recreational land uses outside the right-of-way.	III.B.3 Provide a buffer zone between the Marsh Creek Road connector and existing or proposed adjacent land uses to minimize disruption to the latter. Plant with vegetation and consider constructing berms where proximity of land uses could be most adversely affected.	(1) The Authority will require the developers to include buffer zones, including vegetation and berms where necessary, in final project design plans and specifications.	(1) Review final project design plans and specifications before approval to verify incorporation of mitigation measure; add to administrative record.	Authority.	(1) Prior to approval of final design. (2) Prior to construction of each alignment. (3) Following completion of construction of each alignment.
III.B.4 Development of the Project would cross several trails which could be incompatible with pedestrian use of the trail and the recreational experience.	III.B.4 Provide grade separations between the Bypass right-of-way and the proposed trails.	(1) Consult agencies with jurisdiction over pedestrian trails prior to completion of final project design plans and specifications and incorporate findings into plans prior to approval.	(1) Review final project design plans and specifications before approval to verify incorporation of mitigation measure; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to approval of construction contract specifications. (2) At least XX times per year.
C. SOCIOECONOMICS					

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.C.1 Development of the Project would displace existing residential structures within the 250-foot-wide expressway right-of-way and commercial structures within the 110-foot Marsh Creek Road right-of-way. Single family residences immediately adjacent to the Marsh Creek Road right-of-way could also require relocation dependent upon their proximity to the widened roadway.	III.C.1 A relocation and assistance plan shall be developed as required by the California Relocation Assistance and Property Acquisition Act of 1971, Government Code 7260 et seq., for any residences and/or businesses displaced by the Project. This Act establishes policies and practices for the real property acquisition (including determination of just compensation), acquisition of buildings, structures and improvements, reimbursement for expenses incidental to transfer of title, and reimbursement of property owner's court costs in certain well-defined situations. The Act applies equally to all property owners regardless of race, color, religion, sex or national origin. All actions taken by an acquiring agency must be in compliance with the non-discrimination requirements of Title VI of the Civil Rights Act of 1964. The process set out in the Act is initiated following the procurement of funding for a public project. **(UNAVOIDABLY SIGNIFICANT)**	See III.B.1 discussion.	See III.B.1 discussion.	See III.B.1 discussion.	See III.B.1 discussion.
III.C.2 Development of the Project would result in the loss of prime agricultural land along the length of the right-of-way currently in agricultural production.	III.C.2 Locate roadway right-of-way to minimize removal of prime agricultural lands. **(UNAVOIDABLY SIGNIFICANT)**	See III.B.2 discussion.	See III.B.2 discussion.	See III.B.2 discussion.	See III.B.2 discussion.
D. VISUAL RESOURCES					
III.D.1 Development of the Project could affect views of the road from outlying areas.	III.D.1 – Landscape roadsides, including planting rows of trees or bushes, to screen or block views of the road from nearby residences and to reduce glare and light from vehicles. – Exercise care in removing riparian vegetation and restoring vegetation where possible after construction.	(1) Include requirements for landscaping roadsides, removal of riparian vegetation, reseeding, and parking of construction equipment per Mitigation III.D.1 in the final design and in construction contract specifications.	(1) Review final design and construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically;	Authority.	(1) Prior to the approval of final design and construction contract specifications. (2) Monthly during construction period.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Where cutting and filling activities are necessary, reseed with native grasses to reduce visual impacts of erosion and contrasts in color and texture with adjacent landscapes. – Park construction equipment in specially designated staging areas to remove it from view when not in use. Construction materials should be stored out of view of homes. **(UNAVOIDABLY SIGNIFICANT)**		verify compliance.		
III.D.2 The Project would be visible from adjacent residential areas either already developed or under consideration for development.	III.D.2 See Mitigation Measures III.B.3 and III.D.1. **(UNAVOIDABLY SIGNIFICANT)**	See III.B.3 and III.D.1 discussion.	See III.B.3 and III.D.1 discussion.	See III.B.3 and III.D.1 discussion.	See III.B.3 and III.D.1 discussion.
III.D.4 The Project would widen Marsh Creek Road, a designated Scenic Highway. This widening would impact existing vegetation and other landscape features contributing to its status as a scenic highway.	III.D.4 In addition to the mitigations identified under III.D.1, design the Marsh Creek Road roadway alignment to avoid removal of mature trees, where possible, or at a minimum, replant with vegetation of similar canopy.	(1) Review design of Marsh Creek Road alignment to ensure minimal impacts to mature trees. (2) Include requirements for replanting of any mature trees that must be removed in the final alignment design and construction contract specifications.	(1) Review final alignment design and construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of the final alignment design and construction contract specifications. (2) Monthly during construction period.
E. TRAFFIC AND TRANSPORTATION					
III.E.2 The Project would have a detrimental impact on traffic levels of service at five intersections in the vicinity of the project under Phase I and	III.E.2 Provide traffic engineering improvements as shown in Tables III.E.13, III.E.14, and III.E.15 of Volume 3 of this EIR for Year 2000 Project Phase I, Year 2010(+) Project Phase I, and Year 2010(+) Project Phase	See mitigation.	(1) Monitor to verify that traffic engineering improvements are carried out as proposed; add to administrative	Authority.	(1) According to schedule proposed in Tables III.E.13, III.E.14, and III.E.15 of Volume 3 of this

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
at two intersections under Phase II.	III intersection impacts. Traffic engineering improvements include increases in the number of approach lands at impacted intersections, or, in more severe cases, provision of grade separated interchanges. Traffic levels of service improve from E or F conditions prior to mitigation, to D or better conditions. **(UNAVOIDABLY SIGNIFICANT)**		record.		EIR.
III.E.3 The Project would have a detrimental impact on traffic levels of service on the existing SR 4 freeway from SR 160 to Bailey Road.	III.E.3 Improve the State Route 4 Freeway to provide for additional capacity from the Bypass to Bailey Road, as follows: – By year 2000, provide for widening from two to three lanes in each direction. The extra capacity would result in a v/c ratio of 0.78 (LOS C) in the evening peak hour on the section west of Railroad Avenue, and 0.67 (LOS B) on the section west of Lone Tree Way. – By year 2010(+), provide additional widening to four lanes in each direction (whether the Phase I or Phase II project is built by that time). The extra capacity would result in a v/c ratio of 0.93 (LOS E) in the evening peak hour on the section west of Railroad Avenue and 0.95 (LOS E) on the section west of Lone Tree Way for the Phase I project. Similar improvements to level of service would be obtained under Phase II project conditions. It is important to note that these calculations do not account for diversion of traffic from parallel roadways such as Buchanan Road, Buchanan Road Bypass, Pittsburg/Antioch Highway and Delta Fair Boulevard/Leland Road that would		(1) Monitor to verify that State Route 4 Freeway improvements are carried out as proposed; add to administrative record.	Authority.	(1) According to schedule proposed in the mitigation.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	result from additional freeway capacity. These diversions would result in near capacity conditions during the peak hour under the year 2010(+) conditions. The duration of congested conditions would, however, be less as a result of the highway widening.				
	III.E.3(a) Limit housing development in eastern Contra Costa County to avoid additional congestion on the existing State Route 4 freeway. This would reduce, but not eliminate, the severity of the impact. If the Project were built under a scenario of lower housing growth in eastern Contra Costa County, the existing State Route 4 freeway would still experience an increase in traffic demand, over the no-project condition, due to improved access. However, the level of congestion would be lower than if all growth expectations were met, albeit at a lower level.	Suggest to Contra Costa County Planning Department that potential addition to traffic congestion on State Route 4 be considered when approving housing developments. Mitigation for contribution to traffic congestion could be required for new development.	Ensure that communication is established with the County Planning Department regarding development's contribution to traffic.	Authority, Contra Costa County Planning Department.	(1) As major developments are proposed.
	III.E.3(b) Participate in sub-regional and countywide efforts at growth management required as part of the Measure C Growth Management process. Regional solutions are being sought to roadway congestion in Contra Costa County. This is an ongoing effort that seeks to address the interrelated issues of land development and transportation infrastructure. An *Action Plan for Routes of Regional Significance* is currently being prepared by the members of the State Route 4 Bypass Authority, plus the City of Pittsburg, in coordination with the Contra Costa Transportation Authority. **(UNAVOIDABLY SIGNIFICANT)**	(1) Participate in cooperative efforts at growth management. (2) Complete and implement the *Action Plan for Routes of Regional Significance*.	(1) Verify the Authority's participation. (2) Add Plan to administrative record.	Authority.	(1) As appropriate.
III.E.4 Traffic conditions on the Bypass segment of the Project would exceed service standards.	III.E.4 Modifications to the proposed design for the Project should be made as follows Tables III.E.13, III.E.14 and III.E.15 of Volume 3 of this EIR include recommendations for changes	(1) Incorporate measures identified in mitigation into final design plans.	(1) Check final design plans to verify incorporation of mitigation measure;	Authority.	(1) Prior to approval of final design plans. (2) Monthly, during

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	to the proposed design for intersections on the Bypass and the Marsh Creek Road east-west connector. The improvement needs of the three project conditions studied are summarized below: – Year 2000 Phase I Project Condition. Make modifications to Laurel Road, Lone Tree Way, Balfour Road and Marsh Creek Road intersections with the Bypass as shown in Table III.E.13. These should be sufficient to obtain acceptable operation on the two-lane expressway under anticipated year 2000 traffic conditions. Intersection level of service would improve from F to C or D at each of these locations. – Year 2010(+) Phase I Project Condition. Improvement needs at the proposed at-grade intersections with the proposed Phase I Bypass are shown in Table III.E.14. The intersections at Laurel Road, Lone Tree Way, and Balfour Road indicate the need for two through lanes in each direction, and the intersection at Sand Creek Road has a need for several additional turn lanes. This indicates that a four lane cross section should be provided from the SR 4 freeway to south of Balfour Road. Improvements would also be needed at the intersection of Sellers Avenue with the Marsh Creek Road east-west connector. Intersection level of service would improve from E and F conditions to B, C or D conditions with the recommended improvements. – Year 2010(+) Phase II Project Condition. Improvement needs at the proposed at-grade intersections with the Phase II Bypass are shown in Table III.E.15. Demand under		add to administrative record. (2) Monitor to verify that modifications are carried out; add to administrative record.		construction of the modified project components.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	the Phase II project scenario indicates the need for three through lanes of capacity between Lone Tree Way and south of Balfour Road to maintain an at-grade project. The intersection geometrics shown are illustrative – the appropriate way to mitigate this deficiency would be to provide a grade separated interchange. Intersection level of service would improve from E and F conditions to B and D conditions.				
III.E.5 The Project is not included in the Metropolitan Transportation Commission's Regional Transportation Plan Capital Improvement Program and is therefore not consistent with the Plan.	III.E.5 State Route 4 Bypass Authority shall assure that the Project is included on appropriate plans prior to proceeding with construction of the Project.	(1) Conduct a survey for plans and reports related to the proposed Project, and check to verify that proposed Project is included where necessary. (2) Ensure that proposed Project is added to plans and reports that should include the Project but do not yet do so.	(1-2) Verify that proposed Project is included as necessary in related transportation plans; add to administrative record.	Authority.	(1-2) Prior to commencement of construction.
III.E.6 In the year 2010(+) scenario, traffic along Marsh Creek Road could reduce available gaps for motorists existing driveways and movement of farm equipment.	III.E.6 Provide improvements described in Response to Comment CC-3 on FEIR page IV-201. Options include provision of a median barrier and prohibition of left turns; provision of frontage roads or roads located behind structures to serve clusters of homes and lead to controlled intersections, or residential relocations.	(1) Incorporate measures identified in mitigation into final design plans.	(1) Check final design plans to verify incorporation of mitigation measure; add to administrative record. (2) Perform periodic surveys of traffic volume along Marsh Creek Road and evaluate/update conditions. Check final design plans to verify incorporation of mitigation measure; add to administrative	Authority.	(1) Prior to approval of final design plans. (2) To be determined by the rate of traffic growth or as deemed necessary by the Authority.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
			record.		
III.E.7 There will be a sharp 90° turn at the east end of the Marsh Creek Road Project segment as it joins the existing State Route 4. This may affect roadway safety and traffic conditions.	III.E.7 Redesign the intersection of Marsh Creek Road/Existing SR4 to facilitate a smooth transition for the east-west traffic flow. Marsh Creek Road would become a "through" or unimpeded roadway. The existing segment of SR 4 would intersect the through route as the minor leg of a new intersection. This would require a net take of approximately 2 acres of agricultural core land.	Incorporate measures identified in mitigation into final design plans.	Check final design plans to verify incorporation of mitigation measure; add to administrative record.	Authority.	Prior to approval of final design plans.
F. NOISE					
III.F.1 Construction activities would temporarily increase ambient noise levels in the Project area.	• **III.F.1** ***Noise-generating activities at the construction site or in areas adjacent to the construction site associated with the project in any way should be restricted to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays. No construction activities should occur Sundays or holidays.*** • ***Equip all internal combustion engine driven equipment with intake and exhaust mufflers which are in good condition and appropriate for the equipment.*** • ***Unnecessary idling of internal combustion engines should be strictly prohibited.*** • ***Avoid staging of construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment, such as air compressors and portable power generators, as far as practical from existing noise sensitive receptors. Construct temporary barriers to screen stationary noise generating equipment when located in areas***	(1) Authority will mail notices of construction activities to all nearby residents and/or landowners at least two weeks in advance with follow-up notices posted by the contractor. (2) Construction contract specifications will require contractor to limit noisy construction activity times and use particular construction equipment per Mitigation Measure III.F.1.	(1) Add a copy of mailing and posting to the administrative record. (2) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (3) Inspect construction activity periodically; verify compliance.	Authority.	(1) Minimum of two weeks advance notice prior to the start of each major segment of construction. (2) Prior to the approval of the construction contract specifications. (3) Weekly during construction period.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	adjoining noise sensitive land uses. • ***Utilize "quiet" air compressors and other stationary noise sources where technology exists.*** • ***Route all construction traffic to and from the project site via designated truck routes. Prohibit construction related heavy truck traffic in residential areas where feasible. Prohibit construction truck traffic in the project vicinity during non-allowed hours.*** • ***Notify adjacent residents to the project site of the construction schedule in writing.*** • ***Designate a "noise disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. (The City should be responsible for designating a noise disturbance coordinator and the individual project sponsor should be responsible for posting the phone number and providing construction schedule notices).*** ~~**The following measures would reduce the noise from construction equipment and the accompanying disturbance to sensitive land uses in the corridor:**~~				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**- Limit noisy construction activities to these hours: 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m., on Saturdays.**~~ ~~**- Use power construction equipment with state of the art noise shielding and muffling devices.**~~ ~~**- Provide notification and schedule information (including blasting times) concerning road construction to residents within the corridor, and provide a means whereby residents can call with complaints or questions.**~~				
III.F.2 Over the long term, the Project would substantially increase noise in the vicinity of the Bypass right-of-way and along Marsh Creek Road.	III.F.2 Several measures can be implemented to reduce potential incompatibility between existing and future land uses in the vicinity (and within) the corridor and the freeway (see Measure III.F.3), but no practical measure exists to reduce the noise impacts from the Bypass to a less than significant level because existing noise levels are so low and future traffic volumes would be substantial. Thus, the increase in ambient noise levels within the Project vicinity would be significant, unavoidable impact of the Project. **(UNAVOIDABLY SIGNIFICANT)**	See III.F.3 discussion.	See III.F.3 discussion.	See III.F.3 discussion.	See III.F.3 discussion.
III.F.3 Development of the Project would generate noise levels that exceed compatibility guidelines for residential uses over a wide area.	III.F.3 ***The text of mitigation measure III.J.3 is modified as shown below:*** The following measures could be implemented to reduce potential incompatibility between operation of the Project and existing and future sensitive land uses: – Maintain a sufficient buffer (open space) between the Bypass and future sensitive land	(1) Add measures identified in the mitigation to final design plans.	(1) Review final design plans to verify incorporation of mitigation measures; add to administrative record.	Authority.	(1) Prior to the approval of final design plans.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	uses. This measure will require implementation by the jurisdictions, including the City of Brentwood and Contra Costa County, with land use authority over the land adjacent to the corridor. These jurisdictions could amend their General Plans to specify that a sufficient buffer distance (consistent with the estimates in this report for the 60 dBA, Ldn contour) between the Project and sensitive land uses be maintained. As an alternative or in combination with a buffer (open space), the affected jurisdictions could plan for less sensitive land uses (commercial, office, business park, or industrial) between more-sensitive uses and the ROW. – Such uses would act to shield the more-sensitive uses allowing for a compatible residential noise environment closer than the distances identified in the impact section above. These jurisdictions would enforce Title 24 standards for multi-family residential development proposals within 2,000 feet of the center of the ROW, and could apply the same insulation requirements to single-family residential proposals, as well. – Construct sound barriers to reduce traffic noise at noise-sensitive locations. Barriers can take various forms, including landscaped earthern berms, walls, depressed roadways, and even thick stands of vegetation, or some combination of the four. This measure would be best suited for a 2,500-foot-long segment east of the alignment where the alignment runs closest to the residences near the Southern Pacific line and Neroly Road.				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Provide noise insulation for existing residences that would be significantly affected by project noise. ***As shown in Figure 16 of the Draft Supplemental EIR, the subdivision area was divided into three sections because varying noise level projections warrant different noise barrier heights at different locations. In each case, a resulting exterior noise level of 60 dBA or less at residential receptors would be considered acceptable according to City and County standards:*** ***Section 1. Based on the results of the noise modeling, a 14-foot noise barrier shall be constructed at the northbound SR4 Bypass edge-of-pavement to reduce future noise levels.[1] A 14-foot barrier would yield noise levels ranging from about 60 dBA to 62 dBA L_{dn} at the nearest receivers to the Bypass. The approximate length of the proposed barrier would be 2,760 feet. The Authority would need to fund the construction of this barrier because the development application for the adjacent subdivision preceded the 1994 EIR.*** ***Section 2. At the time when the City considered the application for this development, the City approved construction of an eight-foot barrier based on a noise study prepared for the development. This existing eight-foot barrier would be maintained. With the operation of the project, the future noise levels are projected to be 63 dBA to 64 dBA Ldn.***				

[1] Caltrans design guidelines limit the height of barriers within 15 feet of the nearest travel lane to 14 feet. This guideline typically applies to barriers at the edge of shoulder, which must also be placed on safety shape barriers.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	Section 3. The developer of the adjacent subdivision put aside funding for construction of a sound wall at the Bypass edge-of-pavement. Two barrier alternatives were tested for Location 3. Alternative A tested a barrier that followed the edge of the pavement for its entire length. Under this alternative, it was assumed that the existing right-of-way barrier would remain, but possibly be heightened. Alternative A would construct a 14-foot barrier, yielding future noise levels of about 61 dBA to 63 dBA L_{dn} at the closest residential receptors. Alternative B tested a barrier at the right-of-way for a portion of the section and the edge-of-pavement for the remainder of the section. A similar level of noise reductions would be achieved with the implementation of Alternative B. A 14-foot barrier would yield noise levels of about 59 dBA to 64 dBA L_{dn}. The Authority, in conjunction with the City of Brentwood, has selected Alternative A for implementation.				
G. AIR QUALITY					
III.G.1 Construction activities would temporarily generate substantial amounts of criteria air pollutants, particularly NO_x and fine particulate matter (PM_{10}).	III.G.1 To reduce the amount of particulate matter generated by earth-moving activities and vehicle travel over unpaved surfaces, implement the following dust abatement program. This program would benefit from the designation of a person or persons by the construction contractor to oversee implementation of all the aspects of the program. – Water active sites, temporary unpaved parking or staging areas, and unpaved road surfaces at least twice daily. – Suspend all excavating and grading	(1) Add dust abatement measures identified in the mitigation to construction contract specifications.	(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of the construction contract specifications. (2) Monthly during construction period.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	operation when wind speeds (as instantaneous gusts) exceed 25 miles per hour. – Replace ground cover in disturbed areas as quickly as possible. – Enclose, cover, water twice daily, or apply soil binders to exposed stock piles (e.g., sand, gravel, or dirt) – Sweep streets at the end of day if any visible soil material is carried over to adjacent thoroughfares. – Limit speeds on unpaved road surfaces to 15 mph or less. – Cover all trucks hauling dirt, sand, soil, or other loose materials. Maintain at least six inches of freeboard (i.e. the minimum required space between the top of the load and the top of the trailer). To reduce combustion emissions from construction equipment, the following measures should be implemented: – Prevent trucks from idling longer than two minutes. – Require catalytic converters for all gasoline-powered equipment, where feasible.				
III.G.2 Development of the Project would result in an increase in emissions over those expected under the no-project scenario.	III.G.2 The following measures would reduce the net increase in motor vehicle emissions associated with the Project. – The project sponsor shall encourage	(1) Add measures related to construction identified in the mitigation to final design plans.	(1) Review final design plans to verify incorporation of mitigation measures; add to administrative	Authority.	(1) Prior to the approval of final design plans. (2) Annually, monitor

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	Metropolitan Transportation Commission (MTC) to amend its High-Occupancy Vehicle (HOV) Lane Master Plan 2005 and RTP to include HOV lanes on State Route 4 east of Railroad Avenue. This would provide the opportunity to connect to HOV lanes developed under Phase II for that portion of the proposed Bypass north of Balfour Road. If MTC amends its HOV Plan and RTP, the project sponsor shall develop HOV/express bus lanes and develop Park & Ride lots that support their usage with transit easements for preferential parking policies, express bus turnouts, and special HOV ramps. The development of HOV lanes in the Bay Area is one of the transportation control measures (TCM) contained in the ’91 Clean Air Plan and is expected to reduce HC and NOx from mobile sources (TCM #8 Bay Area ’91 Clean Air Plan, Volume II, Appendix F, Transportation Control Measure Descriptions, October 1991). Development of HOV lanes along the proposed alignment under Phase II would contribute to the effectiveness of this regional TCM, but the extent to which it would contribute in terms of reductions in lb/day of HC or NOx can not be quantitatively estimated. Based on emissions estimates made during EMFAC7F, mitigation measures must demonstrate a reduction of 262 lb/day of PM10 by Year 2000 to reduce PM10 air quality impacts to less-than-significant (i.e. to reduce the project incremental increase to less than 150 lb/day). By 2010, under Phase I, mitigation measures must	(2) Develop program to encourage replacement of older model (more polluting) vehicles and replacement of fireplaces and woodstoves with EPA-certified woodstoves. (3) Propose programs to County: pave public roads; encourage future mixed-use development and alternate transit features.	record. (2) Confer with County Public Works and Planning Departments.		County actions.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	demonstrate a reduction of approximately 390 lb/day of PM10. Under Phase II (Year 2010), the necessary reduction would be 399 lb/day of PM10. The project sponsor shall work with Contra Costa County to identify and pave public roads within the County that area currently unpaved. Based on emissions factors and assumptions contained in BAAQMD's Base Year 1990 Emissions Inventory Source Category Methodologies (October 1993), paving of unpaved roads would reduce PM10 emissions by two lb/VMT (based on a particle size multiplier of 0.36 for PM10 and 60 rain days per year). Assuming 10 VMT per day on any given unpaved road, paving of unpaved roads would reduce PM10 emissions by 20 lb PM10 per day for each mile paved. Thus, the goal for this measure would be to pave approximately 13 miles by 2000 and an additional seven miles by 2010. Based on emissions estimates made during EMFAC7F, mitigation measures must demonstrate a reduction of 56 lb/day of HC and 140 lb/day of NOx by Year 2000 to reduce ozone precursor (i.e. HC and NOx) air quality impacts to less-than-significant (i.e. to reduce the project incremental increase to less than 150 lb/day). By 2010, under Phase I, mitigation measures must demonstrate reductions of approximately 167 lb/day of NOx, and under Phase II (Year 2010), the necessary reductions would be 406 lb/day of HC and 451 lb/day of NOx. – The Authority shall encourage Antioch,				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	Brentwood, and Contra Costa County to use their land use development authority to see that proposed residential development in the East County area includes sufficient mixed-use character and alternate transit features (e.g. bike lanes) that future residents would not be forced to use their vehicles for ever trip (work, shopping, school, etc.) outside the home. – The Authority shall encourage Antioch, Brentwood, and Contra Costa County to coordinate land use development with BART and Eastern Contra Costa County Transit Authority to ensure that future development would be provided with realistic alternatives to automobile use. The effectiveness of this measure can not be quantitatively estimated. – The Authority shall encourage Antioch, Brentwood, and Contra Costa County to provide retail and services at employment sites, incentives for infill development, and increased densities near existing and planned transit facilities. – The Authority shall encourage Antioch, Brentwood, and Contra Costa County to require developers to include bicycle and pedestrian amenities in their site designs. – The Authority shall encourage Antioch, Brentwood, and Contra Costa County to amend their parking requirements to reduce the number of parking spaces that developers must provide. **(UNAVOIDABLY SIGNIFICANT)**				
III.G.5 Development of the	III.G.5 See Mitigation Measure III.G.2.	See III.G.2 discussion.	See III.G.2 discussion.	See III.G.2	See III.G.2

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
Project would hinder regional efforts to attain the transportation performance standards set forth in the California Clean Air Act.	**(UNAVOIDABLY SIGNIFICANT)**			discussion.	discussion.
III.G.6 The Project may not conform to the state implementation plan (developed pursuant to the Federal Clear Air Act Amendments of 1990) in effect at the time of project approval.	III.G.6 Prior to development of the State Route 4 Bypass Project, include the project in the Regional Transportation Plan and Transportation Program. Perform specific CO analysis to assure conformance with air quality standards.	See mitigation.	(1) Verify inclusion of project in Regional Transportation Plan and Program; add to administrative record.	Authority.	(1) Prior to construction.
H. GEOLOGY, SEISMICITY, AND SOILS					
III.H.1 Construction of the Project would require the movement of approximately 3.3 million cubic yards of earth for roadway excavation. Displacement and compaction would occur during construction of this Project.	III.H.1 Employ the following engineering techniques to mitigate the impact of moving approximately 3.3 million cubic yards of earth associated with excavation of the roadway: – Develop a transportation and disposal plan for soils that will not be re-used in roadbed construction, in coordination with state and county agencies. – Move to an off-site area soils deemed inappropriate for re-use in roadbed construction, such as those with high shrink-swell or erosion potential, or loose, cohesionless sands prone to liquefaction. The determination of lack of suitability of these soils will be made on-site by a qualified geotechnical engineer or engineering geologist certified by the State of California.	(1) Locate an appropriate off-site area for receiving soils that cannot be used on-site. (2) Develop soils transportation and disposal plan. (3) Include compliance with plan and soils inspection by a qualified engineer/geologist in construction contract specifications. (4) Have soils inspected by a qualified engineer/geologist. (5) Carry out plan.	(1-2) Add plan (including record of selected disposal site) to administrative record. (3) Verify construction contract specifications. (4-5) Monitor to ensure that soils are inspected, transported, and disposed of according to plan.	Authority.	(1-2) Prior to commencement of construction. (3) Prior to approval of contract. (4-5) Monthly, during construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Use engineered fill to replace those soils with inappropriate qualities for construction purposes. The fill will be approved by an on-site qualified geotechnical engineer or engineering geologist certified by the State of California. – To further enhance the likelihood of successful revegetation and long-term vegetative slope stabilization, topsoil materials to be disturbed or removed during construction will be carefully distinguished, stockpiled, and protected separately from other soil materials that would be reused in roadbed construction by the on-site geotechnical engineer. As soon as is possible, stockpiled topsoil materials will be reused as a component of the revegetation seed bed materials for all cut and fill slopes, where feasible.	(1) Include requirement in construction contract specifications that contractor use only fill which has been approved by a qualified engineer/geologist.	(1) Check construction contract specifications. (2) Monitor to verify that only approved fill is used.	Authority.	(1) Prior to approval of contract. (2) Monthly, during construction.
III.H.2 Construction of the Project would require grading which would alter the topography in the Project area.	III.H.2 Employ the following engineering techniques to mitigate slope instability and erosion/siltation impacts resulting from development of a roadway in the right-of-way: – Perform all grading and slope operations during the dry season (May – September). – Engineer cut slopes that area up to 15 feet high to no steeper than a 1.5:1 slope in soil, or a 0.75:1 slope in bedrock. – Engineer cut slopes that are higher than 15 feet to no steeper than 2:1 in soil or 1:1 in bedrock. – Engineer fill slopes less than 15 feet high to 1.5:1 or less; and 2:1 or less for slopes	(1) Develop an Erosion and Sedimentation Control Plan. (2) Incorporate mitigations in engineering and design plans, as appropriate. (3) Include mitigations, including compliance with Erosion and Sedimentation Control Plan, in construction contract specifications.	(1) Add plan to administrative record. (2) Review engineering and design plans for inclusion of mitigations. (3) Review construction contract. (4) Monitor construction to verify compliance with mitigations, including Erosion and Sedimentation Control Plan.	Authority.	(1-2) Prior to commencement of construction. (3) Prior to approval of contract. (4) Monthly, during construction. (5) Following completion of construction of each segment of roadway.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	higher than 15 feet. – Scarify or serrate slopes into benches, 8” to 10” in width and height, to increase overall stability and allow for the re-establishment of vegetation. – Align roadways so as to not be parallel with the dip direction of adjacent slopes. – Stabilize barren soil slopes with jute netting or similar geotextile fabric, and revegetate slopes with fast-growing, continuous, deep-rooting, and fire-and drought-resistant vegetation. – Divert storm water runoff from slopes using temporary or permanent swales, slope drains (flexible down drains, pipe drops, or chutes) and interceptor ditches, which will be emplaced immediately after cutting or filling of the slopes and prior to revegetation. – Retain existing vegetation wherever possible and minimize its removal. – Hydroseed barren soil slopes with plant species that are fast-growing, with dense cover and fibrous root systems, adapted to poor soil conditions and to the local climate; that re-seed and re-grow well; that are fire- and drought-resistant; and that are low-cost and easy to maintain. Examples: Annual Ryegrass, Brome, Fescue, Oats, Barley, Clover, Trefoil, California poppy. – Apply straw or other mulch after seeding and fertilizing barren slopes.		(5) Inspect slopes following construction to verify that mitigations regarding slope stabilization and revegetation are carried out.		

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Erect berm or hay bale barriers to direct runoff away from cleared areas. – Cover stockpiles of soil. – An erosion and sedimentation control plan will be developed, using the Safety Element of the *Contra Costa County General Plan* (1991) and the *Contra Costa County Grading Ordinance* as guidelines. Caltrans may also have existing erosion control guidelines which could be consulted. The Erosion & Sedimentation Control Plan developed will include discussions of these elements: Project Description; Existing Site Conditions; Adjacent Areas; Soils; Critical Areas (high-erosion areas); Erosion and Sediment Control Measures; Temporary & Permanent Stabilization Measures; Maintenance Measures; and Map (showing existing and final contours, existing vegetation, soils, existing and final drainage patterns, limits of clearing and grading, and a storm water management system).				
III.H.3 Construction of the Project would occur in areas with unstable soils. Erosion and sedimentation could occur during construction.	III.H.3 See Mitigation Measure III.H.2.	See III.H.2 discussion.	See III.H.2 discussion.	See III.H.2 discussion.	See III.H.2 discussion.
III.H.4 Development of the Project including the widening of Marsh Creek Road could expose travelers to hazards such as ground shaking, liquefaction and flooding during a strong earthquake.	III.H.4 Follow the performance standards listed below to mitigate earthquake-related impacts affecting development of a roadway in the right-of-way: – Fault rupture. Design roadways which cross surface fault traces with flexible materials to allow some lateral displacement or offset without rupturing severely, particularly overpass structures.	(1) Include mitigation in engineering and design plans.	(1) Check engineering and design plans. (2) Monitor construction to verify consistency with engineering and design plans.	Authority.	(1) Prior to approval of plans/ commencement of construction. (2) Following completion of construction of each segment of roadway.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Liquefaction. Identify areas along the corridor that are prone to liquefaction during an earthquake, using existing data on soil types, depth to groundwater, and degree of saturation of soils during non-drought conditions. Avoid constructing the roadway in these areas where possible. Where this is not possible, excavate the natural soils and replace them with engineered fill. – Ground shaking. Avoid constructing elevated roadway structures across or close to known faults. Consider using engineered fill embankments rather than pile supports for any necessary roadway crossings, with culverts emplaced for stream crossings where appropriate.				
III.H.5 Construction of the Project would remove lands designated prime agricultural and lands of statewide importance. Road construction could affect agricultural productivity of prime soils (SCS Grade 1 and 2) both directly and indirectly.	III.H.5 Avoid where possible constructing the roadway through areas containing prime agricultural soils, identified using maps produced by the U.S. Department of Agriculture Soil Conservation Service.	See III.B.2 discussion.	See III.B.2 discussion.	See III.B.2 discussion.	See III.B.2 discussion.
I. HYDROLOGY, DRAINAGE AND FLOODPLAINS					
III.I.1 Construction of the Project could result in the alteration of floodplains and flood routing. Flooding beyond the capacity of creek crossings, including those at Sand Creek and Marsh Creek, would result in	III.I.1 Follow the performance standards listed below to mitigate the impacts of alteration of floodplains and flood routing resulting from development of a roadway in the Corridor: – Confirm and finalize delineation of the 100-year floodplains during preliminary engineering of the roadway, using aerial photographs and site surveys.	(1) Consult with the Contra Costa County Conservation &Flood Control District and Corps about project development in floodplains and consequent mitigation measures.	(1) Review final design plans to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity; verify	Authority, Contra Costa County Conservation & Flood District, Corps, CDFG	(1) Prior to the approval of final design plans.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
water elevations above the stream banks with extensive sideways expansion of the water surface. The flood waters would form a slow-moving backwater condition adjacent to the stream which would correspond to the area delineated within the 100-year flood zone.	– Use FEMA FIRM maps and on-site data to determine the hydraulic flood elevations for those portions of the proposed roadway that pass through floodplains. – Design bridges, low bridges, and culverts for stream and artificial drainage crossings of the roadway to allow passage of normal flows without excessive hindrance. – To further enhance the likelihood of successful revegetation and long-term vegetative slope stabilization, topsoil materials to be disturbed or removed during construction will be carefully distinguished, stockpiled, and protected separately from other soil materials that would be reused in roadbed construction by the on-site geotechnical engineer. As soon as is possible, stockpiled topsoil materials will be reused as a component of the revegetation seedbed materials for all cut and fill slopes, where feasible. The measures taken to mitigate these impacts must comply with the Public Facilities/Services Element (7.8: Drainage and Flood Control) and Safety Element of the *Contra Costa County General Plan* (1991). The State Route 4 Bypass Authority shall work with the Contra Costa County Conservation & Flood Control District to determine the extent of cumulative flood hazard posed by development of the East County Corridor roadway. The U.S. Army Corps of Engineers (Corps) and the California Department of Fish and Game (CDFG) will be contacted for permission to do construction within the floodway of stream channels and their adjacent floodplains. For any alteration to a	(2) Add measures agreed upon by all parties to construction contract specifications.	compliance.		

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	streambed, work with the CDFG to develop a Streambed Alteration Agreement that will minimize construction impacts to floodplains.				
III.I.2 Construction of the Project would increase the amount of impervious surface in the region which would generate additional runoff that could affect groundwater resources.	III.I.2 Follow the performance standards listed below to mitigate the impacts of an increase in impervious surface in the region, which will increase storm water runoff and its vehicle-derived pollutants, due to development of the roadway: – Divert storm water runoff from roadway embankments to minimize entrainment of soil particles and adsorbed pollutants, particularly at the crossings of canals and streams, using temporary or permanent swales, slope drains (flexible down drains, pipe drops, or chutes), and interceptor ditches. Divert runoff to the nearest crossover point for discharge into existing drainage channels. – Use runoff detention basins to restrict peak flow from roadway and cleared right-of-way surfaces in areas where runoff is severe. Siting of detention basins may be accomplished using computer simulations for storm water runoff within the watersheds affected by the proposed roadway. On-site detention basins will be constructed following blue-green storage concepts such as using roadway embankments as flood control structures, ponding flows that exceed the pass-through rate used in the hydraulic design of culverts. Storm water detention ponds may also be	(1) Add measures identified in the mitigation to final design plans.	(1) Review final design plans to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity; verify compliance.	Authority.	(1) Prior to the approval of final design plans. (2) After completion of each roadway segment.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	constructed along portions of the roadway that cannot be elevated on embankments. Detention basins will be sited on soils that allow for groundwater recharge.				
III.I.4 Implementation of the Project could expose motorists to a project flood should reservoirs in the area be damaged by an earthquake and flood.	III.I.4 Follow the performance standards listed below to mitigate the impact of an earthquake-induced flood from a damaged reservoir to motorists using the proposed roadway: – Using maps of potential inundation routes from the Marsh Creek, Los Vaqueros, and other existing or proposed reservoirs prepared by the Office of Emergency Response, determine which sections of the roadway will lie in the path of inundation. – Determine the potential hydraulic flood elevations from these inundation events, and elevate the roadway along these sections, using anticipated flow rates in the hydraulic design of culverts or bridges at these elevated sections.	(1) Add measures identified in the mitigation to final design plans.	(1) Review final design plans to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity; verify compliance.	Authority.	(1) Prior to the approval of final design plans. (2) After completion of each roadway segment.
III.I.5 Construction of the Project would occur in areas of very slight topographic relief and would therefore have the potential to alter existing flow patterns of rainfall runoff.	III.I.5 Follow the performance standards identified under Mitigation Measures III.I.1 and III.I.2. In addition, implement standards listed below to further reduce the impacts of changes in existing flow patterns of streams and stormwater runoff due to development of the Project: – Before altering natural surface water flow patterns, obtain a Section 404 Dredge & Fill Permit from the Corps, and a Streambed Alteration Agreement from the California Department of Fish & Game, as needed on a case-by-case basis. Follow the procedures developed by these agencies to prevent adverse impacts to water quality or habitat.	See III.I.1 and III.I.2 discussion.	See III.I.1 and III.I.2 discussion.	See III.I.1 and III.I.2 discussion.	See III.I.1 and III.I.2 discussion.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Divert storm water runoff from roadway embankments and from cut or fill slopes associated with construction using temporary or permanent swales, slope drains (flexible down drains, pip drops, or chutes), and interceptor ditches.				
J. BIOLOGICAL RESOURCES AND WETLANDS					
~~**III.J.1 Construction of the Project would indirectly affect habitat of individuals of Longhorn fairy shrimp, Vernal pool fairy shrimp, California linderiella, curved-foot hygrotos diving beetle, Ricksecker's water scavenger beetle, and California tiger salamander (refer to III.J.3 for discussions relating to California tiger salamander).**~~ ***(As a result of more detailed project design and subsequent wetland delineations, it was found that the previously identified seasonal pond located along the tributary to Kellogg Creek is located outside the project ROW and isn't categorized as Waters of the U.S. As a result, the pond will not be affected by the project.)***	~~**III.J.1 The seasonal pond located along the tributary to Kellogg Creek would be avoided by adoption of either the Project, Cowell, or Nunn "Mitigated" Alternatives. As such, direct impacts to these species will be avoided. Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of Environmentally Sensitive Areas (ESAs) to protect this habitat will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include clearly flatting the limits of this habitat, revegetating disturbed and adjacent areas with native species, utilizing erosion control techniques to reduce siltation and sedimentation of low-lying areas, watering of the construction area to reduce dust impacts, and providing a biologist approved by USFWS and CDFG to ensure avoidance and to implement any necessary corrective measures during the construction period.**~~	~~**(1) Include dust, erosion control, and other habitat protection measures specified in the mitigation in the construction contract specifications.**~~	~~**(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record.**~~ ~~**(2) Inspect construction activity periodically; verify compliance.**~~	~~**Authority, USFWS, Corps, CDFG.**~~	~~**(1) Prior to approval of construction contract.**~~ ~~**(2) Periodically during construction, as specified by USFWS and CDFG.**~~
III.J.3 Construction of the Project would affect habitat	III.J.3-I ***Mitigation for potential impacts to wildlife habitat areas will be based upon the***	(1) Include dust, erosion control, and other habitat	(1) Review construction contract	Authority, USFWS, Corps, CDFG.	(1) Prior to approval of construction

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
and could directly or indirectly cause destruction of individuals of California tiger salamander.	***mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Measures to reduce the identified impact to below the level of significance are identical to those described under Mitigation Measure III.J.1.**~~ ~~**In addition, the Authority shall consult with CDFG and USFWS to determine if surveys for suitable aestivation habitat occurs within the Project, Cowell, or Nunn "Mitigation" Alternatives. Based on survey results and/or consultation, the Authority shall implement measures to reduce the identified impact (if any) as specified by USFWS and CDFG. This may include limiting construction within these areas to defined seasons, detailed construction monitoring, and/or acquisition of additional suitable aestivation habitat**.~~	protection measures specified in the mitigation in the construction contract specifications. (2) Consult with CDFG and USFWS.	specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.		contract. (2) Periodically during construction, as specified by USFWS and CDFG.
III.J.4 Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of California red-legged frog (*Rana aurora draytonii*).	III.J.4-I ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Specific surveys to determine the status of this species will be conducted from February through May by a qualified biologist hired by**~~	(1) Authority will hire a qualified biologist to perform status surveys of species impacted as stated in mitigation. (2) Forward survey documentation to USFWS and CDFG for review.	(1) Ensure that biological surveys are carried out by qualified individual; add results to administrative record. (2) Add copy of surveys to administrative record.	Authority, USFWS, CDFG.	(1) February through May prior to construction. (2) Prior to construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**the Authority prior to ROW construction. Documentation of the survey, including methodology, textual discussion of individuals or populations of these species (if present), will be forwarded to the USFWS and CDFG for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW, no impact would occur and no further mitigation is necessary.**~~				
III.J.4 Continued.	III.J.4-II ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Adoption of the Project, Cowell, or Nunn "Mitigated" Alternatives would avoid the seasonal pond located along the tributary to Kellogg Creek and would diminish impacts to Marsh Creek (because the proposed Marsh Creek Road Interchange would be located away from this drainage).**~~ ~~**If individuals or populations of this species are present and will be impacted by ROW development, the Authority shall initiate informal consultation with USFWS and CDFG. The Authority shall prepare and implement a mitigation program approved by USFWS and CDFG prior to the initiation of any ground clearing, grading, construction,**~~	No action necessary. (1) Authority shall initiate informal discussion with USFWS and CDFG. (2) Authority shall prepare and implement a mitigation program approved by USFWS and	No action necessary. (1) Add records of discussions to administrative record. (2) Monitor implementation of mitigation plan on annual basis; add	Not applicable. Authority, USFWS, CDFG.	Not applicable. (1) Prior to construction. (2) Mitigation Plan shall be prepared, approved by USFWS and CDFG, and implemented prior to

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**or other activities which could disrupt this species. The mitigation program shall include, but not be limited to, the following standards:**~~ ~~**The mitigation plan shall provide for no net loss of California red-legged frog currently utilizing the project ROW.**~~ ~~**Mitigation shall follow the hierarchy outlined in Section 15370 of the CEQA Guidelines, which directs mitigation to**~~ ~~**Avoid the impact altogether by not taking certain action;**~~ ~~**Minimize impacts by limiting the degree of magnitude of an action and its implementation;**~~ ~~**Rectify the impact by repairing, rehabilitating, or restoring the impacted environment;**~~ ~~**Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action;**~~ ~~**Compensate for the impact by replacing or providing substitute resources of environments.**~~ ~~**Any mitigation plan shall be monitored annually for five years (or a period specified by the resource agencies) after implementation to assure the success of the mitigation. If at any point during the monitoring period, the mitigation plan is judged to have not been successful, the mitigation action shall be re-initiated, after**~~	CDFG, incorporating requirements stated in mitigation.	results to administrative record.		construction. Plan would be monitored annually for 10 years.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~modification as necessary, and monitored for a succeeding five-year period.~~ **~~If mitigation is not accomplished within the area affected, the mitigation shall take place adjacent to existing significant populations of this species, if any such areas exist and are not proposed for elimination. In general, off-site mitigation should occur as close to the affected habitat as possible. The USFWS and CDFG may require that these areas be acquired by the Authority and be set aside in perpetuity.~~** **~~Application of chemicals and intrusion during construction and operational phases of the ROW shall be prohibited to maintain the integrity of this habitat.~~** **~~Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of Environmentally Sensitive Areas (ESAs) to protect habitat for this species will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include temporal separation of construction activities and the breeding season, clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with species native to the area, utilizing erosion control techniques o reduce siltation and sedimentation of low-lying areas, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure avoidance and to implement any necessary corrective measures during the construction period.~~ (UNAVOIDABLY SIGNIFICANT)**				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.J.5 Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of Western spadefoot toad (*Scaphiopus hammondii*).	III.J.5 ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Measures to reduce the identified impact to below the level of significance are identical to those described under Mitigation Measure III.J.4.**~~	(1) Authority will hire a qualified biologist to perform status surveys of species impacted as stated in mitigation. (2) Forward survey documentation to USFWS and CDFG for review.	(1) Ensure that biological surveys are carried out by qualified individual; add results to administrative record. (2) Add copy of surveys to administrative record.	Authority, USFWS, CDFG.	(1) February through May prior to construction. (2) Prior to construction.
III.J.6 Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of Northwestern pond turtle (*Clemmys marmorata marmorata*).	III.J.6-I ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Prior to construction, specific surveys to determine the status of this species within the ROW will be conducted. Documentation of the survey, including methodology, textual discussion of individuals or populations of this species (if present), will be forwarded to the USFWS and CDFG for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW, no further mitigation is necessary.**~~ ~~**III.J.6-II Adoption of the Project, Cowell, or Nunn "Mitigated" Alternatives would**~~	(1) Authority will hire a qualified biologist to perform status surveys of species impacted as stated in mitigation. (2) Forward survey documentation to USFWS and CDFG for review. (1) Include dust, erosion control, and other habitat	(1) Ensure that biological surveys are carried out by qualified individual; add results to administrative record. (2) Add copy of surveys to administrative record. (1) Review construction contract	Authority, CDFG, USFWS. Authority, USFWS, CDFG.	(1) Prior to construction. (2) Prior to construction. (1) Prior to approval of construction

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**diminish impacts to Marsh Creek (because the proposed Marsh Creek Road Interchange would be located away from this drainage). Standard provisions to control construction activities, protect water quality, and provide for dust and erosion control as well as the designation of ESAs to protect this habitat will be implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with native species, utilizing erosion control techniques to reduce siltation and sedimentation of low lying areas, watering of the construction area to reduce dust impacts, and providing a biologist approved by USFWS and CDFG to ensure avoidance and to implement any necessary corrective measures during the construction period.**~~ ~~**Streams supporting turtles will be temporarily dammed up both up- and downstream of construction and turtles relocated upstream of construction activities by a qualified biologist. Temporary dams will remain in place until construction activities have ceased.**~~ ~~**Additional mitigation may include acquisition of suitable habitat that will be set aside in perpetuity (by the Authority) or enhancement of suitable habitat proximate to the ROW. The mitigation lands should be geographically proximate to the project right-of-way and be selected by a qualified biologist. A monitoring plan to ensure the success of the mitigation bank or enhancement will be implemented for a minimum of five years (or a period specified by the resource agencies).**~~	protection measures specified in the mitigation in the construction contract specifications.	specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.		contract. (2) As specified by USFWS and CDFG.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.J.7 Construction of the Project would affect habitat and could directly or indirectly cause destruction of individuals of California Horned Lark (*Eremophila alpestris actiai*).	III.J.7 ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the 1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**Prior to construction, specific surveys to determine the status of this species within the ROW will be conducted. Documentation of the survey, including methodology, textual discussion of individuals or populations of this species (if present), will be forwarded to the USFWS and CDFG for their review. If accepted survey methodologies are adhered to and this species is not located within the ROW, no further mitigation is necessary**~~. ~~**Construction (in areas found to support horned lark during the pre-construction surveys) will not proceed until after horned lark nesting season. If individuals or populations of horned lark remain within the ROW after nesting, the Authority will hire a qualified biologist approved by USFWS and CDFG to institute exclusionary methods to remove and keep horned larks out of the construction zone. This will include a monitoring plan to ensure the success of the mitigation.**~~ ~~**Standard provisions to control construction activities and provide for dust and erosion control as well as the designation of ESAs to protect horned lark habitat will be**~~	(1) Authority will hire a qualified biologist to perform status surveys of species impacted as stated in mitigation. (2) Forward survey documentation to CDFG and USFWS for review. (3) Include restriction in construction contract that only allows construction activities in areas that support horned lark to commence once nesting season is over. If horned lark remains, Authority will hire qualified biologist to remove lark from construction area. (4) Include dust, erosion control, and other habitat protection measures	(1) Ensure that biological surveys are carried out by qualified individual; add results to administrative record. (2) Add copy of surveys to administrative record. (3-4) Review construction contract to verify incorporation of mitigation measures; add to administrative record. Inspect construction activity periodically; verify compliance.	Authority, CDFG, USFWG. Authority, CDFG, USFWG.	(1) Prior to construction. (2) Prior to construction. (3-4) Prior to approval of construction contract. As specified by USFWS and CDFG.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**implemented to substantially reduce or eliminate potential indirect impacts. Additional measures which will be instituted include temporal separation of construction activities and horned lark nesting season, clearly flagging the limits of this habitat, revegetating disturbed and adjacent areas with native species, watering of the construction area to reduce dust impacts, and providing an on-site biologist to ensure avoidance and to implement any necessary corrective measures during the construction period.**~~	specified in the mitigation in the construction contract.			
III.J.8 Construction of the Project would indirectly affect habitat of Pallid bat and Townsend's western big-earred bat.	III.J.8 Adoption of the Project, Cowell, or Nunn "Mitigated" Alternatives would avoid the sandstone caves that provide roosting habitat for these bats and would eliminate direct impacts to these species (if present). Although adoption of these alternatives would avoid direct impacts to this species, ROW development in close proximity to these caves would result in increased noise and human disturbance and may lead to bat abandonment of this habitat. The Authority will coordinate with the resource agencies to determine acceptable mitigation. This may include acquisition of suitable habitat that will be set aside in perpetuity (by the Authority). The mitigation lands should be geographically proximate to the project right-of-way and be selected by a qualified biologist. A monitoring plan to ensure the success of the mitigation bank will be approved by USFWS and CDFG and implemented for a minimum of ten years. **(UNAVOIDABLY SIGNIFICANT)**	See discussion below. (3) If necessary, Authority shall initiate informal discussion with USFWS and CDFG. (4) Authority shall prepare and implement a mitigation program, incorporating requirements stated in mitigation.	See discussion below. (3) Add records of discussions to administrative record. (4) Monitor implementation of mitigation plan on annual basis; add results to administrative record.	See discussion below. Authority, USFWS, CDFG.	See discussion below. (3) Prior to construction. (4) Mitigation Plan shall be prepared, approved by USFWS and CDFG, and implemented prior to construction. Plan would be monitored annually for 10 years.
III.J.9 Construction of the Project would affect habitat and could directly or	III.J.9-I ***Mitigation for potential impacts to wildlife habitat areas will be based upon the mitigation guidance already developed in the***	(1) Authority will hire a qualified biologist to perform status surveys of	(1) Ensure that biological surveys are carried out by qualified	Authority, CDFG, USFWS, Corps.	(1) Sixty days prior to construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
indirectly cause destruction of individuals of San Joaquin kit fox (*Vulpes macrotis mutica*).	***1999 Biological Opinion, and will involve fee contributions to the East Contra Costa Habitat Conservation Plan program (HCP). The required mitigation will be formalized in an updated Biological Opinion to be issued by the U.S. Fish and Wildlife Service, in response to the current USACE application.*** ~~**The Authority shall survey the portion of the ROW south of Marsh Creek Road according to accepted USFWS and CDFG methodologies (preferred survey season occurs between March 1 and July 31). Results of these surveys will be submitted to USFWS and CDFG. If no evidence of this species is located within the ROW, no further mitigation is required.**~~	species impact as stated in mitigation. (2) Forward survey documentation to CDFG and USFWS for review.	individual; add results to administrative record. (2) Add copy of surveys to administrative record.		(2) Prior to construction.
	~~**III.J.9-II The ROW will be surveyed within 60 days prior to initiation of construction by a qualified biologist approved by USFWS and CDFG (preferred survey season occurs between March 1 and July 31). Results of this survey will be submitted to the USFWS and the CDFG.**~~ ~~**If dens are located outside the immediate construction ROW, each den will be protected by fencing about a predetermined buffer zone. Flagging, signing, and exclusion of all construction and operational disturbances will be required. If destruction of a den(s) cannot be reasonably avoided, den removal should be accomplished according to USFWS guidelines.**~~ ~~**The amount of San Joaquin kit fox habitat lost to development of Row, as determined the pre-construction kit fox survey, would require**~~	(3) See mitigation for den protection and/or den replacement procedures.	(3) Verify compliance with mitigation plan during construction; add results to administrative record.	Authority, CDFG, USFWS, Corps.	(3) As specified by USFWS and CDFG.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	~~**habitat compensation which offsets the area removed by development through protection/restoration of a suitable area in perpetuity (permanently dedicated by the Authority to public ownership and management or though establishment of a private, non-profit land trust or land conservancy organization to take legal title to mitigation lands and be responsible for their maintenance). Replacement of dens destroyed through site development would also likely be required. The replacement ratio (area protected/restored:area lost) may be set by the resource agencies at 3:1 (that is, for every one acre of kit fox habitat destroyed, three acres of suitable habitat will be acquired by the Authority, unless otherwise stipulated by USFWS and CDFG). Mitigation lands will consist of one contiguous parcel of high quality kit fox habitat in the immediate vicinity. Such an area would include flat or low rolling hills near known kit fox populations**~~. ~~**The Authority, in consultation with USFWS and CDFG, will determine success criteria for mitigation lands. The Authority will be responsible for monitoring mitigation lands for kit fox habitat suitability and use and will set aside an operations and maintenance budget sufficient to meet the needs of the mitigation and monitoring program for a minimum of ten years. Annual monitoring reports will be submitted to USFWS and CDFG. If the success criteria agreed on are not met, the Authority will be responsible for corrective measures outlined by USFWS and CDFG.**~~ **(UNAVOIDABLY SIGNIFICANT)**				
III.J.10 Construction of the	III.J.10 Partial mitigation may be achieved	(1) Develop a wetlands	(1) Add a copy of draft	Authority, Corps,	(1) Prior to

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
Project would impact seasonal wetlands. The loss of degradation of these communities would be considered significant because of their local and regional scarcity, potential classification as jurisdictional wetlands, ongoing community depletion, increased threats to dependent special status species, and their importance to dependent common plant and wildlife species.	through a synthesis of both retention/enhancement of portions of the existing wetlands and in-kind enhancement mitigation of other wetland communities in the immediate vicinity to achieve an overall "no net loss" of wetland acreage or value. Three levels of mitigation are considered in this program: 1) avoidance of wetlands to the extent possible, 2) creation of new wetlands for those areas lost or altered, and 3) acquisition and preservation of mitigation lands that contain high quality, in-kind wetlands. The plan proposes the following: – Road crossings over open channels and drainage ditches should be bridged when possible. – Establish a minimum setback or buffer between the development area (edge of grading, pavement and structures) and the edge of existing wetlands which are proposed to be preserved. The width of this setback shall vary based on the quality of the wetland the resource that is being protected. In general, the setback shall be no less than 100 feet and shall include as much of the natural watershed as possible. – All wetland vegetation and hydrology of areas preserved shall be maintained. – Require restoration or creation of new wetlands at a ratio of 3:1 for any acreage of wetland that is lost or altered by development. General guidelines for selecting areas for wetlands creation area are as follows: Locate near or adjacent to existing manmade drainages, ponds, and	mitigation plan incorporating measures identified in this mitigation. (2) Finalize mitigation plan for wetlands restoration when final roadway alignment maps are available, incorporating measures in this mitigation. (3) Develop and submit a monitoring and management plan with final wetlands mitigation plan incorporating measures in this mitigation. (4) Continue coordinating with the Corps to determine the extent of their jurisdiction pursuant to Section 404(b)(1) of the Federal Clean Water Act and need for additional permits for wetlands and/or waters that support federally listed species.	plan to the administrative record. (2) Submit final plan to Corps and CDFG for approval. (3) Submit as part of final plan to Corps and CDFG for approval. (4) Add discussions with Corps to administrative record.	CDFG.	construction. (2) Prior to approval of grading permit or as part of Final Map approval process. (3) Begin implementation prior to construction. Plan would be monitored annually for 10 years. (4) Ongoing.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	seasonal wetlands. With proper excavation and contouring, channels and existing pond areas can provide a source of water during winter and spring seasons. Locate where elevations are low and where wetlands can either be protected or buffered. Such areas would be least impacted by human activity and would thus be more inviting for wildlife use. Mitigation sites shall be located outside of developed areas and (if possible) linked with appropriate natural travel corridors to facilitate wildlife movement and to minimize isolation and fragmentation of the habitats. Created wetlands shall be revegetated with native wetland species. The plan shall include an implementation schedule relative to project construction (showing that plan approval would occur and wetlands creation begin prior to the loss of existing wetlands). The use of non-biodegradable herbicides and pesticides shall be avoided. – Alternatively, the Authority may compensate for wetland loss through acquisition/protection of a suitable mitigation area (one that contains wetlands of similar function and value) in perpetuity. Replacement ratio (area protected:area lost)				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	should be set at 2~~1~~:1. – The Authority, in consultation with CDFG and USFWS, shall locate a suitable mitigation area and purchase this land prior to construction. This land would then be permanently dedicated by the Authority to public ownership and management, or the Authority could establish a private, non-profit land trust or land conservancy organization to take legal title to mitigation lands and be responsible for their maintenance. In either case, an operations and maintenance budget sufficient to meet the needs of the organization for five years (or a period specified by the resource agencies) should be established. – The Authority shall monitor the use and condition of the mitigation lands for a minimum period of five years. Annual reports documenting general condition, habitat (vegetation) characterization, and wildlife use will be submitted to USFWS and CDFG for their review. The final mitigation plan for wetlands restoration shall e based on the final roadway alignment map. The final mitigation plan shall be submitted as part of the Final Map process or prior to approval of a grading permit, whichever occurs first. Modifications of the final plan may be required as a result of permit requirements imposed by the Corps or CDFG. This plan may include the following components, as required by the resource agencies: – A plan identifying existing topography and proposed grading. Grading shall identify proposed excavation and fill as well as				

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	earth movement quantities. The grading plan shall also identify final hydrology and drainage supported by engineering calculations. – Cross-sections of proposed grading for wetlands restoration. – A planting program that will include planting for all wetland areas and surrounding buffer zones. Selected species shall be consistent with the guidelines established by planting list approved by the Corps and CDFG (if applicable). – The final program shall include site construction techniques for resource protection. Techniques shall include fencing around existing wetlands and detailed erosion and sediment control measures. – A final irrigation plan that will include specifications on installation and a schedule identifying the frequency of irrigation for each selected area. A monitoring and management plan shall be submitted with the final mitigation plan. This program shall identify monitoring and management techniques for a period of ten years (minimum) following implementation. The monitoring and management plan shall include the following components: – The plan shall establish success criteria and describe steps to be taken to replace vegetation or modify wetland management not meeting the success criteria.				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	– Plant survival shall be evaluated with field surveys. Trees and shrubs shall be tagged during the first year of implementation, catalogued in a database, and surveyed for survival, growth and vigor. Grasses and forbs shall be surveyed for species richness and cover. – Monitoring reports are to be prepared annually. At the end of the ten-year monitoring period, a compilation of the annual reports shall be submitted to the City and to CDFG. The annual reports shall include monitoring data and shall discuss any corrective actions needed. At the end of the ten-year monitoring period, the report shall evaluate the success of the mitigation program against the initial goals and purpose. Appropriate corrective actions shall be taken if the initial goals and purpose have not been met. Management techniques for wetland development shall include recommendations for hydrology/water levels and flushing. In addition to the mitigation outlined above, the Authority is currently coordinating with the Corps to determine the extent of their jurisdiction pursuant to Section 404 of the Federal Clean Water Act. Corps permitting for the roadway may include a series of permits, for example, separate nationwide permits for stream corridors and possibly an individual permit for wetlands and/or waters that support federally listed species. The following measures may be required by the Corps: – Conduct a Section 404 (b)(1) alternatives				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	analysis for areas covered under an individual permit. In order for the Corps to issue an individual permit to allow the filling to proceed, it must be demonstrated that there are no practicable alternatives, either on- or off-site, that would avoid or minimize filling of wetlands, such as through Project alteration. – If no such alternatives are found, the Corps would require mitigation for the portion of wetland acreage lost or degraded to development. This could be at least partially accomplished by purchasing, enhancing/restoration, monitoring, and dedicating as permanent open space lands containing similar wetlands in the vicinity of the proposed expressway. A detailed evaluation of the hydrological effects of the proposed Project on adjacent wetlands would likely also be required to ensure adequacy of this mitigation because of the development's location within at least a portion of these wetland's watershed. **(UNAVOIDABLY SIGNIFICANT)**				
III.J.11 Construction of the Project would impact riparian corridors. Implementation of the Project would result in the loss of approximately 1.04 acres of stream channel. Riparian vegetation occurs along Sand Creek, the tributary to Deer Creek, and Marsh Creek. The remaining waterways within the ROW support only herbaceous or weedy vegetation.	III.J.11 Four levels of mitigation are considered as part of this plan: 1) all tree preservation techniques, 2) redesign of the roadway to protect significant trees, 3) a revegetation program, and 4) habitat acquisition. This plan proposes the following: – Conduct surveys to characterize riparian habitats that will be lost or degraded due to project implementation. These surveys shall include documentation of all native trees six inches at diameter breast height (dbh) or greater which would be directly or indirectly affected due to the Project. This	(1) Develop a riparian corridor mitigation plan incorporating measures identified in this mitigation. (2) Finalize mitigation plan for riparian corridor restoration when final roadway alignment maps are available, incorporating measures in this mitigation.	(1) Add a copy of draft plan to the administrative record. (2) Submit final plan to Corps and CDFG for approval. (3) Submit as part of final plan to Corps and CDFG for approval. (4) Add agreement and discussions with CDFG	Authority, Cities of Antioch and Brentwood, CDFG.	(1) Prior to construction. (2) Prior to approval of grading permit process. (3) Begin implementation prior to construction. Plan would be monitored annually for 10 years. (4) Prior to

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	survey should be conducted by a qualified plant ecologist, and should include identification of species, the dbh of each individual, condition of tree, location on a topographic map, and general nature of impact each tree will receive due to the proposed Project. – Redesign the roadway to reduce significant tree removal. – Obtain the necessary permission for vegetation removal from the City of Antioch and/or the County of Contra Costa (depending on location of removed vegetation). – Trees to be retained within the Project right-of-way should be fenced off at a distance of 1.5 times the drip-line (approximately equal to the area covered by the tree's canopy) prior to any construction-related activities in order to prevent accidental damage due to construction activities. These fences should remain in place until all construction-related activities have ceased. – Irrigation or potential runoff associated with the proposed Project should be diverted away. Revegetate along the roadway system where grading (cut and fill) results in tree removal. – An on-site acorn and cutting collection system shall be implemented. Acorns and cuttings shall be collected from the immediate area during selected times of the year and used for establishment of seedlings/saplings. This collection system	(3) Develop and submit a monitoring and management plan with final riparian corridor mitigation plan incorporating measures in this mitigation. (4) Enter into a "Streambed Alteration Agreement" (SAA) with the CDFG pursuant to Fish and Game Code 1601 to allow alteration and bridging of creeks under current corridor plans.	to administrative record.		construction.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	shall be a priority as use of on-site material promotes revegetation with native plantings and genetic sustainability within the population. – Require replanting at a ratio of 1:1 for native trees lost that are less than 2 inches in trunk diameter. In general, require a 3:1 (or an amount specified by the resource agencies) replanting for loss of native trees with trunk diameters of 2 inches or greater. Replacement vegetation should be planted in various age and size classes to mimic natural community structure. – Plant a combination of species, primarily focusing on oaks and natives. Trees shall be planted at a combination of sizes, ranging from seedlings on up. Spacing shall range from 5 feet to 15 feet, depending on species, location, and size of initial planting. The final mitigation plan for tree/vegetation planting shall be based on the final roadway design layout. The final mitigation plan shall be submitted prior to approval of a grading permit for improvement plans, whichever occurs first. Prior to implementation, the final plan shall be approved by the Cities of Antioch and Brentwood, Contra Costa County, and CDFG. This plan may include the following components: – A plan identifying existing topography and proposed grading. Grading shall identify proposed excavation and fill as well as earth movement quantities. The grading plan shall also identify final hydrology and drainage supported by engineering				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	calculations. – A planting program that will include selected species consistent with the guidelines established by CDFG. – The final program shall include site construction techniques for resource protection. Techniques shall include fencing around existing trees proposed for preservation at a distance of 1.5 times the distance from the trunk to the dripline, establishment of a root protection zone for trees, and detailed erosion and sediment control measures. – Proposed grade changes within tree root zones shall be reviewed to identify trees that could be jeopardized in the long term (that would die slowly following construction) and implement measures to prevent damage to those trees. – Construction around trees shall be monitored periodically be a qualified ecologist to ensure that trees are not damaged or removed unnecessarily. – A final irrigation plan that will include specifications on installation and a schedule identifying the frequency of irrigation for each selected area. – Long-term irrigation or potential runoff associated with the proposed development shall be diverted away from retained oaks to guard against fungal root infections. – Replacement trees shall be planted as contiguous habitat, and not as isolated,				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	scattered trees, to provide similar community structure and habitat value for wildlife. – The Authority shall provide calculations of 1) riparian woodland directly and indirectly impacted due to Project implementation, 2) riparian woodland retained within the corridor, 3) riparian woodland proposed to be created (this calculation shall not include areas planted with trees not native to the area or trees planted along the roadway), and 4) riparian woodland acquired and preserved as a mitigation area. A monitoring and management plan shall be submitted with the final mitigation plan. This program shall identify monitoring and management techniques for a period of five years (or a period specified by the resource agencies) following implementation. The monitoring and management plan shall include the following components: – The plan shall establish success criteria and describe steps to be taken to replace vegetation not meeting the success criteria. – Plant survival shall be evaluated with field surveys. Trees and shrubs shall be tagged during the first year of implementation, catalogued in a database, and surveyed for survival, growth and vigor. – Monitoring reports are to be prepared annually. At the end of the ten-year monitoring period, a compilation of the annual reports shall be submitted to the Cities of Antioch and Brentwood, Contra Costa County, and to CDFG. The annual				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	reports shall include monitoring data and shall discuss any corrective actions needed and/or taken. At the end of the ten-year monitoring period, the report shall evaluate the success of the mitigation program against the initial goals and purpose. Appropriate corrective action shall be taken if the initial goals and purpose have not been met. In addition to the above measures, the Authority shall enter into a "Streambed Alteration Agreement" (SAA) with CDFG pursuant to Fish and Game Code 1601-1603. This agreement is necessary to allow alteration and bridging of creeks under current corridor plans. CDFG will only grant a SAA once all other permits (for example, Corps, USFWS) and certifications are obtained. Construction would not be permitted by CDFG until a SAA is executed. – A formal creek realignment and revegetation plan should be submitted to CDFG for their review and approval. Such a plan should include planned dimensions of modified watercourses; documentation of use of specific native species of trees, shrubs, and herbs as riparian vegetation; methods for bank stabilization/erosion control both during construction and operational phases; methods for maintaining plantings in a healthy state given the soil characteristics; appropriate contingency plans; maintenance requirements; and monitoring periods and conditions. (Note: species used for the revegetation of individual creeks should be consistent with native species currently occurring along these waterways.) If bank stabilization or flood control measures are				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	deemed necessary, creek modifications should be devised on a creek-by-creek basis. Lining of waterways with concrete should be avoided because of the detrimental effect this has on the aquatic environment. Other techniques that could be used instead of concrete include wood crib walls and rock and earth filled gabions that provide a medium for native plantings. – In addition to the above mitigations, streams and creeks may also be classified as "waters of the US" subject to Corps jurisdiction and would require the above mitigations/permits in addition to those listed under Mitigation Measure III.J.12 above. **(UNAVOIDABLY SIGNIFICANT)**				
III.J.13 Development of the Project would result in a loss of non-native grassland.	III.J.13 Implementation of measures identified under Mitigation Measure III.J.9 would reduce project-related impacts to non-native grasslands to below the level of significance.	See III.J.9 discussion.	See III.J.9 discussion.	See III.J.9 discussion.	See III.J.9 discussion.
III.J.16 Development of the project corridor could facilitate increased growth in eastern Contra Costa County, which could increase significant impacts to biological resources.	III.J.16 Condition approval of any development project in the State Route 4 Bypass area, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, upon provision of mitigation measures to reduce identified biological resource impacts to below the level of significance.	(1) Incorporate mitigation measure into project approval process for the County of Contra Costa or the Cities of Antioch or Brentwood.	(2) Add condition of approval to administrative record.	Authority.	(1) Ongoing.
K. CULTURAL RESOURCES					
III.K.1 Although no archaeological or subsurface cultural resources of significance or potential significance were observed along the segments of the Project accessible to field	III.K.1(a) Retain the services of a qualified archeological consultant to serve as an on-site archeological monitor to provide appropriate consulting services throughout the course of grading and other topographic modification associated with the proposed Project. The principal task of the designated archaeological	(1) Include requirement in construction contract specifications that cultural resources mitigations be observed. (2) Contract a qualified	(1) Review construction contract specifications. (2) Ensure that a qualified archaeological	Authority.	(1) Prior to approval of contract. (2) Prior to commencement of construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
reconnaissance, impacts to undiscovered prehistoric resources could occur through implementation of the Project.	consultant would be to insure that no significant cultural resources of either prehistoric/protohistoric or historic period age or character would suffer adverse impacts as a consequence of planned construction within the Project right-of-way. III.K.1(b) If prehistoric and/or historic cultural resources are discovered during construction work, avoid damaging identified archaeological sites to the extent feasible. Examples of such methods include – avoiding identified archaeological sites, – "capping" or covering identified archaeological sites with a layer of soil before building any homes, roadways, or other structures (capping may be used where the soils to be covered will not suffer serious compaction, the covering materials are not chemically active, the site is one in which the natural processes of deterioration have been effectively arrested, and the site has been recorded), or – deeding identified archaeological sites into permanent conservation easements. III.K.1(c) If archaeological resources are discovered during development, suspend all work in the immediate vicinity (approximately 250 feet) and avoid altering the materials and their context pending site investigation by qualified professionals. Use a qualified archaeologist or cultural resources consultant to assess the materials and determine their significance. If the qualified professional determines that the site will yield new information or important verification of previous	archaeologist. If cultural resources are encountered, (3) Have the archaeological consultant inspect the finding. (4) Carry out recommendations of archaeological consultant regarding appropriate mitigation, including any necessary resource exploration, avoidance, preservation, or excavation.	consultant is contracted. (3) Monitor construction to ensure that archaeologist is consulted when necessary and mitigations are carried out. (4) Add any plans and reports regarding cultural resources affected by the proposed Project to the administrative record.		(3) Monthly during construction period. (4) As plans and reports are generated.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	findings, the sites should not be destroyed. Construction work should not commence again until the qualified professional has been given an opportunity to examine the findings, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of and/or mitigation of adverse impacts to any significant (or potentially significant) cultural resources which have been encountered. III.K.1(d) If avoidance of a discovered important archaeological resource would not be feasible, require an excavation plan. An excavation plan would consist of the methodical excavation of those portions of the site(s) that would be adversely affected. The work should be accomplished within the context of a detailed research design and in accordance with current professional standards. The plan should result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research consideration, should be performed by qualified professionals, and should result in detailed technical reports. III.K.1(e) Allow only a qualified archaeologist or cultural resources consultant to collect any cultural resources discovered in the Project right-of-way. III.K.1(f) Prohibit project personnel from collecting any cultural resources discovered during development of the Project. Prehistoric resources include chert or obsidian flakes, projectile points, mortars and pestles, and dark friable soil containing shell and bone dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls, structures and remains with				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	square nails, and refuse deposits, often in old wells and privies. III.K.1(g) If prehistoric archaeological deposits that include human remains are discovered, notify the County Coroner immediately. If the remains are found to be Native American the Native American Heritage Commission must be notified within 24 hours. The most likely descendant of the deceased Native American will be notified and given the chance to make recommendations for the remains. If no recommendations are made within 24 hours, remains may be reinterred elsewhere on the property. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.				
III.K.2 Construction of the Project could impact adjacent structures, some of which have the potential to qualify for the National Register of Historic Places.	III.K.2 There are a number of structures along Marsh Creek Road that are over 60 years and could possibly qualify for the National Register of Historic Places (NRHP) should they meet the National Register criteria. To be eligible for the NRHP, a property must meet one or more of the four specific criteria to represent a significant theme or pattern in the history, architecture, archaeology, engineering, or culture of an area (36 C.F.R. 60.4 [1989]) (criteria for inclusion in the National Register of Historic Places). These four criteria include properties – that are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A); – that are associated with the lives of persons significant in our past (Criterion B); – that embody the distinctive characteristics of a type, period, or method of construction,	(1) Conduct an evaluation of the eligibility of resources along the Project route for the NRHP. (2) If any properties are found to be eligible, prepare necessary documentation/reports, including an HPCP or an HASR. (3) Carry out any mitigations recommended in HPCP or HASR.	(1-2) Add record of initial eligibility evaluation and any follow-up reports and documentation to the administrative record. (3) Monitor to verify that mitigations are carried out.	Authority.	(1-2) As records/reports are produced. (3) If eligible resources are found, monitor as recommended in reports.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose component may lack individual distinction (Criterion C); or – that have yielded, or may be likely to yield, information important in prehistory or history (Criterion D). These properties may also meet the criteria for inclusion in the California Register of Historic Places, which are – Places associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. – Places associated with the lives of persons important in California or American history. – Places that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic value. – Places which have yielded or may be likely to yield information important in prehistory or history. Should any of these structures meet the criteria and be altered, relocated or demolished by construction of the Project, preparation of an Historic Property Clearance Report (HPCR) would be required under California Law (if there was no Federal involvement), or preparation of an Historic Architectural Survey Report (HASR)				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	would be required under the Section 106 Federal process. Such a study would use the historic overview, photos, and other information developed as part of this report. For historic properties comprising the built environment, mitigation practices under CEQA parallel those undertaken for Federal projects. The abandoned farmstead (Attachment A, number 26) should be recorded and evaluated as a potential historic archaeological site. The Sand Creek Bridge (resource number 25), a small bridge on Sand Creek Road, crosses San Creek in Section 10 TIN R2E MDM near the Project area. This bridge, Caltrans number 28CO174, was rated as a 5 (not significant) on the Caltrans Bridge Inventory (Hope, 1993). Therefore it would not qualify for the NRHP. **(UNAVOIDABLY SIGNIFICANT)**				
L. ENERGY					
III.L.1 Construction of the project would require both direct and indirect expenditures of energy.	III.L.1 Implement the following measures to reduce energy expended in construction and maintenance: – Minimize the number of trips transporting material to and from construction sites. – Turn off truck and construction equipment engines when unneeded for substantial periods, as feasible. – Require that all construction equipment engines be properly tuned. – Encourage ridesharing by construction personnel traveling to and from construction sites. – Plan construction activities so as to	(1) Add measures identified in the mitigation to construction contract specifications.	(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of the construction contract specifications. (2) Monthly during construction period.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	minimize the use of all on-site construction equipment. – Select pavement materials on the basis of their future potential to be recycled. To reduce the energy related to the increase in VMT, the Project under Phase II could include (HOV) lanes and/or bus-only lanes during peak periods. **(UNAVOIDABLY SIGNIFICANT)**				
M. UTILITIES					
III.M.1 The Project would cross major water collection and distribution facilities.	III.M.1 Coordinate with the appropriate public utilities and/or private operators during the Project construction to minimize potential impacts to existing water transmission facilities. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery. Slight revisions to the Bypass Project alignment should be implemented where the revisions would reduce or eliminate impacts to the pipelines for the Los Vaqueros Project. Coordinate with the CCWD Los Vaqueros Project to ensure that the Pipeline is constructed such that the impact from Bypass roadway construction will be minimized. The State Route 4 Bypass Authority will work with CCWD to ensure that the final adopted Bypass alignment will cause minimal impact and disruption to the Pipeline where the two cross. Encase underground pipelines in large diameter concrete pipe, to ensure that the pipelines are not damaged by either construction or operation of the roadway and to protect the roadway in the event of failure. Coordinate with the Vasco Road and Utility	(1) Consult with appropriate public utilities and/or private operators about minimizing impacts to services. (2) Add measures identified in meeting(s) to construction contract specifications.	(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of the construction contract specifications. (2) Monthly during construction period.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	Relocation Project to minimize disruptions to utilities where the expressway would connect to the relocated Vasco Road.				
III.M.3 The Project would cross natural gas pipelines.	III.M.3 Coordinate with the appropriate public utilities and/or private operators during Project construction to minimize potential impacts to existing natural gas pipelines. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery. Coordinate with the Vasco Road and Utility Relocation Project to minimize disruptions to utilities where the expressway would connect to the relocated Vasco Road.	See III.M.1 discussion.	See III.M.1 discussion.	See III.M.1 discussion.	See III.M.1 discussion.
III.M.4 The Project would cross oil pipelines.	III.M.4 Coordinate with the appropriate public utilities and/or private operators during Project construction to minimize potential impacts to existing oil pipelines. Schedule construction so that any facilities that require relocation can be moved without disruptions in bulk service delivery.	See III.M.1 discussion.	See III.M.1 discussion.	See III.M.1 discussion.	See III.M.1 discussion.
III.M.5 The Project could cross proposed sewer lines.	III.M.5 Should proposed sewer lines be scheduled for construction prior to Project construction, establish a formal agreement between the cities of Antioch and Brentwood and the developers to incorporate relocation and/or encasement of the sewer line into the Project construction plan.	See mitigation.	(1) Add a copy of the agreement to administrative record.	Authority, and Cities of Antioch and Brentwood.	(1) Prior to construction.
III.M.7 Construction of the Project could result in interruptions of local deliveries of water and electricity.	III.M.7 Ensure that the public is adequately informed of expected or potential interruptions of local deliveries of water and electricity. Publish notices of construction location, schedule and locations of detours in local newspapers so that public and service providers are informed of activities and the resultant need for temporary rerouting and adjustments to delivery schedules.	(2) Publish public notices of the expected or potential interruptions of public services as identified in mitigation.	(1) Add a copy of public notice to administrative record.	Authority.	(1) Prior to construction.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.M.8 Development of the Project could facilitate increased growth in eastern Contra Costa County, which could generate increased demand for public utilities.	III.M.8 Condition approval of any development project in the Project area upon the provision of adequate utilities. This condition of approval is consistent with the Growth Management Element of the *Contra Costa County General Plan*, which states that the County shall require new development to demonstrate that adequate water quantity and quality and adequate sanitary sewer quantity and quality can be provided. The Growth Management Element also states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and public services. **(UNAVOIDABLY SIGNIFICANT)**	(1) Incorporate mitigation measure into project approval process for the County of Contra Costa.	(2) Add condition of approval to administrative record.	Authority.	(1) Ongoing.
N. PUBLIC SERVICES					
III.N.1 Construction of the Project could temporarily disrupt emergency police response, and could temporarily increase the number of emergency responses.	III.N.1 During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of police services. Notify the police departments of construction schedules. During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the chances that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one land of a roadway is open.	(1) Notify appropriate police departments of construction activities. (2) Add measures identified in mitigation to construction contract specifications.	(2) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (3) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of the construction contract specifications. (2) Monthly during construction period.
III.N.2 Construction of the Project could temporarily disrupt emergency fire response and could temporarily increase the number of emergency responses.	III.N.2 During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of fire services. Notify the fire departments of construction schedules. During construction, ensure that the construction contractor(s) follow standard industry safety	(1) Notify appropriate fire departments of construction activities. (2) Add measures identified in mitigation to construction contract specifications.	(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record.	Authority.	(1) Prior to the approval of the construction contract specifications. (2) Monthly during construction period.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	precautions to guard against on-the-job injuries. Ensure that the contractor(s) take precautions to minimize the risk of accidental fire. Such precautions could include consulting local fire districts, maintaining equipment in good working order, proper storage of flammable materials (including fuels), and keeping water on hand for extinguishing small fires. If water supply is to be disrupted, provide a temporary bypass pipeline to ensure adequate fire flow. During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the chances that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one lane of a roadway is open.		(2) Inspect construction activity periodically; verify compliance.		
III.N.3 Construction of the Project could temporarily disrupt emergency ambulance response and could temporarily increase the number of emergency responses.	III.N.3 During Project construction, coordinate between constructors and public safety providers to minimize or eliminate interference with the provision of emergency medical services. Notify the ambulance services of construction schedules. During construction, ensure that the construction contractor(s) provide traffic control, appropriate warning devices and signals, and public notice to minimize the chances that construction activities could pose a traffic hazard. During construction, maintain two-way traffic on all roads at all times, and use flaggers when only one lane of a roadway is open. During construction, ensure that construction contractor(s) follow standard industry safety precautions to guard against on-the-job injuries.	(1) Notify appropriate fire departments and/or ambulance services of construction activities. (2) Add measures identified in mitigation to construction contract specifications.	(1) Review construction contract specifications to verify incorporation of mitigation measures; add to administrative record. (2) Inspect construction activity periodically; verify compliance.	Authority.	(1) Prior to the approval of construction contract specifications. (2) Monthly during construction period.
III.N.9 Development of the Project could facilitate growth	III.N.9 Condition approval of any development project in the Project area, whether by the	(1) Incorporate mitigation measure into project	(2) Add condition of approval to	Authority.	(1) Ongoing.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
in eastern Contra Costa County, which could generate increased demand for public services.	County or by one or more cities, upon provision of adequate public services. This condition of approval is consistent with the Growth Management Element of the *Contra Costa County General Plan*, which states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and public services. **(UNAVOIDABLY SIGNIFICANT)**	approval process for the County of Contra Costa.	administrative record.		
O. HAZARDOUS AND TOXIC WASTE					
III.O.1 Construction of the Project may expose workers to hazardous materials located at the Brentwood Gun Club. III.O.2 Construction of the Project may expose workers to hazardous materials located on the Laurel Interchange Junk Yard.	III.O.1 – III.O.6 A comprehensive investigation of soil quality at the sites identified in this report shall be done by the County Department of Public Works. The investigation will be done after alignment surveying has been completed but prior to any construction or excavation work in the alignment that would encroach across the identified sites. The soil quality investigation will also include surveying for hazardous wastes that could be found along shoulders of existing roadways, as soils that are excavated during widening of roadways may exhibit hazardous waste characteristics.	See mitigation.	(1) Ensure that surface soil quality investigation is carried out by qualified individual; add results to administrative record.	Authority, (Contra Costa County Department of Public Health Services, environmental division or qualified REA).	(1) Prior to commencement of construction or excavation.
III.O.3 Construction of the Project may expose workers to hazardous materials located at the Neroly Road Debris Dump. III.O.4 Construction of the Project may expose workers to hazardous materials located at the Sand Creek Oil Wells.	The results of such an investigation, together with all available soil reports and chemical analyses shall be submitted to the oversight agency for approval. In order to determine whether contaminants at an impaired site would pose a potential threat to human health and safety or to the environment, the Department of Toxic Substances Control may require a Human Health Screening Evaluation as part of a Preliminary Endangerment Assessment (PEA), as described in the DTSC Preliminary Endangerment Guidance Manual (1994).		(2) Submit investigation results to appropriate regulatory agency.		(2) Prior to commencement of construction or excavation.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
III.O. 5 Construction of the Project may expose workers to hazardous materials at the San Jose Avenue Crude Oil Tank Farm. III.O.6 Construction of the Project may expose workers to hazardous materials related to the private transformers at the Lopez Farm.	The PEA should include the following information: a site description and site history, including a description of past and current site activities and a description of handling procedures for hazardous substances associated with the site business activities; a description of the apparent problem such as documentation of spills or releases, and the results of any sampling and analysis that has been completed to characterize these; a description of potential pathways for exposure to chemicals (such as soil, water and air); a description of any sampling and analysis performed to evaluate the extent of chemicals identified in the soil and/or groundwater; an assessment of the threat to the public health and the environment; an identification of possible remediation strategies; and conclusions and recommendations. Specific details to be included in the PEA are described in the DTSC Preliminary Endangerment Assessment Guidance Manual (1994). As part of the site assessment process, the Public Works Department will collect soil samples at locations to be affected by the project. The number of samples collected would be based on the size of the contaminated site, site activities, and possible transportation or migration routes. Samples might include soil, soil gas, or groundwater, depending on the nature of the contaminants suspected to be present. The Public Works Department shall prepare a soil sampling plan for each identified site prior to initiation of excavation or construction. Each site specific sampling plan shall be submitted to	See mitigation.	(3) If a PEA report is required, ensure that qualified individual prepares PEA according to the DTSC PEA Guidance Manual. Add report to administrative record. (4) Verify approval by the DTSC; add to administrative record. (5) Ensure that surface soil sampling is carried out by qualified individual; add results to administrative record. (6) Prepare a soil sampling plan for each identified site per guidelines in this mitigation. (7) Submit to Contra Costa County, Department of Environmental Health for approval. (8) Verify approval by County.	Authority, DTSC.	(3-8) Prior to construction or excavation.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	the Contra Costa County Department of Environmental Health for approval before sampling begins. The sampling plan shall contain all proposed sampling locations, sample collection procedures, name of the certified laboratory doing the chemical analysis, sample handling procedures, test methodology in conformance with the following analysis protocol, chain of custody requirements, site safety plan, and quality assurance plan to verify the laboratory results. The sampling plan shall also include the reporting format for all laboratory analysis sheets, field logs, Chain of Custody forms and laboratory quality control information. Each sampling plan shall specify that all soil and groundwater chemical analyses shall be performed by a California-certified laboratory, using standard EPA and California chemical testing methods in the following sequence: <u>Metals Analysis</u> (III.O.1 – III.O.3) – For soil samples collected from the Brentwood Gun Club and both the Neroly Road Debris Dump and the Laurel Interchange Junk Yard, a tiered soils analysis approach is required. First Tier – All samples shall be analyzed for Soluble Threshold Limit Concentrations (STLC) under the methodology of the California Waste Extraction Test. All samples shall also be tested for Total Threshold Limit Concentrations (TTLC) of metals. All samples that have a STLC less than the state limit for soluble metals are representative of a non-hazardous soil. All				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	samples with a STLC equal to or greater than the state limit for soluble metals are regulated in California and are subject to additional testing under the provisions of the Federal Resource Conservation and Recovery Act (RCRA). Second Tier – Samples with a STLC equal to or greater than the state limit for soluble metals shall be tested using the Toxicity Characteristic Leaching Procedure (TCLP). Those samples having results above the TCLP threshold are considered representative of RCRA hazardous wastes and must be remediated as such. Those samples having results below the TCLP threshold are California regulated waste and may be disposed of as hazardous waste or reclassified by request as non-hazardous waste for purposes of an identified disposal option. <u>Crude Oil Analysis</u> (III.O.4 – III.O.5) – For soil samples collected from the area of the Sand Creek oil field and the San Jose Tank Farm, soil samples shall be analyzed for total petroleum hydrocarbons and flammability. Soil samples with total petroleum hydrocarbons above 100 parts per million shall be subject to additional characterization for waste classification. Soils with elevated levels of hydrocarbon that can qualify as recycled materials for reprocessing shall be recycled. <u>PCB Analysis</u> (III.O.6) – If the transformers at the Lopez Farm are to				

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	be removed by the Department of Public Works, the transformers shall be tested for the presence of PCB-containing fluids. Soils directly under the transformers shall also be tested for PCBs. <u>Additional Analyses</u> (III.O.1 – III.O.6) – In addition to oil, metals, and PCBs as specified above, sample analysis would very likely include testing for semivolatile organics, total petroleum hydrocarbons as diesel and gasoline, pesticides, asbestos, and pH. Sampling locations of these tests, such as along shoulders of existing roadways, would be specified at the discretion of the oversight agency during preparation of the sampling plans.				
	Using the information generated from the sampling and analysis program, a remedial action plan shall be prepared. If hazardous wastes are identified in soil or groundwater at levels that present a risk to the public, to construction workers, or to the environment, it would be necessary to remediate the site in compliance with applicable laws and regulations prior to construction to reduce the potential for exposing persons to hazardous substances during construction activities. Prior to implementing the remediation, a detailed remediation plan would be developed by the Public Works Department and submitted to regulatory agencies for review to ensure their concurrence with the plans and compliance with applicable laws and regulations. Following remediation of the project site, a report documenting the remedial process would be submitted to the agencies.	See mitigation.	(9) Prepare remedial action plan. (10) Submit to regulatory agencies for review. (11) Prepare report documenting remedial process and submit to regulatory agencies.	Authority.	(9-11) After soil sampling has been completed; prior to construction.
V.A. GROWTH INDUCEMENT					

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
V.A.1 The Bypass Project will induce growth in East Contra Costa County.	V.A.1 The following combination of mitigation measures could reduce the impact of growth inducement. These include – limit allowable development through the General Plan Amendment process at County and local levels; – commit to the development of urban core areas of East County prior to developing open space and agricultural land; – adopt community planning guidelines and design features that promote efficient land use with a high degree of multi-modal accessibility between land uses; – cluster residential units into medium densities to promote use of transit; – develop where transit service is currently available. These combinations of measures could mitigate the impact to a less-than-significant level. However, the lead agency does not have the authority to implement them. Therefore, this impact remains significant and unavoidable. **(UNAVOIDABLY SIGNIFICANT)**	See mitigation.	Ensure that communication is established with the relevant Planning Department regarding new development in Alameda and Contra Costa Counties.	Authority, County and City Planning Departments.	(1) As major developments are proposed.
V.B. CUMULATIVE IMPACTS					
V.B.1 The Bypass project would induce growth in East Contra Costa County. In combination with anticipated *planned* growth, this would be a significant cumulative impact, with attendant secondary cumulative impacts.	V.B.1 Growth in Alameda and Contra Costa Counties outside of planned growth in the general plans of cities and counties would require a General Plan Amendment. Amendments to general plans to control the location, rate, and timing of growth could mitigate land use impact from induced growth. However, because general plan amendments are not within the Bypass Authority's control, this	See mitigation.	Ensure that communication is established with the relevant Planning Department regarding new development in Alameda and Contra Costa Counties.	Authority, County and City Planning Departments.	(1) As major developments are proposed.

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	would remain a significant and unavoidable impact.				
V.B.2 Development of the Project would result in cumulative disruption of established communities through the removal and/or relocation of existing residential and commercial structures within the right-of-way and potential relocation within the contemplated growth areas under general plans. This would be a significant cumulative impact.	V.B.2 Amendments to general plans to control the location, rate, and timing of growth could mitigate potential community disruption. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to land uses, in particular potential community disruption, and would propose mitigation measures. However, because neither general plan amendments nor project-level mitigation is within the Bypass Authority's control, this would remain a significant and unavoidable impact.	See mitigation.	Ensure that communication is established with the relevant Planning Department regarding new development in Alameda and Contra Costa Counties.	Authority, County and City Planning Departments.	(1) As major developments are proposed.
V.B.3 Development of the Project, in combination with anticipated urban development under general plans, would result in direct and secondary removal of prime agricultural land and Farmland of Statewide Importance.	V.B.3 Amendments to general plans to control the location, rate, and timing of growth could mitigate impacts from conversion of prime agricultural lands. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to land uses, in particular conversion of prime agricultural land, and would propose mitigation measures. However, because neither general plan amendments nor project-level mitigation is within the Bypass Authority's control, this would remain a significant and unavoidable impact.	See mitigation.	Ensure that communication is established with the relevant Planning Department regarding new development in Alameda and Contra Costa Counties.	Authority, County and City Planning Departments.	(1) As major developments are proposed.
V.B.4 The development of the Project, by inducing growth in the project area, would contribute to a cumulative increase in population and attendant demand for and availability of housing.	V.B.4 Amendments to general plans to control the location, rate, and timing of growth could mitigate potential impacts to population growth and thus maintain appropriate jobs-housing balances. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to socioeconomics and would propose mitigation measure(s). However,	See mitigation.	Ensure that communication is established with the relevant Planning Department regarding new development in Alameda and Contra Costa Counties.	Authority, County and City Planning Departments.	(1) As major developments are proposed.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	because neither general plan amendments nor project-level mitigation is under the Bypass Authority's control, this would remain a significant and unavoidable impact.				
V.B.5 The Bypass project would contribute to cumulative development, resulting in potential displacement and closure or relocation of commercial land uses including agriculture.	V.B.5 Amendments to general plans to control the location, rate, and timing of growth could mitigate potential impacts to population growth and thus minimize impacts to commercial land uses from development, especially conversion of prime agricultural lands. Similarly, project-level environmental review for each project analyzed as part of this cumulative development scenario would also consider impacts to socioeconomics, including conversion of commercial land uses such as prime agricultural land and would propose mitigation measure(s). However, because neither general plan amendments nor project-level mitigation is under the Bypass Authority's control, this would remain a significant unavoidable impact.	See mitigation.	Ensure that communication is established with the relevant Planning Development regarding new development in Alameda and Contra Costa Counties.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.6 Development of the Bypass project would directly and indirectly, by inducing growth, contribute regional, cumulative loss of open space vistas by introducing visually intrusive urban features into the natural landscape.	V.B.6 To minimize the individual visual impacts of Bypass development, mitigation listed in Table III.1, Impact and Mitigation III.D.1, can be employed; to minimize the visual disruption resulting from introducing urban features into natural landscapes, would require defining and enforcing appropriate general plan policies and ordinances, and identifying aesthetic conditions (mitigation) for individual project plan review, such as set-backs, height and mass limits, landscaping, etc. The Authority does not have control over imposition of these mitigations beyond the Bypass project itself.	See mitigation.	Ensure that communication is established with the relevant Planning Departments regarding new development in Alameda and Contra Costa Counties.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.7 The East County Corridor and other cumulative transportation projects would	V.B.7 Same as proposed in Volume 3, Section III.E (Impact and Mitigation III.E.4). Also see Mitigation V.B.3 above. Otherwise, no	See III.E.4 discussion.	See III.E.4 discussion.	See III.E.4 discussion.	See III.E.4 discussion.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
generally have a beneficial impact on traffic flow on key roadway links and intersections in the study area, except along SR4 west of Lone Tree Way.	mitigation is needed to address the impact of the cumulative transportation projects.				
V.B.8 A new transportation facility through the East County Corridor, including a Toll Road, would not be consistent with the established regional transportation and land use plans for Alameda County.	V.B.8 Prior to considering transportation improvements through the East County Corridor, include the Corridor on appropriate transportation and land use plans. The modification of these plans to include the Corridor would require additional environmental analyses under CEQA and under NEPA if federal funds are involved. However, the Bypass Authority has no authority to implement these changes and the impact would remain significant.	See mitigation.	Ensure that communication is established with MTC and relevant Planning Departments regarding inclusion of the East County Corridor in transportation and land use plans.	Authority, MTC, and City Planning Departments.	(1) As major developments are proposed.
V.B.9 The additional transportation capacity from the Project in conjunction with other cumulative transportation projects, combined with additional proposed development, may hasten or induce development growth to proceed toward allowable levels quicker than would otherwise be the case, particularly as a "free" (i.e. non-toll facility) roadway.	V.B.9 The Authority shall implement mitigation proposed in Volume 3 of the EIR to reduce identified cumulative impacts (2010+) on the State Route 4 Bypass to a less-than-significant level. In addition, Contra Costa County, Caltrans, and Alameda County should coordinate efforts to complete the regional transportation system within the MTC's constrained funding scenario, advancing those projects deemed most beneficial to maintain regional traffic service goals. However, the Bypass Authority lacks the authority to insure that this occurs.	See mitigation.	Ensure that communication is established with MTC and relevant Planning Departments regarding establishment of regional transportation system.	Authority, MTC, and City Planning Departments.	(1) As major developments are proposed.
V.B.10 Cumulative impacts of the Mid-State Toll Road, with or without the East County Corridor (including the Bypass project segment), and with other roadway improvements and additional development, could occur	V.B.10 The only means available to prevent the chronic congestion forecasted for the regional roadways in eastern Contra Costa and Alameda Counties will be to limit not yet approved development, allowing it to occur based on forecasted residual transportation capacity on the transportation network. However, this will require a high degree of inter-regional	See mitigation.	Ensure that communication is established with MTC and relevant Planning Departments regarding transportation and land use plans.	Authority, MTC, and City Planning Departments.	(1) As major developments are proposed.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
causing peak period travel demand to exceed the capacity of most regional routes in eastern Contra Costa and Alameda County.	cooperation; the Bypass Authority lacks the authority to insure that this occurs over time.				
V.B.11 Development of the Bypass project, in combination with the southern segment of the East County Corridor and/or Mid-State Toll Road, would result in a significant cumulative increase in noise levels between Lone Tree Way and Interstate 580 due to redistributing traffic in the East County subregion.	V.B.11 Development of either the Corridor or Mid-State Toll Road would occur only after subsequent environmental review. Additional berms, walls, or increased he3ights to barriers developed as a part of the project may be required to meet FHWA/Caltrans Noise Abatement criteria. However, even assuming that FHWA/Caltrans Noise Abatement criteria are met, significant cumulative noise increases would still occur, particularly in the north Livermore area.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.12 Assuming that commuter service from Oakland to Brentwood would use the Southern Pacific rail line, there could be more extensive noise impacts than those described for the project for residences near the proposed State Route 4/Bypass Interchange in the vicinity of Frandoras Circle. This is because increased rail noise would add cumulatively to the noise level that would increase due to higher future traffic volumes on the proposed Bypass, State Route 4, and the proposed extension of Sunset Drive.	V.B.12 Commuter rail service from Oakland to Brentwood would also occur only after subsequent environmental review; such review would probably provide the basis for additional noise mitigation along the rail line consistent with Federal Transit Administration (FTA) standards and regulations. Additional mitigation could include additional walls and berms, or improved track, but it would be speculative to conclude whether future FTA noise abatement standards and regulations would reduce the cumulative impact to less-than-significant.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.13 Cumulative development, particularly the	V.B.13 Since significant cumulative air quality impacts are regional in nature and apply to two	See mitigation.	Ensure that communication is	MTC, BAAQMD, SVAPPCD, and	(1) As major developments are

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
East County Corridor and Mid-State Toll Road in conjunction with the 2010(+) scenario, would result in additional vehicle trips and/or vehicle miles-traveled (VMT), resulting in additional emissions of ozone precursors [i.e. hydrocarbons (HC) and nitrogen oxides (NO_x)] and respirable particulate matter (PM_{10}).	regions, the San Francisco Bay Area and San Joaquin Valley, the most reasonable approach to mitigation would involve coordinating the activities and decisions of all relevant agencies that affect transportation infrastructure, air quality management, and land use development. These agencies include, among others, the metropolitan Transportation Commission, Contra Costa Transportation Agency, State Route 4 Bypass Authority, San Joaquin counties' regional transportation agencies, air quality regulatory agencies (Bay Area Air Quality Management District and San Joaquin Valley Air Pollution Control District), and local cities and counties.		established with MTC, BAAQMD, SVAPPCD and relevant local Planning Departments regarding air quality emissions from future development.	City Planning Departments.	proposed.
V.B.13 Continued.	Effective, long-term mitigation for cumulative air quality impacts would involve a greater degree of emphasis on air quality concerns from local and county jurisdictions in their land use decisions. This would necessitate local agencies taking a regional view of the effects of their decisions which, historically, has been difficult to do given that the benefits (e.g. increased tax revenue and political power) of development are local and the adverse affects are spread over two wide regions.	See discussion above.	See discussion above.	See discussion above.	See discussion above.
V.B.15 Development assumed in this cumulative analysis would increase the number of people exposed to earthquake-related risks.	V.B.15 Project-level environmental review for each project analyzed as part of this cumulative development scenario would review the hazards (impacts) associated with geology, seismicity and soils and proposed mitigation measures. Mitigation for earthquake-related risks such as avoidance of known fault lines and areas of liquefaction could reduce the magnitude of seismic impacts, but not below the threshold of significance.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.16 Cumulative development would result in	V.B.16 Project-level mitigation for soil-related impacts such as revegetation, replacement of	See mitigation.	Through communication with	Authority, and City Planning	(1) As major developments are

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
removal of vegetation and alterations to drainage and slopes in varying degree. In addition, alteration of existing geologic features and development in areas of high shrink-swell characteristics would continue.	high shrink-swell potential soils with engineered fill and construction standards to avoid soil erosion could reduce project-related and thus cumulative impacts to a less-than-significant level. However, because the Bypass Authority will not have control over environmental review of future projects, this remains a significant unavoidable cumulative impact.		relevant Planning Departments, ensure that project-level mitigation is implemented.	Departments.	proposed.
V.B.17 Cumulative land development assumed in this cumulative analysis, in conjunction with induced growth resulting from the Bypass and other transportation projects, would result in the further alteration of floodplains and flood routing. This would increase the number of people exposed to flood-related hazards, including dam failure.	V.B.17 Mitigation for flood-related risks such as avoidance of high flood areas, designing structures and roadways to withstand 100-year floods and inundation from dam failure, and implementation of flood control measures such as new channels or storm water detention basins could, for individual projects, generally reduce the magnitude of flooding impacts to a less-than-significant level. However, because the Bypass Authority does not have control over environmental review of future projects, this impact remains significant and unavoidable.	See mitigation.	Through communication with relevant Planning Departments, ensure that project level-mitigation is implemented.	Authority, and City Planning Departments	(1) As major developments are proposed.
V.B.18 Construction near existing waterways would contribute to the alteration of existing stream patterns and development in general would alter existing flow patterns of rainfall runoff.	V.B.18 Alteration of existing stream or runoff flow patterns would require permitted approval from the Corps and CDFG on a project-by-project basis. Permits from these agencies generally are not approved without mitigation measures that, for CEQA purposes, would reduce both individual and cumulative impacts to less-than-significant levels. However, because the Authority will not have control over individual permits, this impact remains significant and unavoidable.	See mitigation.	Through communication with the Corps, CDFG, and relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, Corps, CDFG, and City Planning Departments.	(1) As major developments are proposed.
V.B.19 Direct and secondary cumulative impacts to sensitive biological resources, including significant natural communities and special-	V.B.19 Environmental review for specific development projects would identify site specific impacts to biological resources and would propose mitigation. If conditional approval is required for any development project in the State	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level	Authority, and City Planning Departments.	(1) As major developments are proposed.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
status plant and wildlife species in the northeastern area of Contra Costa County, would occur from cumulative development assumed in this analysis.	Route 4 Bypass area, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, upon provision of mitigation measures to reduce identified project-related biological resource impacts to below the level of significance, then the cumulative impact would be reduced to a less-than-significant level. However, since the Bypass Authority does not have direct control over the environmental review of future development projects, the cumulative impacts cited above would be significant and unavoidable.		mitigation is implemented.		
V.B.20 Future development induced by the Project, in combination with build-out of specific long-term development projects (Mountain House, Discovery Bay West, and Cowell Ranch) would result in secondary impacts to significant natural communities and special-status plant and wildlife species in eastern Contra Costa and western San Joaquin Counties. The resources in eastern Contra Costa County are described in Chapters III.J of the DEIR, Volumes 2 and 3. Expansion of the Byron Airport would contribute marginally to this cumulative impact. This would be a significant, cumulative impact.	V.B.20 Same as above.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments	(1) As major developments are proposed.
V.B.21 Cumulative development could have a	V.B.21 Environmental review for specific development projects would identify site specific	See mitigation.	Through communication with	Authority, and City Planning	(1) As major developments are

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
significant impact on unidentified archaeological and cultural resource sites.	impacts to cultural resources and propose mitigation. If conditional approval of any development project in the State Route 4 Bypass area requires, whether by the County of Contra Costa or the Cities of Antioch or Brentwood, provision of mitigation measures to reduce identified project-related cultural resource impacts to below the level of significance, then the cumulative impact would be reduced to a less-than-significant level. However, since the Bypass Authority does not have control of environmental review or permitting of future projects, the impact remains significant and unavoidable.		relevant Planning Departments, ensure that project-level mitigation is implemented.	Departments.	proposed.
V.B.22 Cumulative development would add to the significant impact of increased consumption of non-renewable energy sources through construction and increased vehicular traffic.	See discussion above.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.
V.B.23 Future urban development assumed in this cumulative analysis, in combination with development induced by the Bypass project, would cumulatively contribute to impacts to utilities.	V.B.23 Environmental review for specific development projects would identify impacts to public utilities and propose mitigation. Development projects in Contra Costa County must provide adequate utility services to receive project approval. This condition of approval is consistent with the Growth Management Element of the *Contra Costa County General Plan*, which states that the County shall require new development to demonstrate that adequate water quantity and quality and adequate sewer quantity and quality can be provided. The Growth Management Element also states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the cost of various utilities and	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.

TABLE III.1: STATE ROUTE 4 BYPASS PROJECT MITIGATION MONITORING AND REPORTING PROGRAM (MMRP) CONTINUED

IMPACT	MITIGATION	IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	AGENCY RESPONSIBLE	MONITORING SCHEDULE
	public services. Public utility services are generally handled on a fee-for-service basis, so increased demand would not likely create impacts. After mitigation, the impact to public utilities would be reduced to a less-than-significant level.				
V.B.24 Future development assumed in this cumulative analysis would contribute to impacts to public services.	V.B.24 Environmental review for specific development projects would identify impacts to public services and propose mitigation. Development projects in Alameda and Contra Costa Counties must provide adequate public service to receive project approval. In Contra Costa County, this condition of approval is consistent with the Growth Management Element of the *Contra Costa County General Plan*, which states that the County will adopt a development mitigation program to ensure that new development pay its fair share of the additional costs to public services and utilities. However, developer fees to fund public services, especially new schools, are not guaranteed. Also, the Bypass Authority has no control over payment of developer fees to local jurisdictions for other cumulative projects considered. Therefore, the impact to public services would remain significant and unavoidable.	See mitigation.	Through communication with relevant Planning Departments, ensure that project-level mitigation is implemented.	Authority, and City Planning Departments.	(1) As major developments are proposed.

APPENDIX B
Biological Assessment

BIOLOGICAL RESOURCES ASSESSMENT
SR 160 / SR 4 Bypass Phase 2 Connectors

Antioch, Contra Costa County, California

August 2010

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1. INTRODUCTION

This report is a biological resources assessment of the proposed State Route 160/ State Route 4 Bypass Phase 2 Connectors. The assessment and report serves as an addendum to the 1994 SR4 Bypass Programmatic EIR. The assessment determined whether the project will have any effect on special-status plants and wildlife or agency jurisdictional wetlands and supports an application for project implementation in compliance with the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP). The report also addresses biological resources as required by the California Environmental Quality Act (CEQA), and determines if there any permits required from other agencies such as the U.S. Army Corps of Engineers (USACE), California Department of Fish Game (CDFG) or the Regional Water Quality Control Board (RWQCB). In this analysis process, the assessment compared any potential impacts from the proposed work with those analyzed in the previous document to determine if there were any significant new impacts that were not previously addressed. The resulting study showed that while changes in the assessment process and mitigation procedures occurred, they were still within the general scope of the previous analysis.

1.1 PROJECT LOCATION AND DESCRIPTION

Location

The project work is located in east Antioch at its border with the City of Oakley. The site corresponds to latitude 37◦ 59’ 39” north, and longitude 121◦ 45’ 27” west (Figure 1- *Site and Vicinity*).

Project description

The project will construct a freeway to freeway connector in each direction between the SR 4 Bypass and SR 160, the approach to the Antioch Bridge.

North bound connector

The north bound connector ramp exits from West bound SR 4 Bypass using standard freeway to freeway connector geometry, widening to two lanes for approximately 1200 feet crossing over the Union Pacific Railroad (UPRR) right of way. The second lane will be dropped right before connecting to the existing east bound SR 4 to north bound SR 160 connector without ramp metering. The project will add one additional lane to the outside north underneath the Oakley Road Overcrossing extending approximately 3000 feet and exiting at the SR 160/E. 18th/Main Street interchange. Sound wall will be constructed along this ramp connecting to the existing sound wall on the SR 4 Bypass and extending up to Oakley Road.

South bound connector

The southbound SR 160 will be widened by one lane to the outside starting at the SR 160/E.18th/Main Street Interchange, extending 1400 feet under the Oakley Road Overcrossing to a standard freeway to freeway connector diverge geometry for south bound SR 160 to West bound SR 4. The mainline SR 160 to east bound SR 4 Bypass widens to two lanes immediately after the west bound SR4 exit rising up and crossing over the UPRR right of way, the east bound SR 4 to north bound SR 160 connector and then the SR 4 Bypass and extending approximately 3300 feet before dropping a lane at the ramp metering limit line and then merging into the east bound SR 4 Bypass (Figure 2-*Project Plan*).

2.0 STUDY METHODS

2.1 REVIEW OF BACKGROUND INFORMATION

The following studies and information sources were reviewed in preparation of this document.

California Department of Fish and Game, July 2010. Natural Diversity Database, Brentwood, Oakley, Antioch North and Antioch South quads. California Department of Fish and Game Natural Heritage Division. Sacramento, California.

California Department of Fish and Game. 1995. Staff Report on burrowing Owl Mitigation. The Resources Agency, October 17, 1995.

City of Antioch, April 2009. Hillcrest Station Area Specific Plan, Antioch, California.

East Contra Costa County Habitat Conservancy. East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan. 2007.

ESA. 1994b. State Route 4 Bypass Project, Final Programmatic Environmental Impact Report. State Route 4 Bypass Authority, Martinez, CA SCH# 89032824.

ESA, 1999. State Route 4 Bypass Project, Biological Assessment. State Route 4 Bypass Authority, Martinez, CA . January.

Jennings, M.R. Special-Status Reptiles and Amphibians, California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA under contract (8023).

Loeke. D. Biological Resources Assessment, SR 4 Bypass Road Segments 1 and 3. 1993.

Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. May 31.

U.S, Fish and Wildlife Service, Sacramento Field Office. 1999. San Joaquin Kit Fox Survey Protocol for the Northern Range. June.

U.S. Fish and Wildlife Service, Sacramento Field Office. 1999. Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. June

U.S. Fish and Wildlife Service. 2003. Interim Guidance on site Assessment and field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander. October.

U.S. Fish and Wildlife Service. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. August.

2.2 FIELD RECONNAISSANCE

Randall Long of RCL Ecology performed reconnaissance planning surveys of the project area on August 3 and August 9, 2010. During these surveys cover types were mapped with special attention for the occurrence of habitats for special-status plants and animals, wetlands and other natural communities.

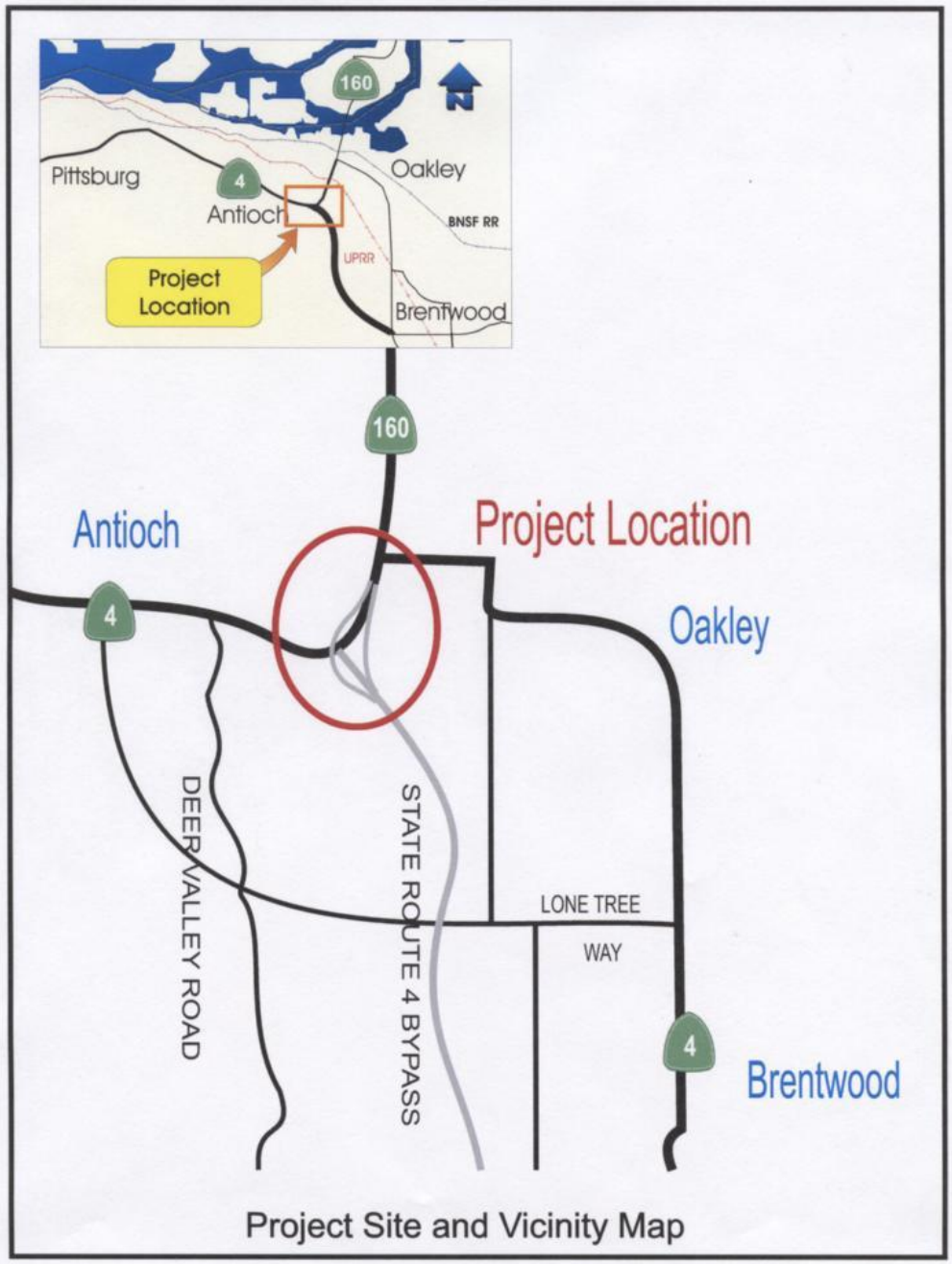
3.0 ENVIRONMENTAL SETTING

3.1 SETTING

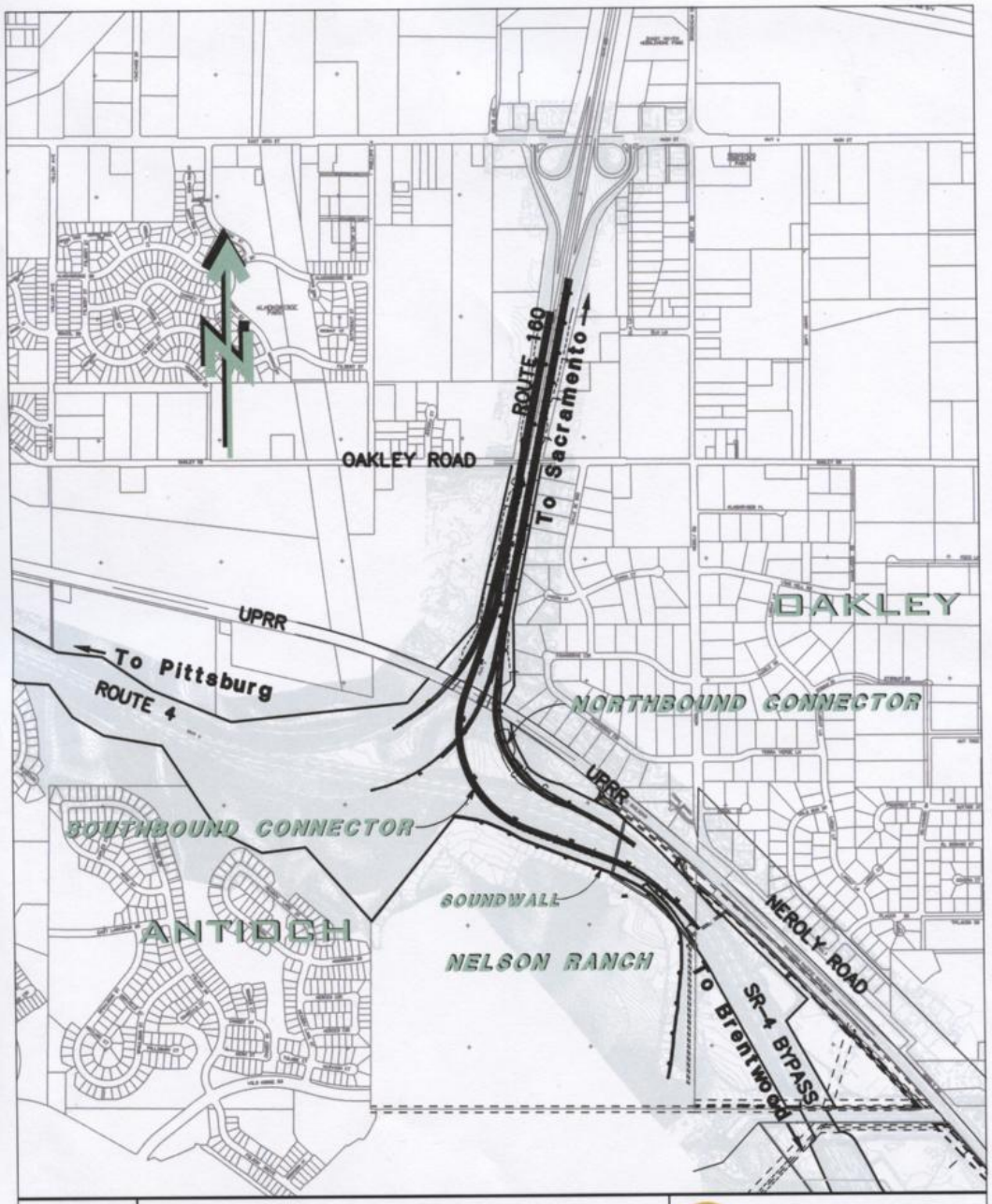
The project area is a narrow north-south linear corridor composed of ruderal and non-native annual grassland with concrete roadway and bridges that crossover the UPRR tracks and a piped portion of East Antioch Creek. The site was heavily graded for previous development and consists of nearly flat road grades with engineered side slopes and adjacent rolling topography. The area is primarily bordered on the west by undeveloped land; on the east by residential properties and vineyards; on the north by SR 160; and on the south by the SR 4 Bypass.

3.2 HYDROLOGY

Drainage from both portions of the project area flows to East Antioch Creek and on to the Delta. Drainage from the new connectors would flow in a similar manner through created bioswales to filter the water before it enters the Creek.



Project Site and Vicinity Map



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DATE: AUGUST 2010
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SR-4 BYPASS SR-4/160 CONNECTORS
FIGURE 2: PROJECT PLAN

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3.3 LAND COVER TYPES AND VEGETATION

The following description of the vegetative communities follows the Land Cover Types described in the HCP/NCCP. Land Cover in the project area consists of ruderal and non-native annual grassland and urban cover types. These land cover types are shown in Figure 3.

Ruderal

Ruderal vegetation is characterized by sparse nonnative, weedy plants on disturbed sites. Common species area consist of black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), bur clover (*Medicago polymorpha)*, and sour clover (*Melilotus indica*).

Grassland

Annual grassland is characterized by grass and forb species dominating the land cove where trees and shrubs comprise less than 5 percent canopy cover. Common grasses in this type consist of wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), and Italian ryegrass (*Lolium multiflorum*).

Urban

The urban cover type within the project area consists of the existing concrete roadways and bridges connecting SR 4 to east bound SR 4 Bypass and SR 4 to north bound SR 160.

Trees

Trees consist primarily of planted non-native small to mid-sized eucalyptus (*Eucalyptus* sp.) occurring sparsely along both sides of the SR 160 ROW from the UPPR tracks north to Oakley Road. Other trees include a few orchard escapes (olive and almond) and one native interior live oak (*Quercus wislizeni*).

4.0 HABITAT ANALYSIS AND RESULTS

ANALYSIS

Special-Status Species

No new plants have been recorded from the general area since the 1994 study. In regard to wildlife, the California tiger salamander was upgraded to federal listing as threatened in 2004 and a new record of Swainson's hawk nesting was noted on lands to the west of the project area. Other species analysis procedures such as standardized site assessment guidelines have been updated for the California red-legged frog, California tiger salamander, and western burrowing owl since the 19994 study, and the HCP/NCCP was approved in 2007.

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DATE: AUGUST 2010
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LEGEND:
- GRASSLAND
- RUDERAL
- URBAN

SR-4 BYPASS SR-4/160 CONNECTORS
FIGURE 3: LAND COVER MAP

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HCP/NCCP

A change occurred in the surveys, evaluation, mitigation and compensation process with implementation of the HCP/NCCP that utilizes a standard process for procedures to determine project affects on 'covered' species and to minimize the potential for 'incidental take' of those these species during project implantation. Covered species are certain federal or State listed threatened or endangered wildlife, other federal and State protected raptors, and extremely rare 'no take' plants that have been peen predetermined to potentially occur within the HCP/NCCP plan area based on pre-modeling of land cover types. The term covered refers to being included with the regional Incidental Take permit granted by the USFWS and the CDFG as part of the HCP/NCCP implementation process.

Using the above process, 'Planning Surveys' are required to determine whether breeding habitat actually occurs with the project site for each of the covered species excluding those species where habitat is absent. The results of the planning surveys are used to determine if preconstruction surveys and construction monitoring will be required in order to minimize the potential for Incidental Take.

While this process evaluates affects on covered species, additional special-status species not 'covered' under the HCP/NCCP were also evaluated under CEQA requirements.

RESULTS

4.1 SENSITIVE NATURAL COMMUNITIES

No uncommon vegetation or uncommon landscape features as listed in the HCP/NCCP occur on the site.

4.2 MOVEMENT COORIDORS AND HABITAT FRAGMENTATION

The East Antioch Creek drainage likely serves as a movement corridor providing habitat for wildlife travel between the upper and lower sections of the watershed. The existing connector bridges located approximately 80-100 feet above the base of the corridor do not restrict wildlife movement and since the proposed bridges would be similarly located, no negative effect on wildlife movement is anticipated. In addition, as the new bridges would be located in similar orientation with the existing bridges, they would not contribute to habitat fragmentation.

4.3 SPECIAL-STATUS PLANTS

The CNDDB listsTwenty nine (29) special-status plants as occurring within the nine quadrangles adjacent to the *Antioch South*, quadrangle. Appendix A lists these species, describes their habitats and their potential for their occurrence within the project area.

The HCP/NCCP lists eleven (11) species of covered and no-take plants as occurring in annual grassland. These species, their blooming season and potential to occur are shown in Table 1.

Table 1
'Covered' and 'No Take' Plants with Potential to Occur in Annual Grassland

LAND COVER TYPE	SPECIES	HCP STATUS C=COVERED N=NO TAKE	HABITAT PRESENT	BLOOMING PERIOD
√ Annual grassland	San Joaquin spearscale (*Atriplex joaquiniana*)	C	No	Apr–Oct
	Alkali milkvetch (*Astragalus tener* ssp. *tener*)	N	No	Mar–Jun
	Big tarplant (*Blepharizonia plumosa*)	C	No	Jul–Oct
	Brewer's dwarf flax (*Hesperolinon breweri*)	C	No	May–Jul
	Contra Costa goldfields (*Lasthenia conjugens*)	N	No	Mar–Jun
	Diamond-petaled poppy (*Eschscholzia rhombipetala*)	N	No	Mar–Apr
	Large-flowered fiddleneck (*Amsinckia grandiflora*)	N	No	Apr–May
	Mount Diablo buckwheat (*Eriogonum truncatum*)	N	No	Apr–Sep; uncommonly Nov–Dec
	Mount Diablo fairy-lantern (*Calochortus pulchellus*)	C	No	Apr–Jun
	Round-leaved filaree (*California macrophylla*)[1]	C	No	Mar–May
	Showy madia (*Madia radiata*)	C	No	Mar–May

Protocol plant surveys were conducted within all three segments of the SR 4 Bypass Road during preparation of the Programmatic EIR in 1994 and for the Biological Assessment for Segments 1 and 3 in 1993. In addition, RCL Ecology conducted protocol surveys for the Hillcrest Station Specific Plan area directly adjacent to the western boundary of the project area in 2005 and 2008. All four of these surveys were negative for the occurrence of covered and no take species as well as the other special-status plants. Based on the above surveys as well as the reconnaissance surveys conducted for this report, habitat for the above species does not occur on the project area. Therefore, this report concludes that the covered, no take and other special-status plants are absent from the project site.

4.4 SPECIAL-STATUS WILDLIFE

Based on the analysis of the CNDDB and habitat surveys of the site (7) species were determined to have the potential to occur within the study area. Their HCP and other listing status is shown in Table 2. A complete list of species considered for occurrence and their habitat requirements is shown at Appendix B.

Table 2 – Special-Status Wildlife with Potential to Occur on the Project Site

SPECIES	LISTING STATUS	HCP/NCCP STATUS	POTENTIAL FOR OCCURRENCE
Accipiter cooperii Cooper's hawk	Fed: MB CA:WL	_	Observed flying over the area.
Athene cunicularia Western burrowing owl	Fed: MB CA: SSC	Covered	Present
Elanus leucurus White-tailed kite	Fed: MB CA: FP	Covered, No Take	Possible
Eremophila alpestris actia California horned lark	Fed: MB CA: WL	_	Possible
Falco columbarius Merlin	Fed: MB CA: WL	_	Possible
Lanius ludovicianus Loggerhead shrike	Fed: MB CA: SSC	_	Possible
Vulpes macrotis mutica San Joaquin kit fox	Fed: FE CA: ST	Covered	Possible

Index to Codes:

MB – Protected under the federal Migratory Bird Treaty Act
WL – State watch list
FT - Federally listed Threatened
SSC State special concern
FP - State fully protected
FE – Federally listed Endangered
ST – State listed Threatened
CH - Critical habitat has been designated for this species
SA- State Special Animal

4.4.1 HCP/NCCP PLANNING SURVEYS

Table 3 Covered and No Take Wildlife Species – Planning Survey Results

LAND COVER TYPE	SPECIES	PLANNING SURVEY REQUIREMENTS	PLANNING SURVEY RESULTS
Annual Grassland	San Joaquin kit fox Burrowing owl	Identify/map potential Identify/map potential habitat	No suitable burrows Habitat present
All land cover types: Ruderal	Townsend's big-eared bat Golden eagle	Map/document potential breeding habitat. Document/map potential nests	No habitat present No nesting habitat.

Urban			
Any land cover type	American peregrine falcon	Identify/map potential nesting habitat	No peregrine nests on bridges
Riparian	White-tailed kite	Identify/map potential nesting habitat	No nests identified. Nesting habitat present.
Riparian	Ringtail	Identify/map potential breeding habitat.	No habitat present.

4.4.2 PLANNING SURVEYS SUMMARY: COVERED, NO TAKE, and OTHER PROTECTED SPECIES.

Planning surveys found that breeding habitat occurs for the western burrowing owl and potential breeding habitat exists for the San Joaquin kit fox and the white-tailed kite as discussed below.

San Joaquin Kit Fox

One suitable sized (e.g. 5-inches in diameter or greater) burrow was found during the surveys. While no sign of SJKF was seen at the burrow, it could serve as a den. Therefore, preconstruction surveys for SJKF will be conducted.

Western Burrowing Owl

A freshly killed California vole was seen at the entrance to a burrow indicating the presence of burrowing owls. Therefore, preconstruction surveys will be conducted. Should burrowing owls be found outside of the nesting season passive eviction techniques will be used to clear the area of owls before the start of construction. Should nesting be found during the nesting season the site will be buffered by the required 160-feet radius buffer and the site monitored by a qualified biologist until the young have fledged and are foraging on their own.

White–Tailed Kite

The eucalyptus trees along SR 160 could furnish nesting habitat for the white-tailed kite and other tree nesting birds. Therefore, in order to avoid any potential effects on white-tailed kite or other potential nesting tree removal will take place outside of the nesting season (February 1-August 31). If this is not possible, a preconstruction nest survey will be conducted by a USFWS/CDFG-approved biologist within 14 days of start of construction. If nests are found, the biologist will flag off a suitable buffer that will remain until the young have fledged as determined by the biologist. After fledging is determined the nest tree can be removed and construction can proceed within that area.

5.0 CONSERVATION MEASURES (HCP/NCCP Chapter 6, Section 6.4.3)

5.1 COVERED AND NO TAKE SPECIES.

San Joaquin kit fox

Preconstruction Surveys

Prior to any ground disturbance related to covered activities, a USFWS/CDFG-approved biologist will conduct a preconstruction survey of the project area. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (U.S. Fish and Wildlife Service 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. Within the ROW for the proposed project, the biologist will survey the proposed disturbance footprint and a 250-radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the avoidance and minimization measures described in the section below will be implemented.

Avoidance and Minimization Measures

If a San Joaquin kit fox is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFG-approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. Unoccupied dens will be destroyed immediately to prevent subsequent use. If a natal den or pupping den is found, USFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG. If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternately, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e. during the animals' normal foraging activities).

Construction Monitoring

If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100

feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

Western Burrowing Owl

Prior to the start of the breeding season (February 1), a USFWS/CDFG-approved biologist will conduct preconstruction surveys of the project area to determine the presence of burrowing owls. If present, the birds will be evicted from the site using passive relocation techniques. The site will then be continuously monitored until the start of construction in order to ensure that owls do not reoccupy the area. All surveys and passive relocation will be carried out in accordance with CDFG survey guidelines (California Department of Fish and Game 1993). Passive relocation procedures include installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows will be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure will be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

White-tailed Kite

If project construction begins during the breeding season (February 1- August 31), preconstruction surveys should be conducted within the project area and a 300-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, or surface-disturbing activities. If no active nests are found within the project footprint and a 300-foot buffer, no further mitigation is necessary.

If active nests (i.e. nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the project footprint, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist, Buffer size should be determined in cooperation with the California Department of Fish and Game and the U. S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the California Department of Fish and Game and the U.S. Fish and Wildlife Service should be contacted for further guidance.

5.2 OTHER PROTECTED SPECIES

State protected birds

Four birds with potential to occur on the site are listed on the State watch list or are of State special concern. These include birds of prey, the merlin, Cooper's hawk, and loggerhead shrike; as well as a songbird the California horned lark. The following

avoidance and minimization measure is recommended to avoid any impact to these species.

Avoidance and minimization

If project construction begins during the breeding season (February 1- August 31), preconstruction surveys will be conducted within the project area and a 300-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, or surface-disturbing activities. If no active nests are found within the project footprint and a 300-foot buffer, no further mitigation is necessary.

If active nests (i.e. nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the project footprint, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist, Buffer size should be determined in cooperation with the California Department of Fish and Game and the U. S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the California Department of Fish and Game and the U.S. Fish and Wildlife Service should be contacted for further guidance.

Birds Protected under the Federal Migratory Treaty Act

Cliff swallow

Cliff swallow nests are present beneath the existing bridges. However, the nests are located at approximately 80-100 feet above the ground and due to their extreme height are not expected to be affected by project activity.

Avoidance and Minimization

A USFWS/CDFG-approved biologist will monitor swallow behavior during the nesting season (March 1-September 31) to determine if project actions are disturbing nest activity. If disturbance is detected the biologist will flag off a non-disturbance buffer area that will remain until the biologist determines that the young have fledged and our foraging on their own.

5.3 GENERAL AVOIDANCE AND MINIMIZATION MEASURES

- A biological monitor should be on site during all construction activity near sensitive habitat to ensure implementation of, and compliance with all avoidance measures.

- Prior to the start of construction the biological monitor will flag environmentally sensitive (ESA) area boundaries so that fencing can be erectedto protect these features. The biological monitor will inspect the fence to ensure correct placement and monitor the fence to ensure it remains in good condition throughout the construction period.

- The biological monitor will conduct Worker Environmental Awareness Training for all construction crews and contractors. The education training should be conducted prior to starting work on the project and upon the arrival of any new worker. The training should include a review of sensitive areas and avoidance and minimization measures to be employed to protect the covered and no take species. A record of all personnel trained during the project should be maintained for compliance verification.

- Staging areas and access routes through the project will be reviewed by the biological monitor to ensure that they do not impact any sensitive areas.

6.0 PERMITTING

6.1 FEDERAL AND STATE AGENCY PERMITTING

Following is a description of federal and State agency permitting framework covering the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB) California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service, and the State Water Resources Control Board. The regulatory authority of these agencies and permitting process is discussed below.

U.S. ARMY CORPS OF ENGINEERS

The USACE regulates fill of waters of the U.S. pursuant to Section 404 of the federal Clean Water Act. "Waters" include features such as creeks, ditches, channels, ponds, marshes, certain riparian woodlands, and seasonally flooded areas. Marshes, riparian woodlands, and seasonally flooded areas are also known as wetlands. The USACE generally uses two types of processes for issuing 404 permits dependent on the amount of fill proposed. These are the Individual Permit and the Nationwide Permit.

Nationwide Permit

Under the Nationwide Permit program the USACE uses general conditions for permitting projects that have minimal individual and cumulative adverse affects on waters or wetlands. Generally, this process is limited to projects that would cause no more than ½-acre of fill and no more than 300 feet of piping.

Individual Permit

Proposed development resulting in the fill of greater than ½-acre or more than 300 feet of piping requires a standard Individual Permit from the USACE. This type of permit requires a more comprehensive process including public involvement and interagency coordination pursuant to compliance with the National Environmental Policy Act (NEPA).

Regardless of the permit required, the USACE requires the proponent to demonstrate how avoidance and mitigation measures were used to reduce biological impacts during project planning. Therefore, careful project design and efforts to avoid and minimize impacts to waters/wetlands and other resources can streamline the permitting process.

CALIFORNIA DEPARTMENT OF FISH AND GAME

The CDFG exercises jurisdiction over wetland and riparian resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1600 to 1607. The CDFG has the authority to regulate work that will substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. California Department of Fish and Game's jurisdictional area along a river, stream or creek is usually bounded by the top-of-bank or the outermost edges of riparian vegetation.

Prior to undertaking any activity that will impact any of the above biological resources, a *Lake or Streambed Alteration Agreemen*t (1602) must be obtained from CDFG. An application for a Streambed Alteration Agreement requires a complete project description, a biological assessment of the project site, hydrology report, analyses of direct, indirect and cumulative impacts, a technically-defensible biological mitigation and monitoring plan, documentation of alternatives analysis and efforts to avoid and minimize adverse impacts, a relevant California Environmental Quality Act (CEQA) document, and a Notice of Determination (NOD) that demonstrates the project has complied with CEQA.

The CDFG Code also requires protection of nesting raptors (birds of prey) and the California Endangered Species Act requires mitigation and compensation for project effects on listed species. These concerns are addressed during CDFG review of the projects' CEQA document.

REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the Clean Water Act and EPA 404 (b) (1) Guidelines, an applicant for a federal permit to conduct any activity which may result in discharge into e waters or wetlands must obtain a water quality certification from the Regional Water Quality Control Board (RWQCB) that such discharge will comply with the state water quality standards (Cal. Code Regs. tit. 23, §§3830 *et seq*.). The RWQCB has a policy of no-net-loss of wetlands in effect and typically requires a 2:1 compensation to impact ratio. The RWQCB application also requires inclusion of a copy of the approved CEQA document and the Notice of Determination.

0When reviewing applications, the RWQCB focuses on ensuring that project discharge does not adversely affect the downstream "beneficial uses" associated with waters of the state. Two major requirements of the RWQCB are that (1) Project discharge cannot exceed pre-project flows; (2) Discharge from the project site is to be treated to filter sediment and other pollutants before entering off-site waters. Treatment is applied by incorporating Best Management Practices (BMPs) into the project design. These measures include detention ponds, grassy swales, sand filters, modified roof drains, artificial filters, and vegetated buffers between development and water features. Proper integration of these and other features into project design will greatly decrease the necessary negotiation with RWQCB and speed the project approval process.

U.S. FISH AND WILDLIFE SERVICE

The Federal Endangered Species Act (FESA) requires that actions authorized, funded or carried out by federal agencies do not jeopardize the continued existence of federally listed species or adversely modify designated Critical Habitat for such species. If a federal agency determines that a proposed federal action (*i.e.*, issuance of a Clean Water Act Section 404 permit for wetland fill) "may affect" a listed species and/or designated Critical Habitat, the agency must consult with the USFWS in accordance with Section 7 of the FESA. The USFWS requires that the applicant furnish a Biological Assessment of the impacts and proposed mitigation in order for them to start the consultation process. This document, as well as a complete copy of the application is provided to the USACE for forwarding to the USFWS. The USFWS has 135 days in which to render their 'Biological Opinion' regarding project affects on the listed species. The Biological Opinion evaluates the potential impacts and proposed mitigation to determine if the action will "Jeopardize the Continued Existence of the Species". If the USFWS believes that there is "Jeopardy" they often present conditions that become integrated into the USACE permit to avoid "Jeopardy". If no such conditions are known, the USFWS will issue a "Jeopardy" Opinion. The USACE cannot grant the 404 permit for the development if a "Jeopardy" Opinion has been issued. At that point, the applicant would need to further modify project plans to further avoid impacts and reenter consultation to see if these changes would eliminate the "Jeopardy".

STATE WATER RESOURCES CONTROL BOARD (SWRCB)

The SWRCB regulates water runoff from land development under authority of the National Pollution Discharge Elimination System (NPDES) permitting process.

Storm Water Discharge

Three actions will be required under NPDES procedures as discussed below.

1.) File Notice of Intent (NOI) to comply with the State General Plan for Storm Water discharge.

2.) Prepare a Storm Water Pollution Prevention Plan (SWPPP)

All projects disturbing one acre of more of land must provide a SWPPP describing the Best Management Practices (BMPs) that will be used to minimize sediment and other pollutants from draining from the project site during the construction phase.

3.) Prepare a Storm Water Control Plan per the Contra Costa County Clean Water Program (C-3 handbook). Projects that create or replace more than one acre of impervious area are required to prepare the above plan that contains the details of design and monitoring of storm water control facilities both during and post-construction.

6.2 LOCAL PERMITTING

HCP/NCCP IMPLEMENTING AGENCY COMPLIANCE

Under the terms of the HCP/NCCP the project applicant must make application to the East Contra County Habitat Conservancy to receive take authorization under the federal and state permits for the covered species under the Plan. This process is accomplished concurrently with submittal of the CEQA document and must include the following information.

- A Planning Survey Report documenting the methods and results of required planning surveys, the methods of applicable preconstruction surveys, and the methods of applicable construction monitoring.

- A verified wetland delineation report is also required if jurisdictional wetland and waters are present on site.

- Documentation of how applicable avoidance and minimization requirements have been incorporated into the proposed project.

The HCP/NCCP application review agency will then grant take authorization for the project once the following conditions have been met.

- The HCP/NCCP permit application is deemed complete.
- The required fees have been paid.
- The permit terms and conditions have been set.
- The HCP/NCCP application review agency makes a determination of consistency with the HCP/NCCP.

SUMMARY

As the current project will avoid impact to waters and wetlands permits from the USACE 404 (Fill of waters and wetlands); RWQCB 401 (Water Quality Certification), and CDFG (Streambed Alteration Agreement) will not be required.

However, the project will need to comply with the National Pollution Discharge Elimination System (NPDES) permit requirements of the California State Water

Resources Control Board and the requirement for preparation of a Storm Water Pollution Prevention Plan (SWPPP) as required by the RWQCB under the Contra Costa County Storm water Management Plan (CCCSWMP) Section C-3.

In addition, the project will require approval by the East Contra Costa County Habitat Conservancy under the terms of the HCP/NCCP (See the HCP Planning Study Report for further details).

7.0 COMPENSATION

Compensation for the project impact on land cover will be accomplished by payment into the HCP/NCCP Development fee fund. Fee amounts and further explanation can be found in the Planning Survey Report document.

8.0 APPENDICES

APPENDIX A

Special-Status Plants Potential for Occurrence at the Project Site

APPENDIX A

SPECIAL-STATUS PLANTS
POTENTIAL FOR OCCURRENCE AT THE
PROJECT SITE

Family **Scientific Name** **Common Name**	**Status**[1]		**Habitat Affinities and Reported Localities in the Project Area**	**Blooming Period/ Life Form**	**Habitat** **Present/Absent**
Apiaceae					
Lilaeopsis masonii Mason's lilaeopsis	Federal State CNPS	SC CR 1B:2-2-3	Intertidal brackish and freshwater marshes along stream banks. Recorded in the San Joaquin and Sacramento River Delta and lower Napa River channel.	April-Oct Perennial herb	Absent
Asteraceae					
Aster lentus Suisun Marsh aster	Federal State CNPS	SC CEQA 1B:2-2-3	Freshwater and brackish marshes. Known from the Napa River and San Joaquin/Sacramento River Delta.	May-Nov Perennial herb	Absent
Balsamorhiza macrolepis var. *macrolepis* big-scale balsamroot	Federal State CNPS	none CEQA 1B:2-2-3	Cismontane woodland, Valley/foothill grassland, sometimes on serpentinite. Occurs from the Bay Area to the northern Sacramento Valley and Sierra foothills.	March-June Perennial herb	Absent, would have been detectable

Blepharizonia plumosa ssp. *plumosa* big tarplant	Federal State CNPS	none CEQA 1B:3-3-3	Valley/foothill grasslands, on dry sites. Extant in Alameda and Contra Costa counties. Believed extirpated in San Joaquin, Stanislaus and Solano counties.	July-Oct Annual herb	Absent,would have been detectable
Helianthella castanea Diablo helianthella	Federal State CNPS	SC CEQA 1B:3-2-3	Broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and Valley/foothill grassland. Occurs in Alameda, Contra Costa and San Mateo counties; presumed extirpated in Marin and San Francisco counties.	April-June Perennial herb	Absent
Isocoma arguta Carquinez goldenbush	Federal State CNPS	SC CEQA 1B:3-3-3	Valley/foothill grasslands, on alkaline sites. Restricted to Contra Costa and Solano counties in the vicinity of the Carquinez Straits.	Aug-Dec Perennial shrub	Absent
Lasthenia conjugens Contra Costa goldfields	Federal State CNPS	FE CEQA 1B:3-3-3	Mesic sites in Valley/foothill grassland, vernal pools. Restricted to Napa and Solano counties; presumed extirpated in Alameda, Contra Costa, Mendocino, Santa Barbara and Santa Clara counties.	Mar-June Annual herb	Absent, would have been detectable
Madia radiata showy madia	Federal State CNPS	none CEQA 1B:2-3-3	Valley/foothill grasslands below 250 feet, and cismontane woodland. Occurs throughout the Central Coast and Central Valley. Presumed extirpated in Contra Costa County.	March-May Annual herb	Absent, would have been detectable
Senecio aphanactis rayless ragwort	Federal State CNPS	none CEQA 2:3-2-1	Coastal scrub and cismontane woodland on alkaline soils. Known from the South Coast, Central Coast, Central Valley and San Francisco Bay.	Jan-April Annual herb	Absent, would have been detectable

Boraginaceae

Amsinckia grandiflora large-flowered fiddleneck	Federal State CNPS	FE CE 1B:3-3-3	Cismontane woodland, Valley/foothill grassland. Known from only three natural occurrences in Alameda, Contra Costa and San Joaquin counties.	April-May Annual herb	Absent, would have been detectable
Plagiobothrys hystriculus bearded popcorn-flower	Federal State CNPS	none CEQA 1A	Vernal pools and mesic Valley/foothill grassland. Presumed extinct. Endemic to Solano County.	April-May Annual herb	Absent,would have been detectable
Brassicaceae					
Erysimum capitatum ssp. *angustatum* Contra Costa wallflower	Federal State CNPS	FE CE 1B:3-3-3	Stabilized interior dunes. Known from only two occurrences on the dunes east of Antioch, along the San Joaquin River.	Mar-July Perennial herb	Absent. would have been detectable
Tropidocarpum capparideum caper-fruited tropidocarpum	Federal State CNPS	SC CEQA 1A	Valley/foothill grasslands (alkaline hills). Known historically from Alameda, Contra Costa, Glenn, Monterey, Santa Clara and San Joaquin counties; presumed extinct. Last seen in 1957.	Mar-April Annual herb	Absent
Campanulaceae					
Downingia pusilla dwarf downingia	Federal State CNPS	none CEQA 2:1-2-1	Mesic sites in Valley/foothill grassland and vernal pools. Occurs from Sonoma and Napa counties through the Sacramento Valley and Sierra foothills.	Mar-May Annual herb	Absent
Chenopodiaceae					
Atriplex joaquiniana San Joaquin spearscale	Federal State CNPS	SC CEQA 1B:2-2-3	Chenopod scrub, Valley/foothill grassland and alkali meadows. Occurs from Solano County throughout the Sacramento and San Joaquin valleys. Presumed extirpated in Santa Clara, San Joaquin and Tulare counties.	April-Sept. Annual herb	Absent,would have been detectable
Ericaceae					
Arctostaphylos auriculata Mt. Diablo manzanita	Federal State CNPS	none CEQA 1B:3-1-3	Chaparral, in canyons and on slopes, on sandstone. Known only from Mt. Diablo area in Contra Costa County.	Jan-March Evergreen shrub	Absent
Fabaceae					

Lathyrus jepsonii var. *jepsonii* Delta tule pea	Federal State CNPS	SC CEQA 1B:2-2-3	Freshwater and brackish marshes. Occurs throughout the Sacramento San Joaquin River delta, San Francisco Bay and Central Valley.	May-Sept Perennial herb	Absent
Geraniaceae					
Erodium macrophyllum Round-leaved filaree	Federal State CNPS	none none 2	Cismontane woodland; valley and foothill grassland	Mar-June Annual herb	Absent, would have been detectable
Lamiaceae					
Scutellaria lateriflora blue skullcap	Federal State CNPS	none CEQA 2:3-2-1	Mesic meadows, marshes and swamps. Reported from Inyo and San Joaquin counties, to New Mexico and Oregon. Known from only two occurrences in California.	July-Sept perennial herb (rhizomatous)	Absent
Liliaceae					
Calochortus pulchellus Mt. Diablo fairy-lantern	Federal State CNPS	none CEQA 1B:2-2-3	Chaparral, cismontane woodland, Valley/foothill grassland. Known from Contra Costa and possibly Solano counties.	April-June Perennial herb (bulbiferous)	Absent
Fritillaria liliacea fragrant fritillary	Federal State CNPS	SC CEQA 1B:1-2-3	Coastal prairie, coastal scrub, Valley/foothill grassland near the coast, on clay or serpentinite. Known from throughout the Central Coast from Sonoma to Monterey counties and the San Francisco Bay Area.	Feb-April Perennial herb (bulbiferous)	Absent
Linaceae					
Hesperolinon breweri Brewer's western flax	Federal State CNPS	SC CEQA 1B:2-2-3	Chaparral, cismontane woodlands, Valley/foothill grassland, mostly on serpentinite. Found in Napa, Solano, and Contra Costa counties.	May-July Annual herb	Absent
Malvaceae					
Hibiscus lasiocarpus rose-mallow	Federal State CNPS	none CEQA 2:2-2-1	Freshwater marshes. Restricted to the Sacramento-San Joaquin River Delta.	June-Sept Perennial herb (rhizomatous)	Absent

Oenothera deltoides ssp howellii *Antioch Dunes evening-primrose*	Federal State CNPS	FE CE 1B:3-3-3	Remnant river bluffs and interior sand dunes. Known from seven occurrences among the dunes east of Antioch.	Mar-Sept Perennial herb	Absent, would have been detectable
Papaveraceae					
Eschscholzia rhombipetala diamond-petaled California poppy	Federal State CNPS	SC CEQA 1A	Valley/foothill grassland on clay soils. Presumed extinct. Known historically from Alameda, Contra Costa, Colusa, San Luis Obispo and Stanislaus counties. Last seen in 1950.	Mar-April Annual herb	Absent, would have been detectable
Polygonaceae					
Eriogonum truncatum Mt. Diablo buckwheat	Federal State CNPS	none CEQA 1A	Chaparral, coastal scrub, Valley/foothill grassland on sandy soils. Presumed extinct, but found in 2005 on Mt. Diablo, Contra County.	April-Sept Annual herb	Absent
Potamogetonaceae					
Potamogeton zosteriformis eel-grass pondweed	Federal State CNPS	none CEQA 2:2-2-1	Assorted freshwater marshes and swamps. Known from Contra Costa, Lake counties, Modoc, Lassen, and Shasta counties and Washington and Oregon.	June-July Annual herb (aquatic)	Absent, would have been detectable
Scrophulariaceae					
Cordylanthus mollis ssp. *mollis* soft bird's-beak	Federal State CNPS	FE CR 1B:3-2-3	Coastal saltmarsh. Known from fewer than 10 locations in Contra Costa, Napa, and Solano counties. Extirpated in Marin and Sonoma counties.	July-Sept Annual herb (hemiparasite)	Absent
Limosella subulata Delta mudwort	Federal State CNPS	none CEQA 2:2-3-1	Marshes and swamps, muddy or sandy intertidal flats in the Sacramento and San Joaquin river deltas.	May-Aug Perennial herb (stoloniferous)	Absent

[1]Explanation of sensitivity status codes provided in Appendix B.

APPENDIX B

POTENTIALLY-OCCURRING SPECIAL-STATUS WILDLIFE SPECIES AT THE PROJECT SITE

Scientific Name Common Name	Status[1]		Habitat Affinities and Reported Localities in the Project Area	Potential for Occurrence On Site
Amphibians				
Ambystoma californiense California tiger salamander	Federal State	FT CSC	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands. Inhabits the Coast Ranges from Santa Barbara to Sonoma counties along the coast and inland to Colusa, Yolo and Tulare counties.	No breeding habitat
Rana draytonii California red-legged frog	Federal State	FT CSC	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland areas especially during the wet winter months.	No breeding habitat
Reptiles				
Anniella pulchra pulchra silvery legless lizard	Federal State	none CSC	Inhabits sparsely vegetated areas on beaches and in chaparral, oak woodlands and riparian. Needs loose soils for burrowing (sand, loam or humus), moisture, warmth and plant cover. Burrows in washes, dune sand and loose soils at the base of slopes or in intermittent streams. Forages in leaf litter during the day, but may emerge on the surface at dusk or night.	Unlikely, no suitable habitat and previous records are all north of the site in dune-type habitat
Clemmys marmorata marmorata north western pond turtle	Federal State	none CSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires sandy soils for egg-laying. Occurs from the Oregon border to the San Francisco Bay, inland throughout the Sacramento Valley and south along the coastal zone to San Diego County.	No breeding habitat

Masticophis flagellum ruddocki San Joaquin whipsnake	Federal State	none CSC	Inhabits a variety of habitats, with sparse vegetation. Uses rodent burrows, rocks or bushes for refugia.	Unlikely. No records from the vicinity
Masticophis lateralis euryxanthus Alameda whipsnake	Federal State	FT ST	Restricted to chaparral and coastal scrub of the Coast Ranges, inhabits appropriate habitat on south, southwest- and southeast-facing slopes and ravines where the shrubs form a vegetative mosaic with grasses. Requires rodent burrows and large population of *Sceloporus occidentalis*.	Unlikely, no suitable habitat
Thamnophis gigas giant garter snake	Federal State	FT CT	Inhabits sloughs, canals and small water courses with grassy banks and emergent vegetation. Requires high ground for basking and escape during winter flooding. Known from the Central Valley from Fresno north to the Sutter Buttes.	Unlikely, closest sightings are only from habitats directly connected with the San Joaquin River.
Birds				
Agelaius tricolor tricolored blackbird	Federal State Audubon	MB CSC none	Nests primarily in dense freshwater marshes with cattail or tules. Forages in grasslands. Largely endemic to California. Permanent resident in the Central Valley and along the coast from Marin to San Diego counties. Also known from Lake, Sonoma and Solano counties. Grasslands provide suitable foraging habitat only.	Unlikely, would have been detectable during surveys
Athene cunicularia burrowing owl	Federal State Audubon	MB CSC Blue list	Open, dry grasslands, deserts, prairies, farmland and scrublands with abundant active and abandoned mammal burrows. Occurs in lowlands throughout California.	Present
Bubo virginianus great horned owl	Federal State Audubon	MB none none	Nests in large trees using twigs and branches for nesting material. Forages on small mammals, reptiles and birds.	Potential to nest in the larger trees
Buteo jamaicensis red-tailed hawk	Federal State Audubon	MB none none	Nests in trees in stick nests. Forages on small mammals.	Foraging potential only. No suitable nesting habitat.
Buteo swainsoni Swainson's hawk	Federal State Audubon	MB CT none	Nests in oaks or cottonwoods in or near riparian habitat. Forages in grasslands and agricultural fields. Highest nesting densities are in Yolo County. Relatively common throughout the lower Sacramento and San Joaquin valleys.	Unlikely, prefers taller trees for nesting

Circus cyaneus northern harrier	Federal State Audubon	MB CSC none	Nests and forages in grasslands. Nests on ground in shrubby vegetation or dense grass, usually at the edge of marshes.	Unlikely, No habitat present
Elanus leucurus white-tailed kite (nesting sites only)	Federal State Audubon	MB CFP none	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Potential nester.
Riparia riparia bank swallow (nesting colonies only)	Federal State Audubon	none CT none	Nests in colonies on sandy cliffs near water, marshes, lakes and streams. Forages in fields. Largest remaining populations occur along the Sacramento River from Tehama to Sacramento counties.	No habitat present
Mammals				
Antrozous pallidus pallid bat	Federal State	none CSC	This colonial species roosts in small colonies of 20 or more individuals in caves, mines, rock piles, tree cavities and occasionally buildings. Night roosts may be in more open sights, such as porches and open buildings. They forage mostly in open habitats.	No reproductive habitat present.
Lasiurus borealis *Red bat*	Federal State:	None CSC	A riparian obligate roosting in dense forest and foraging along the forest edge.	No repoductive habitat present.
Perognathus inornatus inornatus San Joaquin pocket mouse	Federal State	none none	Inhabits grassland and scrub habitats in Central and San Joaquin Valleys.	No habitat present.
Vulpes macrotis mutica San Joaquin kit fox	Federal State	FE CT	Range includes annual grassland, saltbush scrub and oak savanna at the valley/mountain interface.	Possible although den sites appear too small.

[1] Explanation of sensitivity status codes:

Absent means habitat not present. Unlikely means that the species would have been detectable, or habitat conditions appear to be unsuitable. Present [P] means general habitat is present and species may be present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC); State Endangered (SE); State Threatened (ST); Fully Protected ((FP); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS 1B) (Plants rare, threatened, or endangered in California and elsewhere).

APPENDIX C – PLANTS OBSERVED ON THE PROJECT SITE

* = non-native taxa

FAMILY NAME	SCIENTIFIC NAME	COMMON NAME
Asteraceae	*Baccharis pilularis*	coyote brush
	**Carduus pycnocephalus*	Italian thistle
	**Centaurea solstitialis*	yellow star-thistle
	**Cirsium vulgare*	bull thistle
	**Chamomilla suaveolens*	pineapple weed
	**Lactuca serriola*	prickly lettuce
	Heterotheca grandiflora	telegraph weed
	**Picris echioides*	bristly ox-tongue
	**Sonchus asper ssp. asper*	sow thistle
Boraginaceae	*Amsinckia menziesii var. intermida*	fiddleneck
Brassicaceae	**Brassica nigra*	black mustard
	**Raphanus sativus*	wild radish
Chenopodiaceae	**Salsola tragus*	Russian-thistle
Convolvulaceae	**Convolvulus arvensis*	field bindweed
Fabaceae	*Lotus purshianus var. purshianus*	Spanish-clover
	**Medicago polymorpha*	burclover
	**Melilotus indica*	sourclover
	Trifolium hirtum	rose clover
	Vicia villosa ssp. villosa	hairy vetch
Geraniaceae	**Erodium botrys*	long-beaked filaree
	**Erodium cicutarium*	filaree
	**Geranium dissectum*	cut-leaved geranium
Malvaceae	**Malva parviflora*	cheeseweed
Myrtaceae	*Eucalyptus* sp.	eucalytus
Poaceae	**Avena fatua*	wild oats
	**Bromus diandrus*	rip gut brome
	**Bromus hordeaceus*	soft chess
	**Lolium multiflorum*	Italian rye grass

APPENDIX D

ANIMALS OCCURRING IN THE PROJECT AREA

SCIENTIFIC NAME	COMMON NAME
BIRDS	
Aphelocoma coerulescens	Western scrub jay
Athene cunicularia	Western burrowing owl
Callipepla californica	California quail
Cathartes aura	Turkey vulture
Corvus brachyrhynchos	American crow
Petrochelidon pyrrhonota	Cliff swallow
Zenaidura macroura	Mourning dove
MAMMALS	
Lepus californicus	Black-tailed jackrabbit
Microtus californicus	California vole
Spermophilus beecheyi	California ground squirrel
Thomomys bottae	Botta's pocket gopher
REPTILES	
Sceloporus occidentalis	Western fence lizard

APPENDIX E

Photograph of the Project Area

Looking north toward SR 160 from just south of the UPRR tracks

APPENDIX C
Cultural Resources Analysis

November 12, 2010

Mary Bean
Principal/Area Manager
CirclePoint
135 Main Street, Suite 1600
San Francisco, CA 94105

RE: Archaeological Survey and Cultural Resources Assessment of the SR-4 Bypass SR-4/160 Connectors, Contra Costa County, California.

Dear Ms. Bean:

In accordance with our agreement, William Self Associates, Inc. (WSA) has implemented a record searchs, archaeological field survey and assessment of the SR-4 Bypass SR-4/160 Connectors, in the City of Antioch, Contra Costa County (Appendix A: Figure 1). As the construction of the SR-4 Bypass SR-4/160 Connectors will involve ground disturbance a cultural resource study was conducted in compliance with Section 21084.1 of the California Environmental Quality Act (CEQA). Given that no significant cultural resources were found during the study, our response will be in a letter format rather than a stand-alone assessment report. Therefore, only limited background information on the cultural setting of the area is included.

Project Description and Location

The proposed project is situated in Township 2 North, Range 2 East, Sections 21, 27, and 28, as depicted on the 1978 Antioch North, 1953 (rev.1980) Antioch South, and 1978 Brentwood, California 7.5' USGS topographic quadrangles (Appendix A: Figure 2). Situated between the foothills and the coastal plain, the elevation of the project area ranges between 60-200 feet above sea level. The proposed project area includes the intersection and sections of SR-4, the SR-4 Bypass and SR-160 (Appendix A:Figure 3). The project area is approximately 2.75 miles east-southeast of downtown Antioch, and 2.5 miles west of downtown Oakley.

The project will construct a freeway to freeway connector in each direction between the SR-4 Bypass and SR-160, the approach to the Antioch Bridge. For the northbound connector, the connector ramp exits from westbound SR 4 Bypass using standard freeway to freeway connector

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geometry, widening to two lanes for approximately 1200 ft. crossing over the Union Pacific Railroad (UPRR) right of way. The second lane will be dropped right before connecting to the existing eastbound SR-4 to northbound SR-160 connector without ramp metering. The project will add one additional lane to the outside north underneath the Oakley Road Overcrossing extending approximately 3000 ft. and exiting at the SR-160/E. 18th/Main Street interchange. Sound wall will be constructed along this ramp connecting to the existing sound wall on the SR-4 Bypass and extending up to Oakley Road. For the southbound connector, southbound SR-160 will be widened by one lane to the outside starting at the SR-160/E.18th/Main Street Interchange, extending 1400 ft. under the Oakley Road Overcrossing to a standard freeway to freeway connector diverge geometry for southbound SR-160 to westbound SR-4. The mainline, SR-160 to eastbound SR-4 Bypass widens to two lanes immediately after the westbound 4 exit rising up and crossing over the UPRR right of way, the eastbound SR-4 to northbound SR-160 connector and then the SR-4 Bypass and extending approximately 3300 ft. before dropping a lane at the ramp metering limit line and then merging into the eastbound SR-4 Bypass.

The Area of Potential Effects (APE) for the Project has been defined as the highway right-of-way for SR-4, SR-4 Bypass, and SR-160 that encloses all components of the proposed project, extending north along SR-160 to the start of the SR-160/E. 18th/Main Street interchange, west to the existing SR-4/160 separation bridge, and east along the SR-4 Bypass from the existing SR-4/160 separation bridge approximately 3000 ft. (Appendix A:Figure 4).

Environment

The project area is situated on the western margin of California's Central Valley, one of two principal grassland communities that exist in California (the second being the coastal grassland that covers middle-elevation hillsides from San Francisco to southern Oregon). Together these grasslands are known as the Pacific Prairie. The following discussion is largely based on Brown (1985). Annual precipitation in the region averages 20 to 30 inches with precipitation concentrated in the fall, winter, and spring months. This climate is much like that found in the Mediterranean with mild, rainy winters and hot, dry summers. After the first rain at the end of October or early November, the vegetation becomes green and remains green, but not growing, until late February, when the grasses begin to grow rapidly. By early May, the grasses have usually changed to a dry golden-color, and stay that way until fall.

Temperatures in the summer are high, often reaching over 38° C (100° F). The combination of this climate and the arable soils of the Central Valley have proven irresistible to farmers; the extensive agricultural use of the area has resulted in the disappearance of much of the original grassland community. Grasslands persist, but the dominant species are completely different from those found 150 years ago by settlers.

Prior to Euroamerican contact, the Native Americans used fire to manage native flora and fauna, maintaining grassland and chaparral by periodic burning. In prehistoric times, animals such as pronghorn sheep, antelope, tule elk, mule deer, black-tail deer, and grizzly bear occupied the area. Today, animal life within the region is similarly diverse but favors small, herbivorous mammals, especially voles, pocket gophers, ground squirrels, and pocket mice. The larger, open areas of the surrounding hills are home to some larger animals including deer, coyote, rabbit, skunk, opossum, raccoon, and a number of birds including red-tailed hawks and turkey vultures.

Cultural Setting

Ethnography

At the time of historic contact with the Spanish missionaries and explorers, the Project area was within the Bay Miwok territory (Heizer and Whipple 1971; Milliken 1995).

Levy (1978:399) places the Bay Miwok territory from the Suisun Bay to just south of Mount Diablo and from there eastward to the Sacramento-San Joaquin Delta. The Volvon tribe, who spoke a Bay Miwok language, lived on the peak of Mount Diablo and in the rugged lands to the east. Their villages were situated on the eastern side of the peak along the Marsh Creek drainage (Milliken 1995:256, 259). The time at which the Bay Miwok migrated into this area is disputed. Beeler (1959), who has studied the Saclan language, claims it was originally spoken to the east along the lower courses of the Tuolumne, Stanislaus, and the Mokelumne rivers. He surmises that these people were displaced to the west by a northerly push of the Yokuts, which may have been completed as recently as 300 years ago. This implies the Bay Miwok were in their historical territory only a century or less before the first Spanish explorers arrived in the region (Beeler 1959:68; Farris et al. 1988).

The Miwok comprised a group of people united by language but broken into tribal groups (independent political entities such as the Volvon), each occupying defined territories over which they controlled access to natural resources. Although each tribal group had one or more permanent villages, their territory contained numerous smaller camp sites used as needed during a seasonal round of resource exploitation.

Extended families lived in domed, conical structures built of thatched grass. Semi-subterranean men's houses were built at the larger village sites, also using thatched grass and earth cover (Kroeber 1970). Tule or balsa canoes were used to navigate to and from islands and for hunting and gathering forays into the delta.

Given an abundant and continuous subsistence base, ceremony in Miwok life was fairly extensive, and scholars have written much about it based on early ethnographic accounts

(Bennyhoff 1977:11; Kroeber 1970; Levy 1978). Rituals associated with death were of great importance. Two forms of interment were practiced and mortuary goods were often placed into the grave at the time of burial. Cremation was also occasionally practiced.

The arrival of the Spanish in the San Francisco Bay Area in 1775 led to the rapid demise of native populations, including the Bay Miwok and Yokuts. Diseases introduced by early expeditions and missionaries killed a large number of local peoples, exemplified by a mass burial of 18 individuals adjacent to the Hotchkiss Mound site near Oakley (Heizer 1954). On an expedition through the Central Valley in 1832-1833, Ewing Young observed:

> In the Fall of 1832...the banks of the Sacramento River, in its whole course through the valley, were studded with Indian villages...On our return, late in the summer of 1833, we found the valleys depopulated. From the head of the Sacramento to the great bend and slough of the San Joaquin, we did not see more than six or eight Indians; while large numbers of their skulls and dead bodies were to be seen under almost every shade-tree near water, where the uninhabited and deserted villages had been converted into graveyards...(Cook 1955:318).

With abandonment of the mission system and Mexican takeover in the 1840s, numerous ranchos were established. The few remaining Indians were then forced by necessity to work on the ranchos. The native way of life in much of northern California had undergone many transformations as a result of missionization, introduction to new resources, land uses such as agriculture, a new form of worship and ideology, limited access to territories and resources that used to be theirs, and severe population decline. For further ethnographic information on the Bay Miwok and Yokuts, refer to Bennyhoff (1977), Levy (1978), and Milliken (1995).

Prehistory

Research into local prehistoric cultures began in the early 1900s with the work of N. C. Nelson of the University of California at Berkeley. Nelson documented 425 shellmounds along the bay shore and adjacent coast when the bay was still ringed by salt marshes three to five miles wide (Nelson 1909). He maintained that the intensive use of shellfish, a subsistence strategy reflected in both coastal and bay shoreline middens, indicated a general economic unity in the region during prehistoric times, and he introduced the idea of a distinct San Francisco Bay archaeological region (Moratto 1984:227). Three sites, in particular, provided the basis for the first model of cultural succession in Central California, the Emeryville Shellmound (CA-ALA-309), the Ellis Landing Site (CA-CCO-295), and the Fernandez Site (CA-CCO-259) (Moratto 1984:227).

Investigations into the prehistory of the Central Valley of California, presaged by early amateur excavations in the 1890s, began in earnest in the 1920s. In the early 20th century, Stockton-area amateur archaeologists J. A. Barr and E. J. Dawson separately excavated a number of sites in the Central Valley and made substantial collections. On the basis of artifact comparisons, Barr identified what he believed were two distinct cultural traditions, an early and a late. Dawson later refined his work and classified the Central Valley sites into three "age-groups" (Schenck and Dawson 1929:402).

Professional or academic-sponsored archaeological investigations in central California began in the 1930s, when J. Lillard and W. Purves of Sacramento Junior College formed a field school and conducted excavations throughout the Sacramento Delta area. By seriating artifacts and mortuary traditions, they identified a three-phase sequence similar to Dawson's, including Early, Intermediate, and Recent cultures (Lillard and Purves 1936). This scheme went through several permutations (Heizer and Fenenga 1939; Lillard et al. 1939). In 1948 and again in 1954, Richard Beardsley refined this system and extended it to include the region of San Francisco Bay (Beardsley 1948, 1954). The resulting scheme came to be known as the Central California Taxonomic System (CCTS) (Fredrickson 1973; Hughes 1994:1). Subsequently, the CCTS system of Early, Middle, and Late Horizons was applied widely to site dating and taxonomy throughout central California.

As more data were acquired through continued fieldwork, local exceptions to the CCTS were discovered. The accumulation of these exceptions, coupled with the development of radiocarbon dating in the 1950s and obsidian hydration analysis in the 1970s, opened up the possibility of dating deposits more accurately. Much of the subsequent archaeological investigation in central California focused on the creation and refinement of local versions of the CCTS.

In the 1960s and 1970s, archaeologists including Ragir (1972) and Fredrickson (1973) revised existing classificatory schemes and suggested alternative ways of classifying the prehistory of California. Fredrickson (1973:113-114) proposed four "major chronological periods" in prehistoric California: the Early Lithic Period (described as hypothetical), a Paleoindian Period, an Archaic Period, and an Emergent Period. The Archaic and Emergent Periods were further divided into Upper and Lower periods. Subsequently, Fredrickson (1974, 1994) subdivided the Archaic into Lower, Middle, and Upper. Details of this scheme are not provided here as they have recently been updated and further refined (e.g., Milliken et al. 2007).

A series of "patterns," emphasizing culture rather than temporal periods, can be identified throughout California prehistory. Following Ragir, Fredrickson (1973:123) proposed that the nomenclature for each pattern relate to the location at which it was first identified, such as the Windmiller, Berkeley, and Augustine Patterns.

Various modifications of the CCTS (e.g., Bennyhoff and Hughes 1987; Fredrickson 1973, 1974; Milliken and Bennyhoff 1993) sustain and extend the system's usefulness for organizing our understanding of local and regional prehistory in terms of time and space. The cultural patterns identified in the Bay Area that in a general way correspond to the CCTS scheme are the Berkeley and Augustine patterns (for information on the Berkeley and Augustine Patterns see Fredrickson 1973, Milliken et al. 2007, Moratto 1984 and Wiberg 1997). Dating techniques such as obsidian hydration analysis or radiometric measurements can further increase the accuracy of these assignments.

Most recently, Milliken et al. (2007:99-123) developed what they term a "hybrid system" for the San Francisco Bay Area, combining the Early-Middle-Late Period temporal sequence with the pattern-aspect-phase cultural sequence. Dating of the cultural patterns, aspects, and phases was based on Dating Scheme D of the CCTS, developed by Groza (2002). Groza directly dated over 100 Olivella shell beads, obtaining a series of AMS radiocarbon dates representing shell bead horizons. The new chronology she developed has moved several shell bead horizons as much as 200 years forward in time.

Milliken et al.'s (2007) San Francisco Bay Area Cultural Sequence includes:

Early Holocene (Lower Archaic) from 8000 to 3500 B.C.
Early Period (Middle Archaic) from 3500 to 500 B.C
Lower Middle Period (Initial Upper Archaic) from 500 B.C. to A.D. 430
Upper Middle Period (Late Upper Archaic) from A.D. 430 to 1050
Initial Late Period (Lower Emergent) from A.D. 1050 to 1550
Terminal Late Period, post-A.D. 1550

No archaeological evidence dating to pre-8000 B.C. has been located in the Bay Area. Milliken et al. (2007) posit that this dearth of archaeological material may be related to subsequent environmental changes that submerged sites, buried sites beneath alluvial deposits, or destroyed sites through stream erosion. A brief summary of the approach presented by Milliken et al. (2007) follows.

A "generalized mobile forager" pattern marked by the use of milling slabs and handstones and the manufacture of large, wide-stemmed and leaf-shaped projectile points emerged around the periphery of the Bay Area during the Early Holocene Period (8000 to 3500 B.C.). Beginning around 3500 B.C., evidence of sedentism, interpreted to signify a regional symbolic integration of peoples, and increased regional trade emerged. This Early Period lasted until ca. 500 B.C. (Milliken et al. 2007:114, 115).

Milliken et al. (2007:115) identify "a major disruption in symbolic integration systems" circa 500 B.C., marking the beginning of the Lower Middle Period (500 B.C. to A.D. 430). Bead Horizon M1, dating from 200 B.C. to A.D. 430, is described by Milliken et al. (2007:115) as marking a 'cultural climax' within the San Francisco Bay Area.

The Upper Middle Period (A.D. 430 to 1050) is marked by the collapse of the Olivella saucer bead trade in central California, abandonment of many Bead Horizon M1 sites, an increase in the occurrence of sea otter bones in those sites that were not abandoned, and the spread of the extended burial mortuary pattern characteristic of the Meganos complex into the interior East Bay. Bead Horizons M2 (A.D. 430 to 600), M3 (A.D. 600 to 800), and M4 (A.D. 800 to 1050) were identified within this period (Milliken et al. 2007:116).

The Initial Late Period, dating from A.D. 1050 to 1550, is characterized by increased manufacture of status objects. In lowland central California during this period, Fredrickson (1973 and 1994, quoted in Milliken et al. 2007:116) noted evidence for increased sedentism, the development of ceremonial integration, and status ascription. The beginning of the Late Period, (ca. A.D. 1000) is marked by the Middle/Late Transition bead horizon. The Terminal Late Period began circa A.D. 1550 and continued until European settlement of the area.

Regional History

The history of northern California, Contra Costa County, and the Project area in particular, can be divided into several periods of influence. For the purposes of establishing a historic context from which to assess the potential significance of historic sites in the Project area, various periods and local sub-periods, some of which overlap, are defined below.

Due to its location 40 miles (64 kilometers) northeast of San Francisco, the Project area was largely isolated from the Spanish and Mexican periods of California. Therefore, events associated with the Spanish and Mexican periods, and cultural remains from those periods, are not expected to be reflected in the Project area but are discussed briefly as a point of reference:

Spanish Period (in California)	1769 - 1821
Mexican Period	1822 - 1848
American Period	1848 - present

Spanish Period (1769-1821)

The historic period in the eastern San Francisco Bay region began with the Fages-Crespi expedition of 1770. The Fages party explored the eastern shore of San Francisco Bay, eventually reaching the location of modern Fremont, where they traded with the local Costanoans. Members

of the expedition eventually sighted the entrance to San Francisco Bay from the Oakland Hills. In 1772, a second Fages expedition traveled from Monterey through what are now Milpitas, San Lorenzo, Oakland, and Berkeley, finally reaching Pinole on March 28, 1772 (Cook 1957:131). From there they traveled through the locations of today's Rodeo and Crockett to Martinez, made a brief foray into the delta region of the Central Valley, and then camped somewhere near Pittsburg or Antioch. On March 31, the Fages party began the return journey to Monterey. They traveled to the vicinity of today's Walnut Creek, turned south, and then made their way to the Danville area, where they spent the night. On April 1st, they passed through today's San Ramon, Dublin, and Pleasanton, finally arriving back in the area of Milpitas on the following day.

In 1775, Captain Juan Manuel Ayala's expedition explored the San Francisco Bay and ventured up the Sacramento and San Joaquin rivers in search of a suitable mission site. The first mission in the region was established the following year with the completion of Mission San Francisco de Asis (Mission Dolores) in San Francisco. The mission era ensued, lasting over the next 46 years, leading to the establishment of numerous missions and outposts, and the subsequent "missionization" of native groups, which contributed to their decimation due to disease and subjugation.

The earliest historical accounts of the Project area come from the Spanish explorers who ventured to Mount Diablo in the late 18th century. Although it is not known if they came into the Project area, they must have passed within a few miles of it (Farris et al. 1988:7). The Anza-Font expedition of 1776 traveled along the southern shore of Suisun Bay until reaching Antioch where they noticed numerous rancherias before turning southeast in an attempt to cross the tule swamps (Cook 1957:135).

Mexican Period (1822-1848)

Under the Spanish, the missions controlled the land. After Mexico seceded from Spain in 1821, land was granted to private citizens, a practice that increased significantly after the 1833 act of the Mexican legislature that established the secularization of the missions. By 1845, the last of the mission land holdings were relinquished, opening the way for the large ranchos common to California in the mid-1800s. Predominant land use on the ranchos was the raising of livestock and ranching. American explorers, mostly traders and beaver trappers, were also flocking to the west during this time, and their "trail blazing" led to the settlement of the territory. Jedediah Smith, in 1827, led a party of trappers up the Sacramento River from the San Joaquin Delta region, leading to the establishment of the "California-Oregon Road," followed by numerous explorations over the next twenty-five years (Kyle 1990: preface).

Although there were no Mexican ranchos on the lands within the SR-4 Bypass SR-4/160 Connectors Project area, two large ranchos, Los Meganos and Los Medanos were situated within

several miles of the Project area. American explorers, mostly traders and beaver trappers, were also flocking to the west during this time, and their "trail blazing" led to the settlement of the territory. Jedediah Smith, in 1827, led a party of trappers up the Sacramento River from the San Joaquin Delta region, leading to the establishment of the "California-Oregon Road," followed by numerous explorations over the next twenty-five years (Kyle 1990).

American Period (1848 - present)

The discovery of gold in Coloma in 1849 produced a major population increase in the northern half of California as emigrants sought gold or various jobs producing goods or services for gold miners. Land use changes resulted as livestock grazed some native grasses to extinction, woodlands were cut for lumber, railroad ties and mine timbers, and agricultural development occurred on nearly all arable land.

Twin brothers William and Joseph Smith moved their families from Massachusetts to California in 1849. Accounts vary somewhat, but it seems clear that shortly after their arrival the brothers quickly acquired land, either from John Marsh's vast holdings or from an unknown party (Emanuels 1993:216; Kyle 1990:64; Munro-Fraser 1882:671). Two quarter sections of land obtained by the Smith brothers are located where the City of Antioch now stands. The brothers were both carpenters and ordained ministers and they quickly found jobs in "New York of the Pacific," today known as Pittsburg, constructing housing for the flood of migrants coming to California in search of gold. Joseph died of malaria that first winter.

The following summer, William received news that a ship docking in San Francisco was carrying passengers from Maine wanting to settle permanently in California (Kyle 1990:64). He immediately went to greet them and offered each family a lot at Smith's Landing on which to build a home. Approximately half of the families accepted his offer, and the settlement they created was named Antioch at their 1851 Fourth of July picnic (Munro-Fraser 1882:672-3).

Antioch grew as a commercial center starting from the establishment of a brick making plant in 1852 by J. C. McMaster, using clay from the nearby hills. Sheep raising served as Antioch's principle industry for many years. The project region historically comprised good grazing and agricultural lands, orchards, and nearby coal mines. The discovery of coal on the northern slopes of Mt. Diablo in 1848 drew settlers to the region; however, by the mid-1880s when the coal boom was over, the mining "boom towns" were abandoned. Many of the coal miners who worked in the Mount Diablo coal district came from the coal fields of Wales and Cornwall (Emanuels 1993).

At mines known as Nortonville and Somersville, Empire and West Hartley, small towns grew nearby with small gauge railroads to transport the coal and passengers to their shipping counterparts at New York and Pittsburg Landings, located at the mouth of the San Joaquin River. The coal mining industry dominated the local economy for a period of 30 years; in the case of Somersville mine, limited activity continued as late as 1905. High quality sand was also mined between 1920 and 1949 (Kyle 1990). After the mines closed, the population centers of Pittsburg, Antioch and Brentwood survived owning to their reliance on an agricultural economic base, including olive and almond orchards. Remnants of the coal mining era are still visible, and in 1972 the East Bay Regional Park District acquired 2,763 acres of land, including the Black Diamond Mine, now open to the public (Kyle 1990).

Along the waterfront in nearby Pittsburg (west of the project study area), Italian immigrants established a prosperous fishing and canning industry in the 1870s. The majority of the fishermen migrated from Sicily, building some of the busiest canneries in the world. Several industries followed, including a rubber company and an electric generating plant. In 1906, Columbia Geneva Steel opened (later US Steel), and as the United States mobilized for World War II and the Korean War (1942-1954), more than one million troops were processed at Pittsburg's Camp Stoneman center (Emanuels 1993; Wullenjohn 2010).

The region has recently experienced rapid urban residential development. The mild climate, vast network of waterways within the Delta region, and availability of a broad transportation network has been one of the major factors in the region's economic and population growth.

Results of the Records Search

On behalf of WSA, staff at the California Historical Resources Information System, Northwest Information Center at Sonoma State University conducted a records search of the project vicinity on November 8,2010 (File No. 10-0427). The area comprising the ROW for SR-4, the SR-4 Bypass and SR-160 was encompassed in this Record Search. Information on previous archaeological surveys and recorded sites within a ¼-mile radius of the project area was gathered to identify and evaluate the potential for the presence of cultural resources. The study included a review of archaeological, ethnographic, historical, and environmental literature, as well as records and maps on file at the California Archaeological Inventory. Historic maps were examined, including the 1862 GLO Plat Map T2N, R2E, the 1876 GLO Plat Map T2N R2E, the 1910 USGS Jersey Quadrangle, the 1914 USGS Brentwood Quadrangle, the 1916 USGS Lone Tree Valley Quadrangle, and the 1918 USGS Collinsville Quadrangle. In addition, the *Revised Preliminary Historic Resources Inventory Contra Costa County California* (1989), the *California Inventory of Historic Resources* (March 1976), and the Historic Property Data File provided by the Office of Historic Preservation, were consulted.

Results of the record search indicate that there is one previously recorded archaeological site within the project area (P-07-813) and one previously recorded archaeological site within ¼-mile of the project area (P-07-2923). Site P-07-813 is a segment of the Union Pacific Railroad which passes through the middle portion of the project area. According to Shoup (2007) this segment is not eligible for the National Register. Site P-07-2923 is an industrial building known as the Newlove Oil Pumping Station, located within ¼-mile of the southwest of the project area. In the opinion of the recorders (Hill and Baker 2008) the building does not appear to be eligible for the National Register. Results from the record search also indicated that the current project area has been subject to 24 archaeological studies (S-5208, S-20395, S-33600, S-595, S-9462, S-9795, S-12790, S-1978, S-848, S-9583, S-2458, S-16660, S-18217, S-23674, S-22812, S-34865, S-34866, S-34867, S-11826, S-28811, S-2970, S-8914, S-17993, and S-35244) (Table 1). Thirteen of these studies (S-5208, S-20395, S-33600, S-595, S-9462, S-9795, S-12790, S-1978, S-848, S-9583, S-2458, S-16660, and S-18217) are overview reports, encompassing a larger geographic area that includes the current project. Eight previous studies (S-11385, S-13256, S-18440, S-18641, S-18187, S-1451, S-31375, and S-29690) have been conducted within ¼-mile of the project area (Table 2).

Table 1. Cultural resources studies within project boundaries.

Study #	Author	Date	Title
S-000595	Ronald F. King	1974	A Report on the Status of Generally Available Data Regarding Archaeological, Ethnographic, and Historical Resources Within a Five Mile Wide Corridor Through Portions of Colusa, Yolo, Solano, and Contra Costa Counties, California
S-000848	David A. Fredrickson	1977	A Summary of Knowledge of the Central and Northern California Coastal Zone and Offshore Areas, Vol. III, Socioeconomic Conditions, Chapter 7: Historical & Archaeological Resources
S-001978	Anthony V. Aiello	1960	The Islands of Contra Costa
S-002458	Suzanne Marie Ramiller, Neil Ramiller, Roger Werner, and Suzanne Stewart	1981	Overview of Prehistoric Archaeology for the Northwest Region, California Archaeological Sites Survey
S-002970	Mara Melandry	1981	Archaeological Survey Report for Excess Parcels on Route 4 near Antioch, Contra Costa County, 04-CC-4 P.M. 30.6 04452-154302, Parcels 21994-1 and 21
S-005208	Gregory Greenway and William E. Soule	1977	Sacramento-San Joaquin Delta Investigations: Cultural Resources Reconnaissance
S-008914	Miley Paul Holman	1986	Archaeological Field Inspection of the Nelson Ranch Development Area, Antioch, Contra Costa County, California (letter report)
S-009462	Teresa Ann Miller	1977	Identification and Recording of Prehistoric Petroglyphs in Marin and Related Bay Area Counties
S-009583	David W. Mayfield	1978	Ecology of the Pre-Spanish San Francisco Bay Area
S-009795	Thomas Lynn Jackson	1986	Late Prehistoric Obsidian Exchange in Central California
S-011826	Dorothea J. Theodoratus, Mary Pyle Peters, Clinton M. Blount, Pamela J. McGuire, Richard D. Ambro, Michael Crist, Billy J. Peck, and Myrna Saxe	1980	Montezuma I and II Cultural Resources

Study #	Author	Date	Title
S-012790	Kenneth N. Owens	1991	Sacramento-San Joaquin Delta, California: Historical Resources Overview
S-016660	Jeffrey B. Fentress	1992	Prehistoric Rock Art of Alameda and Contra Costa Counties, California
S-017993	Brian Hatoff, Barb Voss, Sharon Waechter, Stephen Wee, and Vance Bente	1995	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project
S-018217	Glenn Gmoser	1996	Cultural Resource Evaluations for the Caltrans District 04 Phase 2 Seismic Retrofit Program, Status Report: April 1996
S-020395	Donna L. Gillette	1998	PCNs of the Coast Ranges of California: Religious Expression or the Result of Quarrying?
S-022812	Colin I. Busby	1997	Contra Costa County Water Multipurpose Pipeline Project, Environmental Documentation Study, Cultural Resources Review (letter report)
S-023674	Michael Moratto, Richard Pettigrew, Barry Price, Lester Ross, Randall Schalk, Judith Willig, Christian Miss, Clayton Lebow, Ricky Atwell, Gary Bowyer, Lou Ann Speulda, Lynda Sekora, Robert Bryson, Craig Skinner, William Hildebrandt, and Patricia Mikkelsen	1995	Archaeological Investigations, PGT-PG&E Pipeline Expansion Project, Idaho, Washington, Oregon, and California (Volume I , II, III, IV, V)
S-028811	Kimberly Popetz and William Self	2003	Cultural Resources Assessment Report, State Route 4 Bypass Segment 1, Contra Costa County, California
S-033600	Jack Meyer and Jeff Rosenthal	2007	Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4
S-034865	Suzanne Baker and Laurence Shoup	2007	Draft, eBART Transit Corridor EIR/EIS, Positive Archaeological Survey Report: eBART Project, Contra Costa County, California (Union Pacific Mococo Line Alternative)
S-034866	Laurence H. Shoup	2007	EBART Transit Corridor EIR/EIS, Historic Resources Evaluation Report: San Pablo & Tulare Railroad/Central Pacific Railroad (Southern Pacific Railroad/Union Pacific Railroad), eBART Project, Contra Costa County, California
S-034867	Ward Hill, Laurence H. Shoup, Marjorie Dobkin, and Suzanne Baker	2007	Draft #2, eBART Transit Corridor EIR/EIS, Historic Resources Evaluation Report: Historic Architecture of the eBART Project, Contra Costa County, California
S-035244	Suzanne Baker	2008	EBart Project EIR, Archaeological Survey Report: eBart Project, Contra Costa County, California

Table 2. Cultural resources studies within ¼-mile of the project boundaries.

Study #	Author	Date	Title
S-001451	David Chavez	1979	Cultural Resources Evaluation of the Hillcrest Development Location in Antioch
S-011385	Suzanne Baker and Michael Smith	1990	Archaeological Reconnaissance of the Highway 4 Widening Project Near Oakley, Contra Costa County, California
S-013256	Allan G. Bramlette, Mary Praetzellis, Adrian Praetzellis, Katherine M. Dowdall, Patrick Brunmeier, David A. Fredrickson	1991	Archaeological Resources Inventory for Los Vaqueros Water Conveyance Alignments, Contra Costa County, California

Study #	Author	Date	Title
S-018187	Jack Meyer and David A. Fredrickson	1996	Results of a Subsurface Archaeological Survey of the Proposed Los Vaqueros and Transfer Pipeline Routes, Los Vaqueros Project, Contra Costa County, California
S-018440	G. James West and Patrick Welch	1996	Class II Archaeological Survey of the Contra Costa Canal, Contra Costa County, California
S-018641	Jack Meyer	1996	Geoarchaeological Implications of Holocene Landscape Evolution in the Los Vaqueros Area of Eastern Contra Costa County, California
S-029690	Scott Billat	2005	Collocation on PG&E Tower and New Equipment Shelter, East Antioch, CA, Willow Road, Antioch, CA
S-031375	M. Kate Lewis, Kelly R. Heidecker, Meta Bunse, D. Craig Young, Jeffrey S. Rosenthal	2004	State Route 4 (East) Widening Project: Loveridge Road to State Route 160, 04-CC-4-KP 37.8/R47.6 (PM 23.5/R29.6), EA 04275-228500, Contra Costa County

No evaluated bridges appear in the project area or its vicinity on the Caltrans Bridge Inventory. No listings appear within the project area or the records search area in the *Revised Preliminary Historic Resources Inventory Contra Costa County California* (1989), the *California Inventory of Historic Resources* (March 1976), or the Historic Property Data File provided by the Office of Historic Preservation.

Examination of historic maps revealed a road through the project area running approximately from south-southeast to north-northwest on both the 1862 and 1878 GLO plat maps (Appendix A:Figures 5 and 6). By the 1910s (Appendix A:Figure 7), this road no longer appears, but Oakley Road is now shown crossing east-west through the northern section of the project area and the Union Pacific Railroad has been built through the central part of the project area running approximately southeast-northwest. No other buildings or structures appear on these historic maps.

Results of the Field Survey

On November 9, 2010, WSA staff archaeologist David Buckley conducted an archaeological survey of the project area. The area was evaluated for the presence of historic or prehistoric site indicators. Historic site indicators include, but are not limited to foundations, fence lines, ditches, standing buildings, objects or structures such as sheds, or concentrations of materials at least 50 years in age, such as domestic refuse (glass bottles, ceramics, toys, buttons or leather shoes), or refuse from other pursuits such as agriculture (e.g., metal tanks, farm machinery parts, horse shoes) or structural materials (e.g., nails, glass window panes, corrugated metal, wood posts or planks, metal pipes and fittings, etc.). Prehistoric site indicators include, but are not limited to areas of darker soil with concentrations of ash, charcoal, bits of animal bone (burned or unburned), shell, flaked stone, groundstone, or even human bone.

The survey area is comprised of land on both the east and west sides of SR-160 bounded by the beginning of the SR-160/E. 18th/Main Street exit to the north, and ending approximately 130

meters south of the Union Pacific Railroad, south of SR-4 and the SR-4 Bypass. As parts of the project area have been intensively surveyed previously (Appendix A:Figure 8), only those segments that had not been previously surveyed were selected to be surveyed at this time. The archaeological survey was conducted in 10-meter transects in order to cover the area sufficiently. The survey began on the western side of SR-160 at the Oakley Road overcrossing and headed north to the beginning of the SR-160/E. 18th/Main Street exit. The eastern side of SR-160 south towards the Oakley Road overcrossing was then surveyed. The area south of the Oakley Road overcrossing was then surveyed, followed by the two areas south of the railroad tracks.

The areas on either side of SR-160 north of the Oakley Road overcrossing consisted of relatively flat to moderate and highly sloping terrain up to the highway (Photo 1). Ground cover consisted of low grasses and brush, and ground visibility ranged from 25 to 50 percent. The soil consisted of yellowish brown, dry to slightly moist, silty sand with clay and gravels and small rocks. Modern trash and debris (concrete, glass, miscellaneous auto parts, and plastic) were observed scattered sparsely throughout the area. No artifacts or cultural resources were observed or collected. The area has most

Photo 1. The section of the project area north of Oakley Road, view north

Photo 2. The project area between the Union Pacific Railroad and Oakley Road, view north

Photo 3. The Union Pacific Railroad in the project area, view southeast

likely been graded and built up in many areas corresponding to the construction of SR-160.

The survey areas south of the Oakley Road overcrossing were similar in nature to the north, with low-lying grasses and sparse brush and vegetation with ground visibility fairly poor, ranging between 25 and 50 percent (Photo 2).

The Union Pacific Railroad that crosses the survey area was observed and noted, and corresponds with the 2006 site record (Photo 3).

The survey area south of the railroad had less vegetation and brush than the areas to the north, with slightly higher ground visibility, ranging from 25 to 75 percent (Photo 4).

Photo 4. The southwestern section of the project area looking northeast

The cleared area between the highway traffic lanes has been graded and/or built up to some extent, with recent burning of the soil observed, most likely from brush and grass clearing. Other debris (rocks, trash, concrete, pipe fragments, modern broken glass, and plastic) were observed within the area (Photo 5). The soil consisted of mottled brown and tan gravelly silty sand with some clay. No artifacts or cultural material was observed or collected.

Photo 5. The southern section of the project area, view southeast

The survey area along the SR-4 Bypass to the southeast was grassier in nature with less ground visibility (10-20 percent) and consisted of gently to moderately high sloping terrain with some brush cover. No artifacts or cultural material was observed or collected.

No artifacts, cultural soils, or other archaeological cultural resources

were observed or collected within the survey area beside the previously recorded segment of the Union Pacific Railroad.

Recommendations

The results of the record search and the visual inspection of the project area indicate that the likelihood of encountering significant cultural resources within the project area is low. Only the previously recorded segment of the Union Pacific Railroad was found in the project area, and that has been previously recommended as not eligible for the National Register. However, should any previously undiscovered historic or prehistoric resources be found during construction, work should stop, in accordance with CEQA regulations, until such time that the resource can be evaluated by a qualified archaeologist and appropriate mitigative action taken as determined necessary by the City or County Lead Agency.

In the event that Native American human remains or funerary objects are discovered, the provisions of the California Health and Safety Code should be followed. Section 7050.5(b) of the California Health and Safety Code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

The County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission within 24 hours. The Commission has various powers and duties to provide for the ultimate disposition of any Native American remains, as does the assigned Most Likely Descendant. Sections 5097.98 and 5097.99 of the Public Resources Code also call for "protection to Native American human burials and skeletal remains from vandalism and inadvertent destruction." Please don't hesitate to give me a call if we may be of further assistance or answer any questions you may have regarding the survey or this report.

Sincerely,

WILLIAM SELF ASSOCIATES

Paul Farnsworth, Ph.D., RPA
Project Director

Attachments

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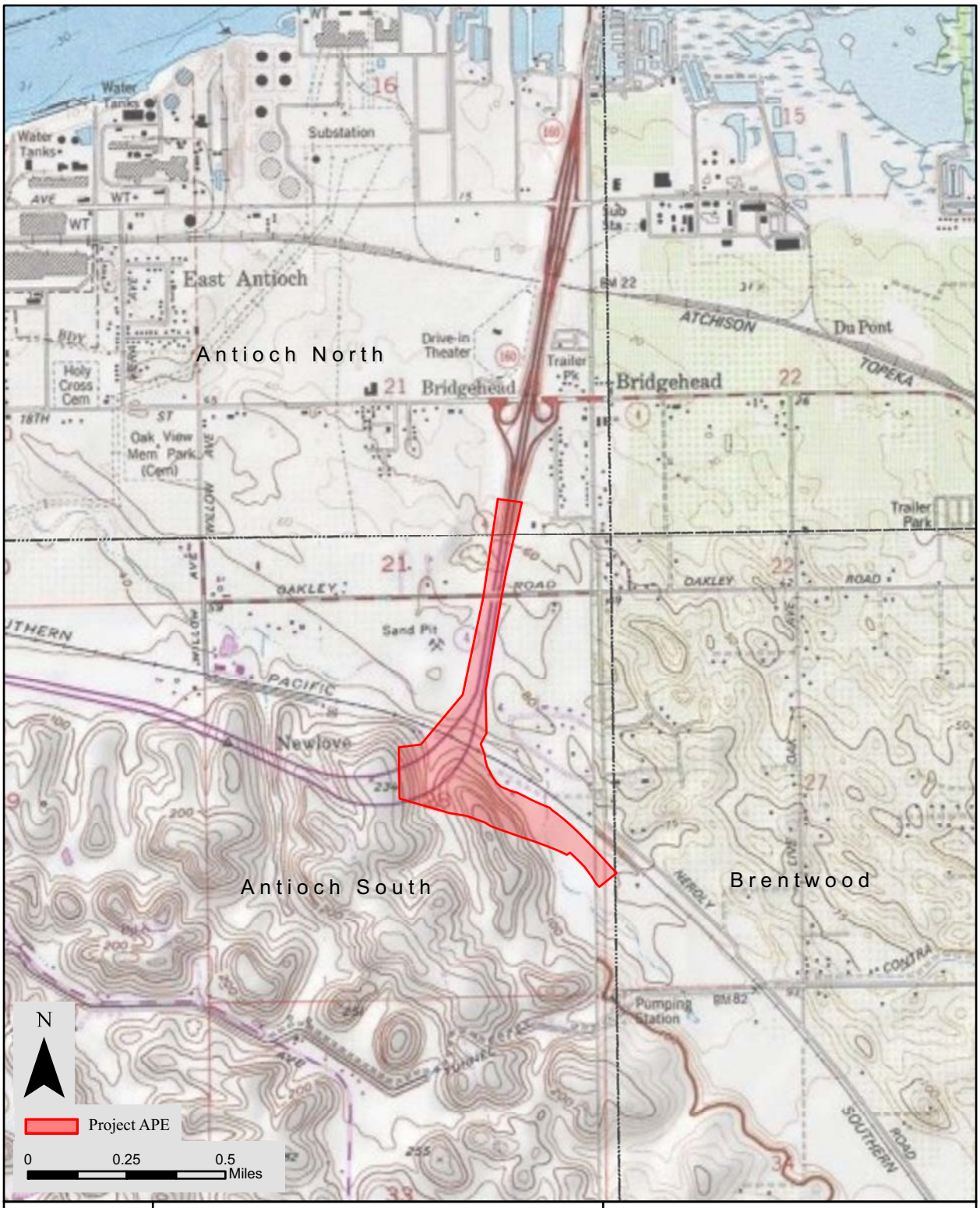
Appendix A

Figures

- Figure 1: Project Vicinity Map
- Figure 2: Project Area Map
- Figure 3: Project Location Map
- Figure 4: Area of Potential Effects (APE)
- Figure 5: Project Location on 1862 General Land Office Plat Map T2N R2E
- Figure 6: Project Location on 1876 General Land Office Plat Map T2N R2E
- Figure 7: Project Location on 1918 Antioch North, 1916 Antioch South and 1914 Brentwood 7.5' USGS Topo Quads
- Figure 8: Areas Surveyed within the Project APE

WSA	Project Vicinity Map	Figure 1 Circle Point SR-4 Bypass SR-4/160 Connectors Contra Costa County, CA

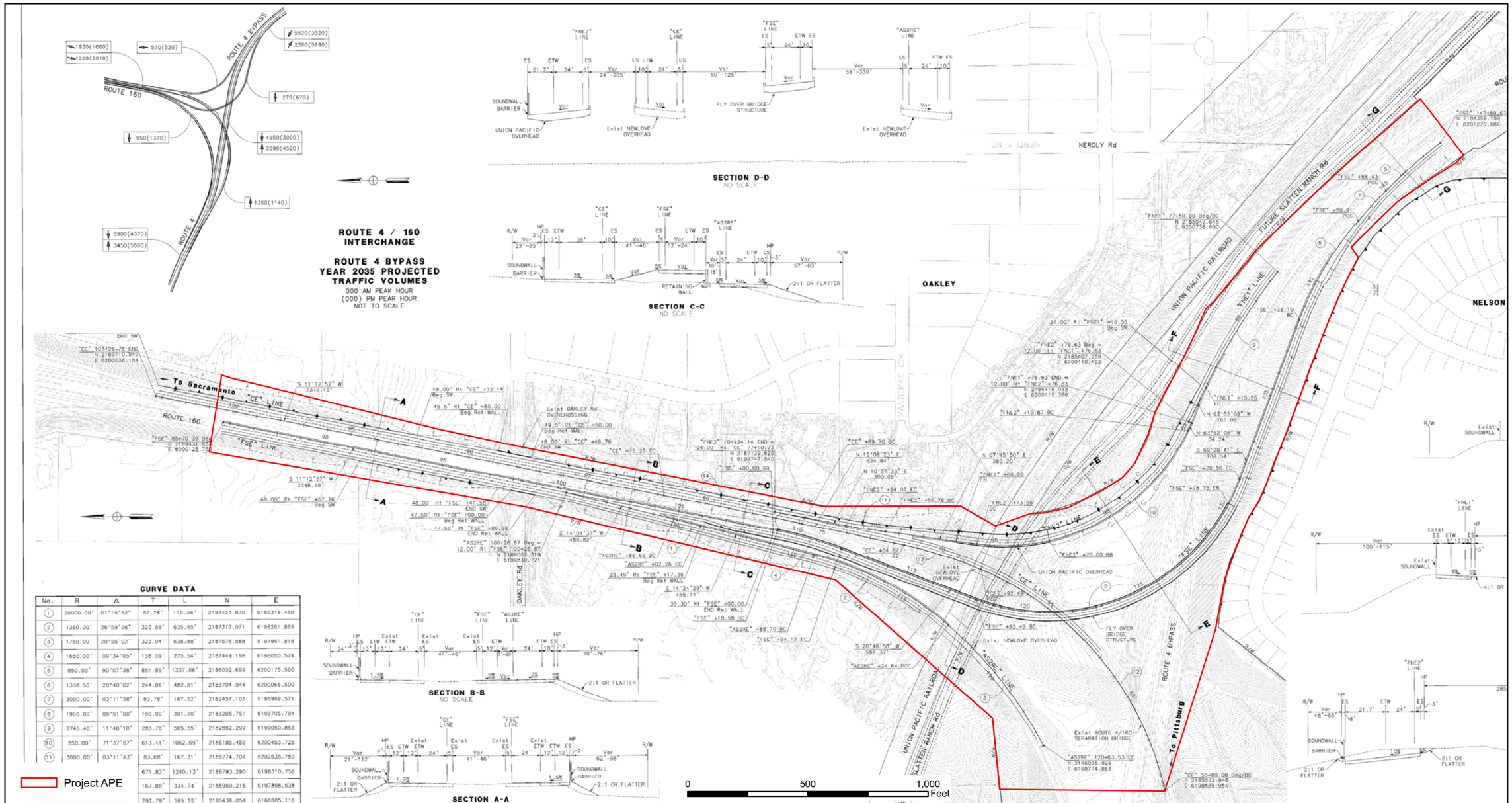
WSA	Project Area Map	Figure 2 Circle Point SR-4 Bypass SR-4/160 Connectors Contra Costa County, CA



WSA

Project Location Map
Antioch North, Antioch South
and Brentwood 7.5' USGS Topo Quads

Figure 3
Circle Point
SR-4 Bypass SR-4/160 Connectors
Contra Costa County, CA



CURVE DATA

No.	R	Δ	T	L	N	E
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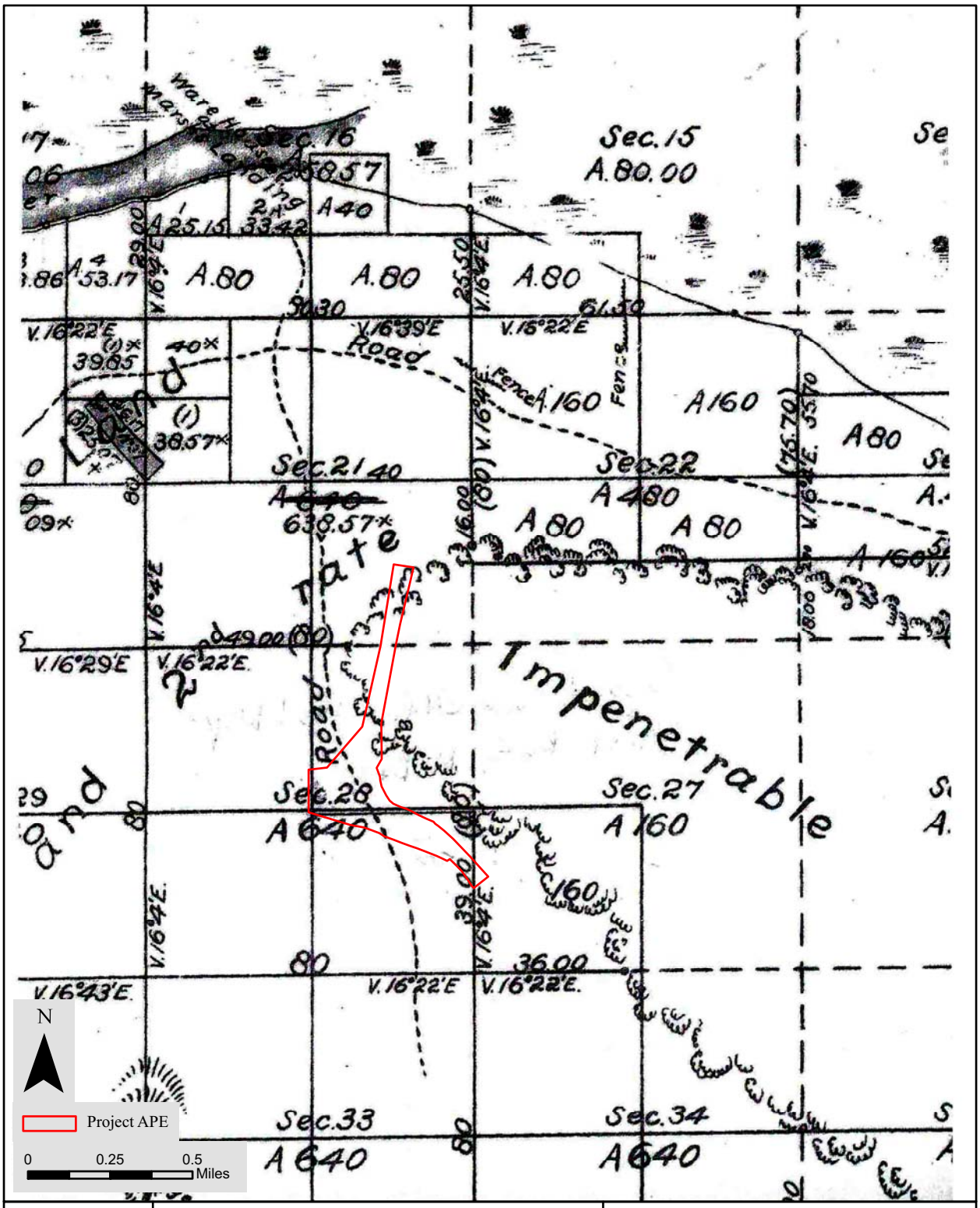
2	1350.00'	26°59'26"	323.99'	635.95'	2187312.071	6198261.869
3	1750.00'	20°55'02"	323.04'	638.88'	2187576.588	6197961.818
4	1650.00'	09°34'05"	138.09'	275.54'	2187449.198	6198050.574
5	850.00'	90°07'38"	851.89'	1337.06'	2186002.699	6200175.590
6	1338.50'	20°40'02"	244.06'	482.81'	2183704.944	6200066.599
7	3000.00'	03°11'58"	83.78'	167.52'	2182457.102	6198969.571
8	1950.00'	08°51'00"	150.90'	301.20'	2183205.751	6199705.794
9	2745.40'	11°48'10"	283.78'	565.55'	2182882.299	6199050.853
10	850.00'	71°37'57"	613.41'	1062.69'	2186185.459	6200493.725
11	3000.00'	03°11'43"	83.68'	167.31'	2186274.704	6200635.783
			671.82'	1240.13'	2186793.290	6198310.758
			167.88'	334.74'	2186969.216	6197898.538
			292.78'	585.55'	2195436.054	6160605.116

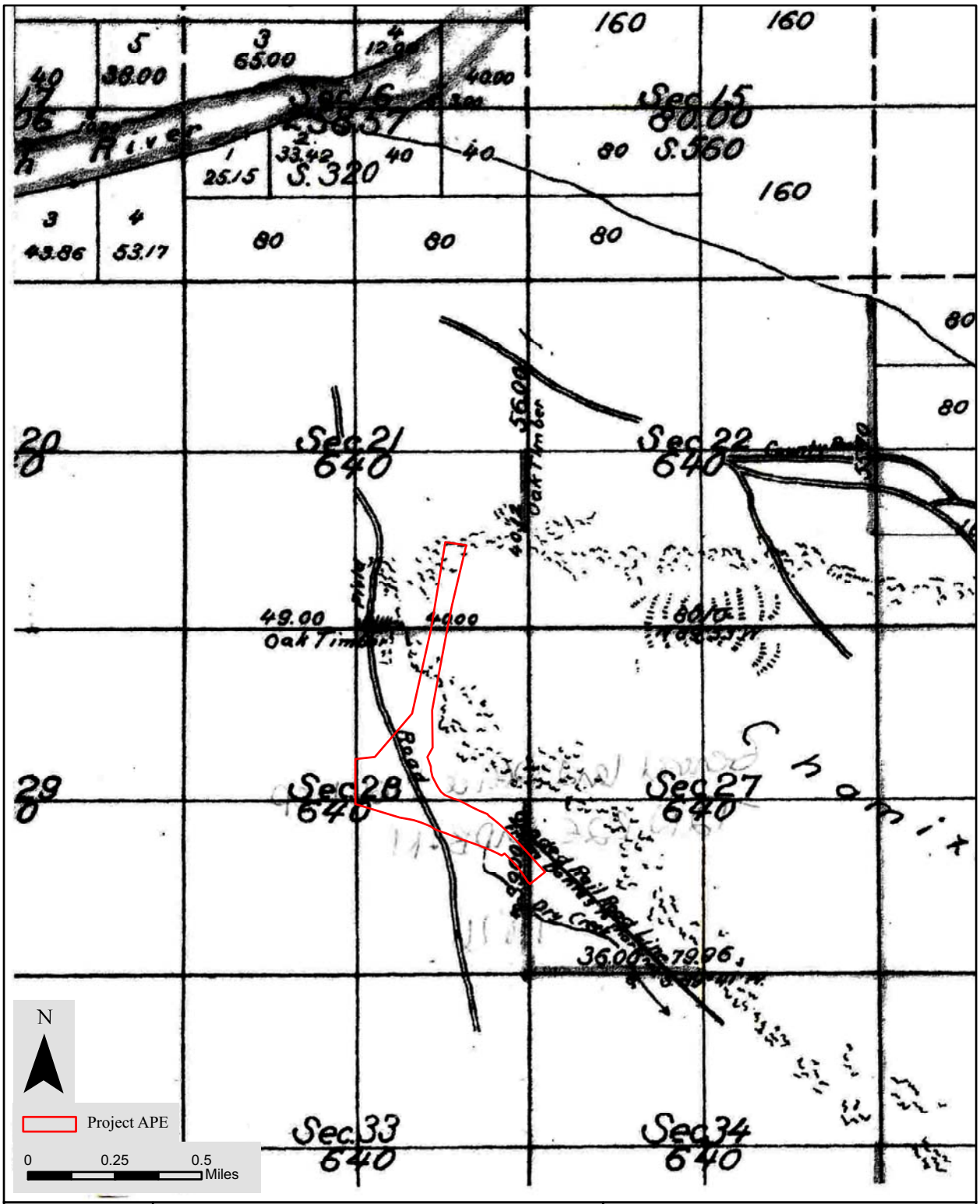
WSA

Area of Potential Effects (APE)

Figure 4
Circle Point
SR-4 Bypass SR-4/160 Connectors
Contra Costa County, CA



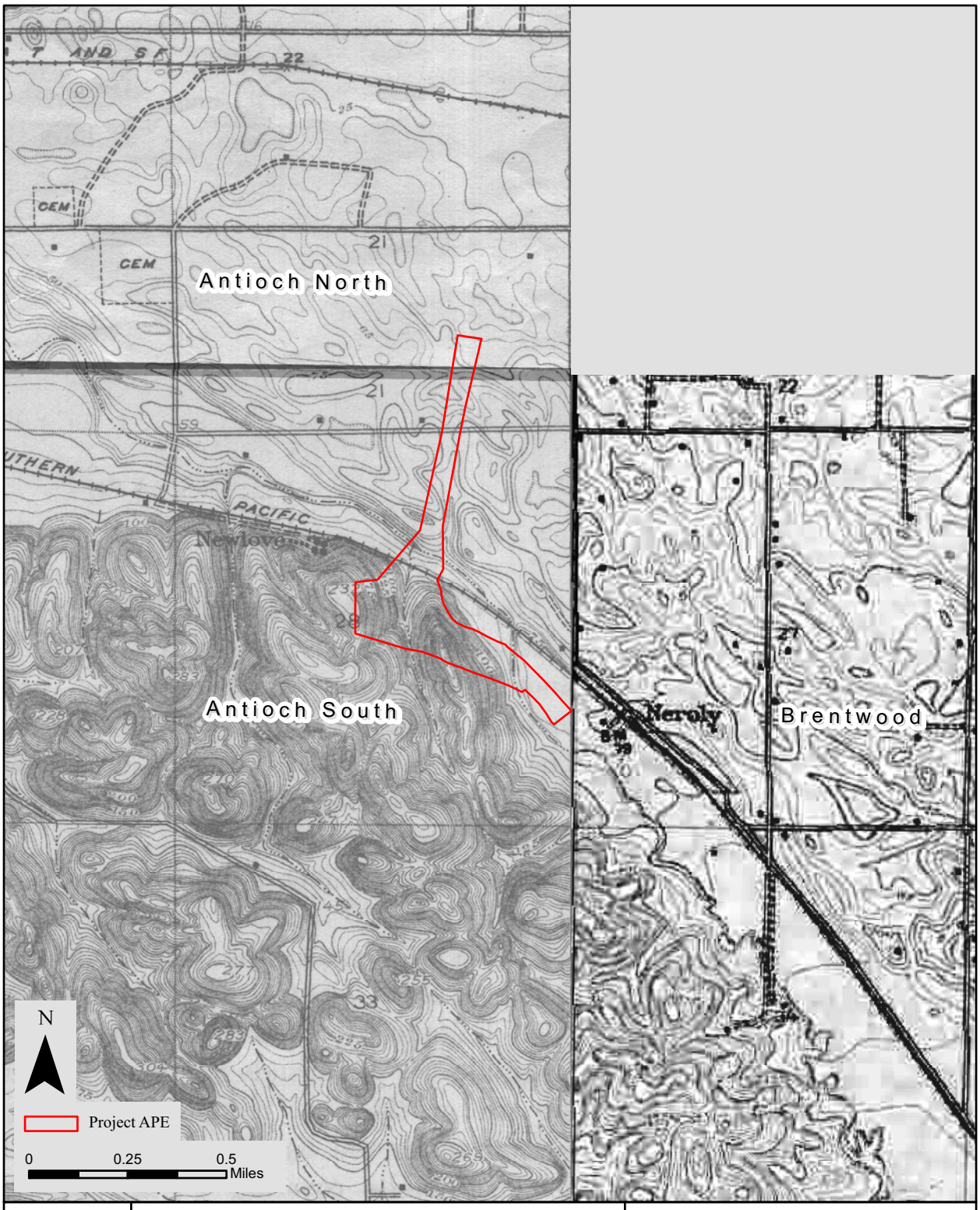
WSA	Project Location on 1862 General Land Office Plat Map T2N/R2E	Figure 5 Circle Point SR-4 Bypass SR-4/160 Connectors Contra Costa County, CA



WSA

Project Location on
1876 General Land Office Plat Map
T2N/R2E

Figure 6
Circle Point
SR-4 Bypass SR-4/160 Connectors
Contra Costa County, CA



WSA

Project Location Map on
1918 Antioch North, 1916 Antioch South
and 1914 Brentwood 7.5' USGS Topo Quads

Figure 7
Circle Point
SR-4 Bypass SR-4/160 Connectors
Contra Costa County, CA

WSA	Areas Surveyed within the Project APE	Figure 8 Circle Point SR-4 Bypass SR-4/160 Connectors Contra Costa County, CA

APPENDIX D
Initial Site Assessment

INITIAL SITE ASSESSMENT

STATE ROUTE 4 BYPASS
STATE ROUTE 4/160 CONNECTORS PROJECT
OAKLEY, CALIFORNIA

PREPARED FOR:
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MARK THOMAS & COMPANY, INC.
1960 ZANKER ROAD
SAN JOSE, CALIFORNIA

PREPARED BY:
GEOCON CONSULTANTS, INC.
6671 BRISA STREET
LIVERMORE, CALIFORNIA

GEOCON

GEOCON PROJECT No. E8546-06-01

OCTOBER 2010

Project No. E8546-06-01
October, 2010

Mike Lohman
Mark Thomas and Company, Inc.
1960 Zanker Road
San Jose, California 95112

Subject: STATE ROUTE 4 BYPASS STATE ROUTE 4/160 CONNECTORS PROJECT
OAKLEY, CONTRA COSTA COUNTY, CALIFORNIA
INITIAL SITE ASSESSMENT

Dear Mr. Lohman:

We have performed an Initial Site Assessment (ISA) of the State Route 4 (SR-4) Bypass SR-4/160 Connectors Project (the Site), located in Oakley, Contra Costa County, California.

The accompanying report presents the details of the ISA conducted at your request as part of the SR-4 Bypass SR-4/160 Connectors Project on behalf of Mark Thomas and Company and the State of California Department of Transportation. The report summarizes our findings relative to potential contaminated properties identified within the project environmental study area (ESA) that may impact construction of the proposed highway improvements.

Please contact us should you have any questions concerning the contents of this ISA or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Lauren Vigliotti
Senior Staff Geologist

Rebecca Silva, REA
Senior Project Scientist

LV:RS

(7 + 1CD) Addressee

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B. EDR Historical Topographic Map Report
C. EDR Aerial Photo Decade Package
D. EDR Executive Summary, Site Reports, Orphan Summary and Overview Map (Complete EDR Corridor Report - CD Pocket)
E. Caltrans ISA Checklist

LIST OF ACRONYMS

ADL	aerially deposited lead
API	American Petroleum Institute
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
Caltrans	State of California Department of Transportation
CD	compact disc
CEG	Certified Engineering Geologist
CHMIRS	California Hazardous Materials Information Report System
CVRWQCB	Central Valley Regional Water Quality Control Board
DOGGR	Department of Oil, Gas and Geothermal Resources
DTSC	Department of Toxic Substance Control
EB	Eastbound
EDR	Environmental Data Resources
ESA	environmental study area
ISA	Initial Site Assessment
kg	kilogram
LUST	leaking underground storage tank
Map ID No.	map identification number
mg/l	milligrams per liter
MTCo	Mark Thomas & Company, Inc.
NB	Northbound
PE	Professional Engineer
PG&E	Pacific Gas & Electric
RCRA	Resource Conservation and Recovery Act
REA	Registered Environmental Assessor
REC	recognized environmental condition
ROW	right-of-way
SB	Southbound
SLIC	Spills, Leaks, Investigations, and Cleanups
SQG	Small Quantity Generator
SR	State Route
SWRCB	California State Water Resources Control Board
TPHd	total petroleum hydrocarbons as diesel
TPHg	total petroleum hydrocarbons as gasoline
TPHmo	total petroleum hydrocarbons as motor oil
UPRR	Union Pacific Railroad
USGS	United States Geological Survey
UST	underground storage tank

EXECUTIVE SUMMARY

Geocon Consultants, Inc. performed an Initial Site Assessment (ISA) of the State Route 4 (SR-4) Bypass SR-4/160 Connectors Project. The project consists of segments of SR-4 and SR-160, and surrounding land, in the vicinity of Oakley, Contra Costa County, California.

The ISA was performed as part of the SR-4 Bypass SR-4/160 Connectors Project conducted on behalf of Mark Thomas and Company, Inc. (MTCo) and the State of California Department of Transportation (Caltrans) to evaluate the presence of potential contaminated properties within the project environmental study area (ESA) that may impact selection of project build alternatives, temporary construction easements, and construction of the proposed improvements. The ISA included a site reconnaissance and review of historical topographic maps, aerial photographs, regulatory databases, facility-related documents, and other site-related record sources.

The results of the ISA indicate the following:

- Concentrations of aerially deposited lead (ADL) at levels exceeding hazardous waste criteria may be present in shallow soil within the unpaved shoulders and median of the existing SR-4 and SR-160 right-of-way (ROW). Additionally, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing WB SR-4 and EB SR-4 connectors to SR-160. An ADL investigation should be performed along the SR-4 and SR-160 corridors to evaluate lead concentrations in planned excavation areas and associated soil material management and disposal requirements.
- Other potential identified environmental constraints included at the Site include bridge structure asbestos-containing materials and lead-containing paint, and yellow thermoplastic and paint striping. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans Special Provisions. Asbestos-containing pipe and treated-wood may also be encountered during planned demolition and construction of new highway improvements. Any encountered asbestos-containing pipe or treated-wood waste will require proper handling and disposal in accordance with regulatory requirements.
- Union Pacific Railroad tracks cross the central portion of the Site. Potential accidental releases or impacts from railroad construction and historical operations (e.g., railroad ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the Site.
- Although there are no indications that contaminated groundwater will be encountered during the proposed construction project, we conservatively recommend groundwater sampling at overcrossing structures if planned bridge widening activities extend to the depth of groundwater to evaluate construction de-watering disposal options and potential exposure of workers to potential contaminated media.
- Based on the project location and proposed construction activities, environmental impacts at identified and potentially contaminated facilities within the project ESA represent a low risk to the design and construction of the planned SR-4 Bypass SR-4/160 Connectors Project (see Table 1).

First encountered groundwater in the general vicinity of the project ESA is at depths between approximately 25 and 30 feet. There are two properties located within the project ESA that are associated with open cleanup cases due to groundwater contamination, including:

- PG&E Oakley Road Metering Site, Oakley Road and Phillips Lane, Antioch (Map ID No. 6)
- Hickson-Kerley Property, Oakley Road, Antioch, CA (Map ID No. 13)

However, based on the project limits, and the location of these facilities with respect to the Site, these properties represent a low risk to the design and construction of the planned SR-4 Bypass SR-4/160 Connectors Project.

The results of the site reconnaissance, historical and regulatory file research, and prior field investigations have not indicated the potential presence of abandoned underground storage tanks (USTs) within the existing Caltrans ROW. If encountered, undocumented USTs, septic systems and domestic/agricultural wells should be properly removed or abandoned in accordance with Contra Costa County requirements.

INITIAL SITE ASSESSMENT

1.0 INTRODUCTION

This report presents the results of an Initial Site Assessment (ISA) of the State Route 4 (SR-4) Bypass SR-4/160 Connectors Project (the Site) performed by Geocon Consultants, Inc., conducted on behalf of Mark Thomas & Company, Inc. (MTCo) and the State of California Department of Transportation (Caltrans). The project consists of segments of SR-4 and SR-160, and surrounding land, in the vicinity of Oakley, Contra Costa County, California. The approximate site location is depicted on the Vicinity Map, Figure 1.

1.1 Purpose and Scope of Services

The ISA was performed as part of the SR-4 Bypass SR-4/160 Connectors Project and conducted on behalf of MTCo and Caltrans to evaluate the presence of potential contaminated properties within the vicinity of the Site, or environmental study area (ESA), defined as being located within ¼-mile of the Site, that may impact selection of project build alternatives, temporary construction easements, and construction of the proposed highway improvements. The ISA was performed in general accordance with the *Caltrans Initial Site Assessment Guidance Document* and project-specific scoping.

The goal of the ISA was to evaluate the potential presence of "recognized environmental conditions" (RECs) as defined by the American Society for Testing and Materials (ASTM) Designation E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* Section 1.1.1 of the ASTM Standard E 1527-05 defines the term "recognized environmental conditions" as *"the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property."* The term as further defined by ASTM *"is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment."* "Historical recognized environmental conditions" are defined as an *"environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently."*

The main components of this report, as specified by the Caltrans ISA Guidance and ASTM Standards, include the following:

- **Physical Setting:** Physical setting references were reviewed and observations made to obtain information concerning the topographic, geologic, and hydrogeologic characteristics of the Site and vicinity. Such information may be indicative of the direction and/or extent that a contaminant could migrate in the event of a spill or release.

- **Site Reconnaissance:** The objective of the site reconnaissance is to observe conditions and activities for indications of evidence of RECs. A site reconnaissance was performed by making onsite observations of Caltrans right-of-way (ROW), and from public thoroughfares at adjacent and surrounding properties.
- **Site History:** The purpose of consulting historical references is to develop a history of the previous uses of the Site and surrounding area in order to identify if past uses have led to RECs in connection with the Site. Historical sources reviewed included prior environmental reports, aerial photographs, and topographic maps.
- **Records Review:** The objective of the records review is to obtain and review records that will help identify RECs at or potentially affecting the Site. We reviewed publicly available federal, state, and local regulatory agency records for facilities located near and within the project ESA.

1.2 Report Limitations

This ISA report has been prepared exclusively for Mark Thomas & Company, Inc. (the Client) and Caltrans. The information obtained is only relevant for the dates of the records reviewed or as of the date of the latest site visit. Therefore, the information contained herein is only valid as of the date of the report and will require an update to reflect recent records and site observations.

This report is not a comprehensive site characterization and should not be construed as such. The findings and conclusions presented in this report are predicated on the site reconnaissance, a review of the historical usage of the Site, and a review of the specified regulatory records as presented in this report. It should be noted that wetlands delineation, asbestos and lead-containing paint (non-bridge) structure surveys, lead in drinking water, radon, methane gas, and mold surveys were not included in the scope of services for this report.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the ISA is implied within the intent of this report or any subsequent reports, correspondence or consultation, either express or implied. We strived to conduct the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

2.0 PHYSICAL SETTING

This section provides a brief description of the physical setting of the Site and surrounding vicinity including topography, geologic and hydrogeologic conditions. Observations of onsite conditions are described in Section 3.0.

2.1 Existing Conditions and Improvements

The Site includes an approximately 1,200-foot segment of the SR-4 Bypass, which consists of two lanes in each direction in a northwest-southeast orientation, and an approximate 1,200-foot segment of SR-160 beginning from the SR-4 interchange to approximately 300 feet north of Oakley Road. SR-160

consists of two lanes in each direction in a north-south orientation. The existing SR-4/SR-160 connection consists of on- and off-ramps between SR-4 and SR-160 on the west side of the interchange. The Site also includes land that is existing Caltrans ROW located between existing SR-4 and the Union Pacific Railroad (UPRR).

According to *Construction Details Plan Sheet C-2*, dated November 8, 2002, provided by MTCo, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing Westbound (WB) SR-4 and Eastbound (EB) SR-4 connectors to SR-160. Specifically the area of buried ADL-containing soil is located 49.2 feet south of UPRR ROW, 35.5 feet east/southeast of WB SR-4, and 7.4 feet west/northwest of WB SR-4. According to the as-built plans, the buried area of ADL soil abuts the western side of the "Future SR-160 to SR-4 Connector Ramp (southbound to eastbound)." A copy of the as-built Plan Sheet C-2 is provided in Appendix A.

Surrounding properties consisted of residential use to the northeast, undeveloped and commercial use to the northwest, and undeveloped and residential use to the south. The proposed improvements will cross over existing UPRR ROW, which is located in the central portion of the project ESA. Site Plans depicting existing improvements and adjacent development are presented as Figures 2-1 and 2-2.

2.2 Proposed Improvements

A copy of the *Preliminary Geometrics, SR-4 Bypass SR-4/160 Connectors*, prepared by MTCo is provided in Appendix A. The project includes constructing a freeway to freeway connector in each direction between the SR-4 Bypass and SR-160, the approach to the Antioch Bridge.

Northbound Connector

The connector ramp exits from the WB SR-4 Bypass using standard freeway to freeway connector geometry, widening to two lanes for approximately 1,200 feet, and crossing over the UPRR ROW. The second lane will be dropped right before connecting to the existing EB SR-4 to Northbound (NB) SR-160 connector without ramp metering. The project will add one additional lane to the outside north shoulder underneath the Oakley Road Overcrossing extending approximately 3,000 feet and exiting at the SR-160/E. 18th/Main Street interchange. A sound wall will be constructed along this ramp connecting to the existing sound wall on the SR-4 Bypass and extending up to Oakley Road.

Southbound Connector

Southbound (SB) SR-160 will be widened by one lane to the outside starting at the SR-160/E. 18th/Main Street Interchange, extending 1,400 feet under the Oakley Road Overcrossing, to a standard freeway to freeway connector diverge geometry for SB SR-160 to WB SR-4. The mainline SR-160 to EB SR-4 Bypass widens to two lanes immediately after the WB SR-4 exit rising up and crossing over the UPRR ROW, the EB SR 4 to NB SR-160 connector, and the SR-4 Bypass. The mainline then

extends approximately 3,300 feet before dropping a lane at the ramp metering limit line and merging into the EB SR-4 Bypass.

2.3 Review of USGS Topographic Map

Review of the 1980 United States Geologic Survey (USGS) topographic map for the Antioch South, California quadrangle indicates that the project ESA is located at elevations between approximately 60 and 200 feet above mean sea level. The Site generally slopes to the north, towards San Pablo Bay. The southern portion of the Site consists of undeveloped hilly land, and the northern portion of the Site includes agricultural land. The map depicts SR-4 running generally northwest-southeast to its connection with SR-160, which runs north-northeast across the Site. The UPRR is located to the north of SR-4 and runs generally northwest-southeast across the central portion of the Site. Oakley Road runs east-west across the northern portion of the Site. A sand pit is depicted along the northwestern edge of the Site. A surface water canal runs generally east-west just south of the Site. Surrounding areas in the vicinity of the Site are generally depicted as undeveloped or agricultural land in each direction.

2.4 Regional Geology, Hydrology and Groundwater Occurrence

According to the U.S. Department of Agriculture Soil Conservation Service, surface soils at the Site generally consist of the Diablo unit, which is characterized as clay and silty clay underlain by weathered bedrock to depths of approximately 4.5 feet. The USGS Geologic Map of the San Francisco Bay Region (March 2006) indicates that the project ESA is located in an area of Quaternary beach and dune sand deposits.

According to information gathered by Environmental Data Resources (EDR), an area of the northwestern portion of the project ESA is located within the Federal Emergency Management Agency 100-year flood zone and is registered in the U.S. Fish and Wildlife Service National Wetlands Inventory.

We checked the California State Water Resources Control Board (SWRCB) GeoTracker website for groundwater information at leaking underground storage tank (LUST) facilities in the vicinity of the Site. Based on site investigation reports prepared for nearby LUST facilities, first encountered groundwater is at depths between approximately 25 and 30 feet, and generally flows to the north, toward San Pablo Bay. However, groundwater depth and flow may be influenced by local hydrogeologic conditions, topographic features, pumping wells, and irrigation.

3.0 SITE RECONNAISSANCE

We performed a reconnaissance of the Site and surrounding area on August 26, 2010. The purpose of the reconnaissance was to survey the existing SR-4 corridor, SR-4/160 interchanges and connectors,

and Caltrans ROW at the Site. Additionally, we observed properties adjacent to the Site from public thoroughfares to attempt to identify visual indicators of potential contaminated properties/impacts.

Site Plans depicting potential contaminated properties in the vicinity of the Site with indicated Map Identification Numbers (Map ID No.) are presented as Figures 2-1 and 2-2. Table 1 lists the identified potential contaminated properties along with their respective Map ID No. and potential impact (low risk) to the proposed construction project. Photographs of the Site and identified potential contaminated properties taken during the site reconnaissance are attached. Information presented hereinafter is based on observations noted during the site reconnaissance.

3.1 Existing Improvements

At the southern portion of the Site, the SR-4 Bypass is a four-lane divided highway aligned in an approximate southeast-northwest orientation with unpaved median and shoulders. There is a metal-beam guardrail along the center median.

The central portion of the Site consists of the existing EB and WB SR-4 connector structures which curve from the west to the north toward the approach to SR-160. SR-4 within the central portion of the Site includes two-lane connector ramps and three travel lanes in each direction. Concrete barriers run along the median and along the connectors, until the structures become separated by grassy land (Caltrans ROW) at the top of a hill. The northern section of grassy land between the two connector structures appeared burned at the time of reconnaissance. This grassy area between the connectors is the area of buried ADL-containing soil that is identified in the Construction Details sheet C-2 provided by MTCo (Appendix A). Caltrans ROW along the SR-4 connectors also includes the UPRR overcrossings.

Existing Caltrans ROW east of the EB SR-4 connector includes a flat area of grassy land at the top of the hill, just north of the SR-4 Bypass. Approximately 70 to 100 yards of dark gray soil was located in this flat, open area at the time of reconnaissance.

The SR-4 corridor north of the connector structures consists of a four-lane divided highway with unpaved median and shoulder areas, oriented generally north-south to the approach to SR-160.

The potential exists for elevated lead concentrations in shallow soils at the Site due to ADL from historical automotive vehicle emissions. Also, yellow thermoplastic and paint striping, potentially containing lead chromate, was observed on roadway surfaces at the Site. Suspect asbestos-containing materials and possible lead-containing paint may be present in the connector and UPRR overcrossing structure materials.

The UPRR crosses the central portion of the Site. Potential accidental releases or impacts from current railroad construction and historical operations (e.g., ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the Site. Evidence of other potential hazardous waste impacts within the existing Caltrans ROW was not observed during the site reconnaissance.

3.2 Adjacent Property Conditions

Observations of adjacent property and facility conditions noted during the site reconnaissance are summarized as follows.

- Mixed commercial and residential development comprises the northeastern portion of the project ESA, adjacent to the SR-4 approach to SR-160 and south of Oakley Road.
- Undeveloped grassy land is located in the northwestern portion of the project ESA, between the UPRR ROW and Oakley Road.
- Unoccupied industrial buildings are located at the Hickson-Kerley facility, situated directly south of UPRR ROW and north of the EB SR-4 Connector. This facility is discussed in more detail in Sections 4.0 and 5.0.
- UPRR ROW, Neroly Road, and residential development are located to the east of the EB SR-4 Bypass, in the southeastern portion of the project ESA.
- Residential development comprises the southern portion of the project ESA, adjacent to the WB SR-4 Bypass.

Land surrounding the project ESA generally consists of mixed commercial and residential developments in suburban areas between Antioch and Oakley.

4.0 SITE HISTORY

This section summarizes the history of the Site and surrounding vicinity based on review of aerial photographs and topographic maps provided by EDR. The topographic maps included 15-minute and 7.5-minute series dated between 1896 and 1980. The set of aerial photographs had scales ranging from 1 inch = 333 feet to 1 inch = 690 feet, dated between 1939 and 2005. Copies of the maps and aerial photos are provided as Appendix B and C, respectively. We also reviewed oil and gas well maps provided by EDR and available from the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR).

4.1 Review of Historical Topographic Maps and Aerial Photographs

The project ESA is depicted in the northeast corner of the 1896 Mount Diablo Quad map. The railroad tracks identified as the “San Francisco & New Orleans Line” are present. Intersecting north-south and east-west roads are shown in the general configuration of Willow Avenue and Oakley Road. Remaining portions of the project ESA and surrounding area consisted of undeveloped land. The project ESA is identified as “Neroly.” The project ESA and surrounding area appear generally unchanged in the 1912 Mount Diablo Quad map and 1914 Brentwood Quad map, in which the Site is located in the northwest corner.

The 1916 Lone Tree Valley Quad map shows four large and four smaller oil tanks identified as "Newlove" (Hickson-Kerley Property) directly south of the railroad tracks in the western portion of the project ESA. The surrounding area is still undeveloped at this time. The next available historical document is the 1939 aerial photograph, which shows an industrial facility (at the location of the Hickson-Kerley property) located in the western portion of the project ESA, directly south of the railroad tracks. The industrial facility includes three large and one smaller round oil tanks, a large square building and several smaller structures. In general, land to the south of the railroad tracks is undeveloped, and land to the north appears to be orchards. A railroad spur heads northeast through the Site to an area of disturbed land that appears to be a quarry. The project ESA and surrounding area appear generally unchanged in the 1947 Mt. Diablo Quad map and 1948 aerial photo, with the exception of land to the south of the railroad tracks. The land appears to be plowed and contains a number of unimproved roads. Additionally, at least a dozen square structures are scattered throughout this area, at the ends of the roads.

The 1953 Antioch South Quad and 1954 Brentwood Quad maps depict the Hickson-Kerley oil tanks and the sand pit at the end of the railroad spur to the north. Willow Avenue and Oakley Road are shown in their current configurations. The remaining portions of the project ESA and surrounding area consist of orchards to the north and undeveloped land to the south of the railroad tracks. The project ESA and surrounding area appear generally unchanged in the 1958 and 1965 aerial photographs. The 1968 Antioch South Quad map depicts three large and five smaller oil tanks as well as two buildings at the industrial facility. Three buildings are shown at the western edge of the project ESA, near the terminus of Willow Road at the railroad tracks. The area appears otherwise unchanged.

The 1973 Antioch South quad map and the 1974 aerial photograph depict SR-4 at the Site, which appears similar to the current configuration. SR-4 curves from west to north around the Hickson-Kerley Property and crosses beneath Oakley Road. Several buildings and structures that appear to be either a residence or business are shown on the aerial photograph in the southeastern portion of the project ESA. The project ESA and surrounding area generally appear otherwise unchanged. The 1980 Antioch South quad map indicates that the Hickson-Kerley Property oil tanks are no longer present; however, the two buildings remain. The sand pit is also still shown. Several small structures that appear to be residences are located to the south and east of SR-4. The land south of the railroad tracks is still undeveloped at this time. The 1984 aerial photograph indicates similar conditions as the 1980 map. Additionally, the Hickson-Kerley Property consists of three large buildings.

The 1993 and 1998 aerial photographs show significant residential development in the northeast and southwest portions of the project ESA and surrounding area. The 2005 aerial photograph appears generally similar to the previous photos, except that the southeastern portion of the project ESA has been graded for the residential development that is now present.

4.3 Review of Division of Oil, Gas, and Geothermal Resources Maps

We reviewed provided information provided by EDR and oil and gas well maps available from the California Department of Conservation, DOGGR. Map 608, dated January 28, 2010, depicts the project ESA and surrounding area. The abandoned Brentwood and Riverbreak Gas fields are located south and east of the project ESA. Two oil and gas wells identified as "plugged and abandoned – dry hole" are located within the project ESA and include the following:

- "Brazos Oil & Gas Co, "Antioch Unit A" 1, American Petroleum Institute (API) Number 01300278
- McFarland Energy, Inc., "Calplans-New Love" 1, API Number 01320142

These wells are discussed in more detail in Section 5.3. A copy of the DOGGR map for the area is presented in Appendix D.

5.0 REGULATORY AGENCY RECORDS

This section describes the review of regulatory agency database and the following online resources:

- SWRCB GeoTracker website (http://geotracker.waterboards.ca.gov)
- Contra Costa Health Services Hazardous Materials division, http://www.cchealth.org/z/app/facility_search/
- City of Antioch, http://www.ci.antioch.ca.us/
- Department of Toxic Substances Control website, http://www.envirostor.dtsc.ca.gov/public/
- U.S. Environmental Protection Agency Envirofacts http://www.epa.gov/enviro/index.html

5.1 Database Review

EDR performed a search of federal, state, and local databases for the Site and surrounding areas. Copies of the EDR database executive summary, site reports and overview map are presented in Appendix D. A complete electronic copy (CD) of the report entitled EDR Radius Map Report With GeoCheck, dated August 18, 2010, is also presented in Appendix D (CD pocket).

5.1.1 Site

The existing SR-4 and SR-160 corridors were not listed in the referenced EDR database search report or in our additional online database reviews.

5.1.2 Adjacent Properties

Based on the database search performed by EDR and our supplemental online research, the following sections provide information regarding listed properties located within approximately ¼-mile upgradient, ⅛-mile crossgradient (based on reported groundwater flow directions), or adjacent to the Site. Additional information for these facilities is presented in the Regulatory Case Document Review Section (5.2) of this report.

CONTRA COSTA COUNTY SITE LIST

There are seven facilities listed on the Contra Costa Co. Site List, which includes underground storage tank (UST), hazardous waste generator, and business plan programs. The following facilities are located within the project ESA:

- Chevron 9-3801, 5433 Neroly Road, Oakley (Map ID No. 1)
- ARCO Products #6301, 5540 Bridgehead Road, Oakley (Map ID No. 2)
- Bridgehead Plaza Beacon, 3629 E 18th Street, Antioch (Map ID No. 3)
- Paul's Automotive Service Center, 5060 Neroly Road, Oakley (Map ID No. 4)
- Matamores Pipelines Inc., 3991 Neroly Road, Oakley (Map ID No. 5)
- GTE Wireless/Oakley, Neroly Road/Laurel Road, Oakley (Map ID No. 6)
- Laurel Road/Neroly Road, Oakley (Map ID No. 7)

Bridgehead Plaza Beacon, ARCO Products, and Paul's Automotive Service Center appear to be active facilities. The other four facilities are indicated as inactive. The Laurel Road/Neroly Road facility is also listed in the Aboveground Storage Tank (AST) and California Hazardous Materials Incident Report System (CHMIRS) databases. The CHMIRS listing indicates an incident dated July 1989.

LUST Listings

There are three facilities in the project ESA in the LUST database, identified as:

- Chevron 9-3801, 5433 Neroly Road, Oakley (Map ID No. 1)
- Former Bridgehead Service Station, 5540 Bridgehead Road, Oakley (Map ID No. 2)
- Former A&A Market, 407 Main Street, Oakley (Map ID No. 8)

These LUST cases are further discussed in Section 5.2.

RCRA and Facility Index System Listings

The following six facilities in the project ESA that are referenced on the Resource Conservation and Recovery Act (RCRA) listings related to chemical use, storage and disposal:

- Chevron 9-3801, 5433 Neroly Road, Oakley (Map ID No. 1) is listed as an active Small Quantity Generator (SQG, generates between 100 and 1,000 kilograms of hazardous waste per month).
- ARCO Products #6301, 5540 Bridgehead Road, Oakley (Map ID No. 2) is listed as an inactive RCRA facility.
- Pacific Gas & Electric (PG&E) Oakley Road Metering Site, Oakley Road and Phillips Lane, Antioch (Map ID No. 9) are listed in the Hazardous Air Pollutant Emissions Inventory.

- Cobern Trucking, 3017 Frandroas Circle, Oakley (Map ID No. 10) is listed as an active Transporter of hazardous waste.
- PG&E Antioch District Maintenance Station, 5400 Neroly Road, Oakley (Map ID No. 11) is listed as an inactive RCRA facility.
- OPS Custom Paint and Body, 484 Elm Lane, Building 1, Antioch (Map ID No. 12) is listed as an active SQG of hazardous waste.

There are no violations reported in association with these facilities.

SLIC Listings

There are three facilities, both associated with PG&E, listed in the Department of Toxic Substances Control (DTSC) Spills Leaks Investigations and Cleanups (SLIC) database and include the following:

- PG&E Oakley Road Metering Site, Oakley Road and Phillips Lane, Antioch (Map ID No. 9)
- PG&E Antioch District Maintenance Station, 5400 Neroly Road, Oakley (Map ID No. 11)
- Hickson-Kerley Property, Oakley Road, Antioch, CA (Map ID No. 13)

The Oakley Road Metering Site is also listed in DTSC's ENVIROSTOR and the Emission Inventory databases. This facility is reportedly regulated by the Bay Area Air Quality Management District for emissions of total organic hydrocarbon gases. These facilities are further discussed in Section 5.2.

5.2 Regulatory Case Document Review

Regulatory agency files and EDR database details were reviewed for information pertaining to potential contaminated properties located within approximately ¼-mile upgradient, 1/8-mile crossgradient (based on reported groundwater flow directions), or adjacent to the Site. Information was also obtained from a review of available SWRCB GeoTracker reports. Information obtained from these sources is summarized hereinafter.

Chevron 9-3801, 5433 Neroly Road, Oakley (Map ID No. 1)

This facility is located at the intersection of Main Street and Neroly Road in the northeastern portion of the project ESA, and is associated with a closed LUST case (closed May 2002). There was a reported release of gasoline impacting an aquifer used as a drinking water supply. Based on available regional groundwater flow data, this facility is located hydraulically downgradient of the Site, as groundwater generally flows to the north. Residual contamination at this facility presents a low potential risk to the Site.

Former Bridgehead Service Station/ARCO Products #6301, 5540 Bridgehead Road, Oakley (Map ID No. 2)

This facility is located at the intersection of Main Street and Bridgehead Road, in the northeastern portion of the project ESA, and is associated with a closed LUST case (closed June 2003). This facility currently operates as an ARCO Products gas station (CC Co. Site List, Facility ID No.: 752684). There was a reported release of gasoline impacting an aquifer used as a drinking water

supply. Based on available regional groundwater flow data, this facility is located hydraulically downgradient of the Site. Residual contamination at this facility presents a low potential risk to the Site.

PG&E Oakley Road Metering Site, Oakley Road and Phillips Lane, Antioch (Map ID No. 6)

This facility is located south of Oakley Road, at the intersection of Phillips Lane, in the western central portion of the project ESA, and is an open case in the cleanup program with oversight from the Central Valley Regional Water Quality Control Board (CVRWQCB). According to the 2009 Annual Groundwater Monitoring Report, prepared by Parsons, dated October 2009, quarterly groundwater monitoring and sampling activities are conducted per Monitoring and Reporting Program Number R5-2005-0813. Groundwater samples are analyzed for total petroleum hydrocarbons as gasoline, diesel (TPHd), and motor oil, benzene, toluene, ethylbenzene, and xylenes , and naphthalene. Petroleum hydrocarbon compounds have been documented to be present in the soil and groundwater at the facility since investigations were initiated in 1991. A groundwater extraction and treatment system currently operates at the facility. Groundwater is reportedly encountered at depths between approximately 29 and 70 feet and flows toward the north/northwest, crossgradient relative to the project ESA. The most recent available analytical results for groundwater samples collected in July 2009 indicate that the extent of groundwater contamination is well defined. TPHd was reported at concentrations up to 200 milligrams per liter in wells along Oakley Road, directly north of the facility. Analytes were not detected at concentrations greater than laboratory reporting limits in groundwater samples collected from wells located east of the facility.

Based on available regional groundwater flow data, this facility is located hydraulically crossgradient of the Site. Groundwater contamination associated with the facility presents a low potential risk to the Site.

PG&E Antioch District Maintenance Station, 5400 Neroly Road, Oakley (Map ID No. 8)

This facility is located southeast of the intersection of Main Street and Neroly Road, in the northwestern portion of the project ESA, and is a closed SLIC case (closed March 2010). A No Further Action Required letter was issued by the CVRWQCB on November 21, 2003, and states that this facility was associated with a release of tetrachloroethene to groundwater. Based on available regional groundwater flow data, this facility is located hydraulically downgradient of the Site. Residual groundwater contamination that may be associated with the facility presents a low potential risk to the Site.

Former A&A Market, 407 Main Street, Oakley (Map ID No. 9)

This facility is located at the intersection of Main Street and Neroly Road, in the northwestern portion of the project ESA, and is a closed LUST case (closed December 1997). According to GeoTracker, there was a gasoline release to soil. Since there were no reported impacts to groundwater, the facility presents a low potential risk to the Site.

Hickson-Kerley Property (Map ID No. 13)

This facility is located directly south of UPRR ROW and north of the SR-4 EB connector, in the western portion of the project ESA. According to the *Final Environmental Impact Report (FEIR), Hillcrest Station Area Specific Plan, City of Antioch*, State Clearinghouse No. 2008052128, prepared by Dyett & Bhatia, April 2009, the facility operated as the Tidewater Associated Oil Company New Love Pump Station from approximately 1908 to sometime during the 1960s. The facility was used as a booster/heater station to heat crude oil for transport from the San Joaquin Valley to refineries in the

Bay Area. The facility included heaters, boilers, ASTs, associated pipelines, structures, and buildings. The ASTs included one 10,000-gallon, one approximately 15,000-gallon, two 30,000-gallon, and one 55,000-gallon barrel tanks. A sump area for wastewater storage and/or discharge was reportedly located on the north side of the railroad tacks, adjacent to a seasonal creek.

Chevron commissioned a soil and groundwater investigation in January 2008, the results of which showed the presence of petroleum hydrocarbon compounds in soil and groundwater samples.

Six active or former petroleum pipelines are also located within and parallel to the UPRR ROW in the vicinity of the former New Love Pump Station. This includes the inactive Chevron Old Valley Pipeline, which transported crude oil and Bunker C fuel oil. Additionally, a former agricultural chemical manufacturing facility operated in the area north of the UPRR ROW between approximately 1962 and 1992. A number of investigations have been conducted at these former facilities since 1995 and the results of the investigation show the presence of petroleum hydrocarbon compounds in soil and groundwater. Periodic groundwater monitoring program is ongoing at the facility. Groundwater reportedly flows toward the northwest and the contaminated plume does not appear to extend north of Oakley Road.

Additional investigations are underway at these former facilities to evaluate the extent of groundwater impacts under CVRWQCB oversight. Chevron is responsible for preparation of health risk assessments and soil/groundwater management plans for future grading and development in this area.

Based on available regional groundwater flow data, this facility is located hydraulically downgradient of the Site. Groundwater contamination associated with the facility presents a low potential risk to the Site.

5.3 Orphan Properties

The EDR *Orphan Summary* identifies properties that have incomplete address information and could not be specifically plotted. A total of 29 properties were listed in the *Orphan Summary*. The PG&E Gas Dehydrator Station listed on the *Orphan Summary* appears to be the same facility as the Oakley Road Metering Site, discussed above in Section 5.2. None of the other listed Orphan properties appear to be located within the project ESA.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Known and potential contaminated properties identified within the project ESA are presented on Table 1. Consideration should be given during the planning process to selecting the alternative that minimizes construction within areas of identified or potential contamination. Prior to final design for the proposed SR-4 Bypass SR-4/160 Connectors Project, preliminary site investigations should be performed to further evaluate potential and documented environmental impairments within the selected alternative project boundaries, impact on project costs, potential responsible party liability, and soil and groundwater material management during construction.

The results of the ISA indicate the following:

- Concentrations of ADL at levels exceeding hazardous waste criteria may be present in shallow soil within the unpaved shoulders and median of the existing SR-4 and SR-160 ROW. Additionally, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing WB SR-4 and EB SR-4 connectors to SR-160. An ADL investigation should be performed along the SR-4 and SR-160 corridors to evaluate lead concentrations in planned excavation areas and associated soil material management and disposal requirements.
- Other potential identified environmental constraints included at the Site include bridge structure asbestos-containing materials and lead-containing paint, and yellow thermoplastic and paint striping. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans Special Provisions. Asbestos-containing pipe and treated-wood may also be encountered during planned demolition and construction of new highway improvements. Any encountered asbestos-containing pipe or treated-wood waste will require proper handling and disposal in accordance with regulatory requirements.
- The UPRR tracks cross the central portion of the Site. Potential accidental releases or impacts from railroad construction and historical operations (e.g., railroad ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the Site.
- Although there are no indications that contaminated groundwater will be encountered during the proposed construction project, we conservatively recommend groundwater sampling at overcrossing structures if planned bridge widening activities extend to the depth of groundwater to evaluate construction de-watering disposal options and potential exposure of workers to potential contaminated media.
- Based on the project location and proposed construction activities, environmental impacts at identified and potentially contaminated facilities within the project ESA represent a low risk to the design and construction of the planned SR-4 Bypass SR-4/160 Connectors Project (see Table 1).

First encountered groundwater in the general vicinity of the project ESA is at depths between approximately 25 and 30 feet. There are two properties located within the project ESA that are associated with open cleanup cases due to groundwater contamination, including:

- PG&E Oakley Road Metering Site, Oakley Road and Phillips Lane, Antioch (Map ID No. 6)
- Hickson-Kerley Property, Oakley Road, Antioch, CA (Map ID No. 13)

However, based on the project limits, and their location with respect to the Site, these properties represent a low risk to the design and construction of the planned SR-4 Bypass SR-4/160 Connectors Project.

The results of the site reconnaissance, historical and regulatory file research, and prior field investigations have not indicated the potential presence of abandoned USTs within the existing Caltrans ROW. If encountered, undocumented USTs, septic systems and domestic/agricultural wells should be properly removed or abandoned in accordance with Contra Costa County requirements.

A Caltrans ISA Checklist summarizing the findings, conclusions, and recommendations of this ISA is presented in Appendix E.

7.0 REFERENCES

American Society for Testing and Materials (ASTM) Designation E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, 2005.

California State Water Resources Control Board (CSWRCB), *GeoTracker website*, (http://geotracker.waterboards.ca.gov), *various reports*. Reviewed August 2010.

Contra Costa Health Services Hazardous Materials division website, http://www.cchealth.org/z/app/facility_search/. August 2010.

City of Antioch, Community Development - Planning Division, http://www.ci.antioch.ca.us/CityGov/CommDev/PlanningDivision/#, August 2010

Department of Toxic Substances Control website, http://www.envirostor.dtsc.ca.gov/public/. August 2010.

Dyett & Bhatia, *Final Environmental Impact Report (FEIR), Hillcrest Station Area Specific Plan, City of Antioch*, State Clearinghouse No. 2008052128, April 2009

Parsons, *2009 Annual Groundwater Monitoring Report, PG&E Oakley Road Dehydrator Station, Contra Costa County, California*, October 2009.

Science Applications International Corporation, *Additional Groundwater Investigation Report*. April 16, 2009.

United States Environmental Protection Agency (USEPA) Envirofacts, http://www.epa.gov/enviro/index.html. August 2010.

United States Geological Survey, *Geologic Map of the San Francisco Bay Region.* March 2, 2006.

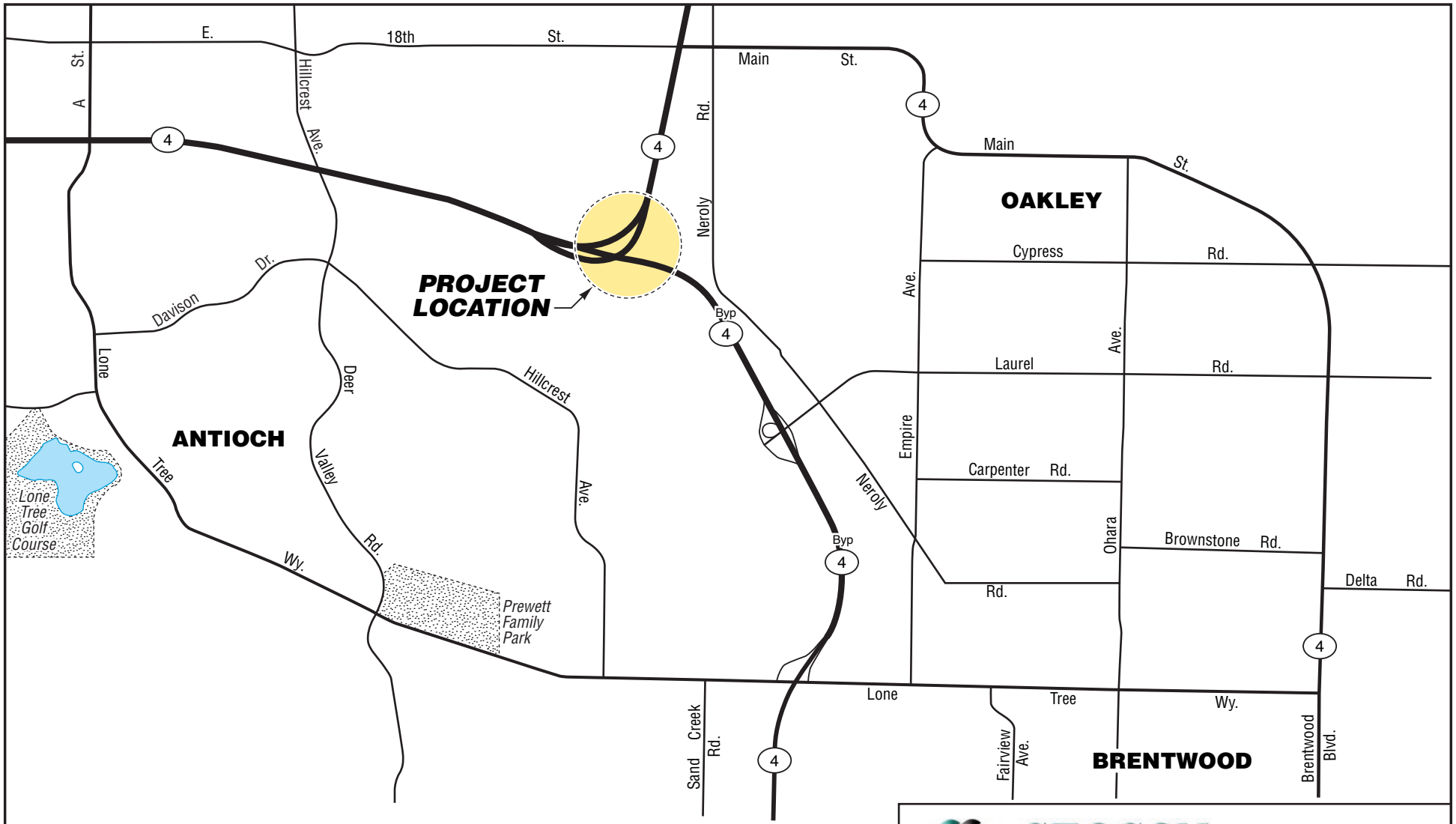
TABLE 1
SUMMARY OF IDENTIFIED POTENTIAL CONTAMINATED PROPERTIES
SR-4 BYPASS SR-4/160 CONNECTORS PROJECT INITIAL SITE ASSESSMENT

Map ID No.	Location	Address	Potential Impact to Project	Information Source(s)	Environmental Impacts/Chemical of Concern	Regulatory Status	Potential Impact to SR-4 Bypass SR-4/160 Connectors Project
1	Chevron 9-3801	5433 Neroly Road, Oakley	Low Risk	CC Site List, LUST, RCRA Recon	Gasoline impacts to soil and groundwater at the facility, which is located downgradient of the Site.	LUST case closed in May 2002. No pending regulatory action for this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
2	Former Bridgehead Service Station/ ARCO Products #6301	5540 Bridgehead Road, Oakley	Low Risk	CC Site List, LUST, RCRA, Recon	Gasoline impacts to soil and groundwater at the facility, which is located downgradient of the Site.	LUST case closed in June 2003. No pending regulatory action for this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
3	Bridgehead Plaza Beacon	3629 E 18th Street, Antioch	Low Risk	CC Site List, RCRA, Recon	Active gas station.	Active facility registered in the CC Site List. No reported spills or releases of hazardous materials associated with this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
4	Paul's Automotive Repair Center	5060 Neroly Road, Oakley	Low Risk	CC Site List, Recon	Active auto repair facility.	Active facility registered in the CC Site List. No reported spills or releases of hazardous materials associated with this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
5	Matamores Pipelines Inc.	3991 Neroly Road, Oakley	Low Risk	CC Site List, Recon	Welding Company actually located at 1269 Laurel Road	Inactive facility in the CC Site List. No reported spills or releases of hazardous materials associated with this facility.	This property presents a low risk of impact to the proposed improvement project.
6	GTE Wireless/Oakley	Neroly Road/ Laurel Road, Oakley	Low Risk	CC Site List, Recon	Inactive facility	Inactive facility in the CC Site List. No reported spills or releases of hazardous materials associated with this facility.	This property presents a low risk of impact to the proposed improvement project.
7	Laurel Road/Neroly Road	Neroly Road/Laurel Road, Oakley	Low Risk	AST, CC Site List, CHMIRS	Listed as having an aboveground storage tank, and a hazardous materials spill incident in 1989.	Inactive facility in the CC Site List.	This property presents a low risk of impact to the proposed improvement project.
8	Former A&A Market	407 Main Street, Oakley	Low Risk	LUST, Recon	Gasoline impacts to soil at the facility.	LUST case closed in December 1997. No pending regulatory action for this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
9	PG&E Oakley Road Metering Site	Oakley Road and Phillips Lane, Antioch	Low Risk	RCRA, SLIC, Recon	Petroleum hydrocarbon compounds have been documented to be present in the soil and groundwater at the facility since investigations were initiated in 1991. A groundwater extraction and treatment system currently operates at the facility. Groundwater is reportedly encountered at depths between approximately 29 and 70 feet and flows toward the north/northwest, crossgradient relative to the Site. The most recent available analytical results for groundwater samples collected in July 2009 show that the extent of groundwater contamination is well-defined. TPHd was reported at a maximum concentration of 200 milligrams per liter in wells along Oakley Road, directly north of the facility. Analytes were not detected above laboratory reporting limits in groundwater samples collected from wells located east of the facility, between the facility and the Site.	Active case in the Cleanup program with oversight by the CVRWQCB. Quarterly groundwater monitoring and sampling activities are conducted per Monitoring and Reporting Program Number R5-2005-0813.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
10	Cobern Trucking	3017 Frandoras Circle, Oakley	Low Risk	RCRA Recon	Active trucking company that transports hazardous wastes.	Active hazardous waste transporter. No reported spills or releases of hazardous materials associated with this facility.	This property presents a low risk of impact to the proposed improvement project.
11	PG&E Antioch District Maintenance Station	5400 Neroly Road, Oakley	Low Risk	RCRA, SLIC, Recon	A No Further Action Required letter was issued by the CVRWQCB on November 21, 2003, and states that this facility was associated with a release of tetrachloroethene to groundwater. This facility is located hydraulically downgradient of the Site.	SLIC case closed in March 2010. No pending regulatory action for this facility.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.

TABLE 1
SUMMARY OF IDENTIFIED POTENTIAL CONTAMINATED PROPERTIES
SR-4 BYPASS SR-4/160 CONNECTORS PROJECT INITIAL SITE ASSESSMENT

Map ID No.	Location	Address	Potential Impact to Project	Information Source(s)	Environmental Impacts/Chemical of Concern	Regulatory Status	Potential Impact to SR-4 Bypass SR-4/160 Connectors Project
12	OPS Custom Paint and Body	484 Elm Lane, Building 1, Antioch	Low Risk	RCRA, Recon	Auto body repair shop	Active SQG of hazardous waste. No reported spills or releases of hazardous materials associated with this facility.	This property presents a low risk of impact to the proposed improvement project.
13	Hickson Kerley Property	Oakley Road, Antioch	Low Risk	Recon, City of Antioch Planning Department, SLIC	Former oil pump station, oil pipeline, and agricultural chemical manufacturing facility with petroleum hydrocarbon compounds in soil and groundwater. A periodic groundwater monitoring program is ongoing at the facility. Groundwater reportedly flows toward the northwest and the contaminated plume does not appear to extend north of Oakley Road. Cleanup activities commissioned by Chevron.	Active case in the Cleanup program with oversight by the CVRWQCB. Periodic groundwater monitoring and sampling activities are ongoing.	Based on the location, regulatory agency information, and proposed construction limits, this property presents a low risk of impact to the proposed improvement project.
NA	Caltrans ROW	Existing Caltrans ROW	Existing Caltrans ROW	Recon	Planned excavation and grading within existing ROW may disturb known area of buried ADL-containing soil located in the central portion of the Site and along unpaved roadway shoulders.	NA	Perform shallow soil sampling within unpaved areas to evaluate ADL in soil.
NA	UPRR Undercrossing	Existing SR-160 overcrossing at UPRR	Moderate Risk	Recon	UPRR tracks cross beneath the central portion of the Site. Potential accidental releases or impacts from current railroad construction and historical operations (e.g., ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the Site.	NA	Potential accidental releases or current railroad construction and historical operations may have impacted soil within the adjacent Caltrans ROW; conduct soil sampling within SR-160 ROW adjacent to UPRR ROW to evaluate potential impacts.
NA	Oakley Road Overcrossing	SR-160 at Oakley Road	Existing SR-160 ROW	Recon	Asbestos-containing materials and lead-containing paint may be present at the existing bridge structure.	NA	Perform asbestos and lead-containing paint survey for waste disposal characterization and worker health & safety and abatement.
NA	SR-4, SR-160, and interchanges	Existing Corridor	Existing Caltrans ROW	Recon	Planned excavation and pavement work within existing ROW.	NA	Thermoplastic traffic paint, asbestos pipe, and proper abandonment of wells, septic systems, and potential undocumented USTs.

Notes:
ADL – Aerially Deposited Lead
CC Site List – Contra Cost County Site List
CVRWQCB – Central Valley Regional Water Quality Control Board
NA – Not Applicable
Recon – Reconnaissance
ROW – Right-of-way
SR – State Route
UPRR – Union Pacific Railroad
AST – aboveground storage tank
CHMIRS - California Hazardous Material Incident Report System
LUST – Leaking Underground Storage Tank
PG&E – Pacific Gas and Electric
RCRA – Resource Conservation Recovery Act
SLIC – Spills, Leaks, Investigations and Cleanups (Cleanup Program)
TPHd – total petroleum hydrocarbons as diesel
UST – Underground Storage Tank



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SR-4 Bypass – SR-4/160 Connectors Project

Oakley, California

VICINITY MAP

E8546-06-01	October 2010	Figure 1

Match Line (See Figure 2-1)

LEGEND:

1. Chevron 9-3801 – 5433 Neroly Road, Oakley
2. ARCO Products #6301 – 5540 Bridgehead Road, Oakley
3. Bridgehead Plaza Beacon – 3629 E 18th Street, Antioch
4. Paul's Automotive Service Center – 5060 Neroly Road, Oakley
8. Former A&A Market – 407 Main Street, Oakley (approximate)
9. Pacific Gas & Electric (PG&E) Oakley Road Metering Site – Oakley Road & Phillips Lane, Antioch
11. PG&E Antioch District Maintenance Station – 5400 Neroly Road, Oakley
12. OPS Custom Paint and Body – 484 Elm Lane, Building 1, Antioch
13. Hickson-Kerley Property – Oakley Road, Antioch, CA

Approximate Site Boundary

0 600
Scale in Feet

GEOCON CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

SR-4 Bypass – SR-4/160 Connectors Project

Oakley, California

SITE PLAN

E8546-06-01	October 2010	Figure 2-1

Match Line (See Figure 2-2)

LEGEND:

- 5 Matamores Pipelines Inc. – 3991 Neroly Road, Oakley (actual address is 1269 Laurel Rd.; not shown)
- 6 GTE Wireless/Oakley – Neroly Road/Laurel Road, Oakley
- 7 Laurel Road/Neroly Road – Oakley
- 10 Cobern Trucking – 3017 Frandroas Circle, Oakley (not observed during reconnaissance)

Approximate Site Boundary

0 600
Scale in Feet

GEOCON CONSULTANTS, INC.
6671 BRISA STREET – LIVERMORE, CA 94550
PHONE 925.371.5900 – FAX 925.371.5915

SR-4 Bypass – SR-4/160 Connectors Project

Oakley, California

SITE PLAN

E8546-06-01	October 2010	Figure 2-2

Photo 1 – Approach to EB to NB SR-4 Connector, looking east

Photo 2 – EB to NB SR-4 Connector, looking SE toward SR-4 Bypass

Photo 3 – Area of buried ADL-containing soil in median of SR-4 Connector, looking southwest

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PHOTOGRAPHS 1, 2, & 3		
SR-4 Bypass SR-4/160 Connectors Project Oakley, California		
E8546-06-01		October 2010

Photo 4 – Area of buried ADL-containing soil in median of SR-4 Connector, looking west.

Photo 5 – Looking east from center of EB to NB SR-4 Connector.

Photo 6 – SB to WB SR-4 Connector railroad overcrossing, looking southwest

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PHOTOGRAPHS 4, 5, & 6		
SR-4 Bypass SR-4/160 Connectors Project Oakley, California		
E8546-06-01		October 2010

Photo 7 – SR-4 Connector to SR-160, looking north.

Photo 8 – SR-4 Connector to SR-160, looking southwest.

Photo 9 – Former "Newlove" facility buildings, looking west.

Photo 10 – Chevron 9-3801, 5433 Neroly Rd (closed LUST), looking northwest.

Photo 11 – PG&E Corp. Yard, 5400 Neroly Rd (closed SLIC), and ARCO, 5540 Neroly Rd, behind across Main St, looking northeast.

Photo 12 – Bridgehead Plaza Beacon, 3629 E. 18th St (closed LUST)

Photo 13 – Paul's Automotive Service Center, 5060 Neroly Rd, looking east.

Photo 14 – PG&E Oakley Rd Metering Site, Oakley Rd and Phillips Ln (open SLIC), eastern portion looking south.

Photo 15 – PG&E Oakley Rd Metering Site, Oakley Rd and Phillips Ln (open SLIC), western portion looking south)

Photo 16 – Bridge identifier for Oakley Road overcrossing at SR-4.

Photo 17 –Oakley Road overcrossing at SR-4, looking east.

Photo 18 – Railroad tracks and SR-4, view from Neroly Road north of Laurel Road, looking west.

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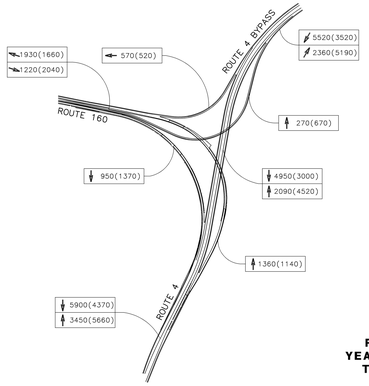
PHOTOGRAPHS 16, 17, & 18		
SR-4 Bypass SR-4/160 Connectors Project Oakley, California		
E8546-06-01		October 2010

PRELIMINARY GEOMETRICS
SR-4 BYPASS
SR-4 / 160 CONNECTORS

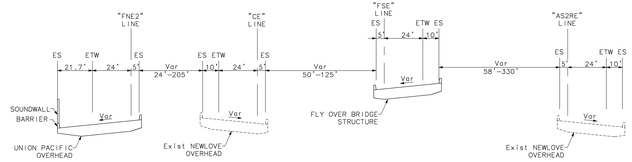
MARK THOMAS & COMPANY, INC.
1243 ALPINE ROAD, SUITE 222, WALNUT CREEK, CA 94596

DRAWN BY: QN/KY	APPROVED ON	JOB No.	SHEET
CKD. BY: SD	BY		OF
DATE: X-XX-10			
SCALE: 1" = 100'	RCE No.		



ROUTE 4 / 160 INTERCHANGE

ROUTE 4 BYPASS YEAR 2035 PROJECTED TRAFFIC VOLUMES
000 AM PEAK HOUR
(000) PM PEAR HOUR
NOT TO SCALE



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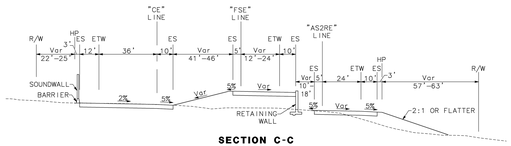

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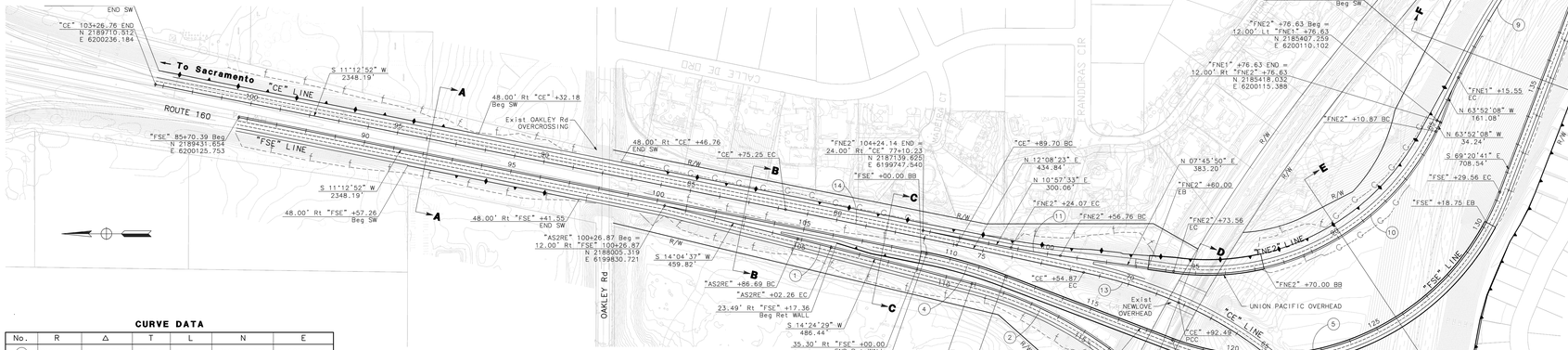
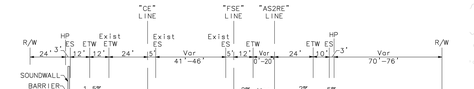


ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE SHOWN



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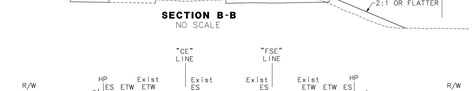

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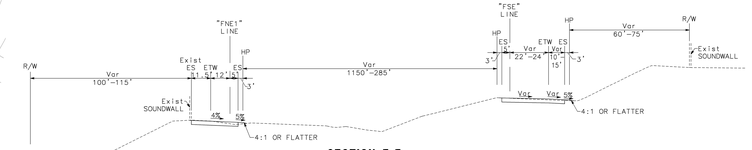
NO SCALE

SECTION G-G
NO SCALE



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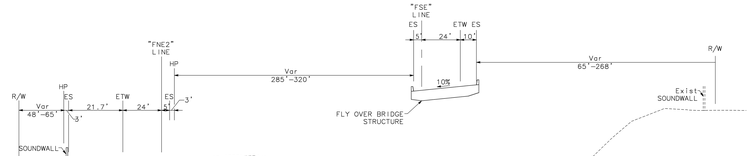

SECTION E-E
NO SCALE

CURVE DATA

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3	1750.00'	20°55'02"	323.04'	638.88'	2187576.588	6197961.818
4	1650.00'	09°34'05"	138.09'	275.54'	2187449.198	6198050.574
5	850.00'	90°07'38"	851.89'	1337.06'	2186002.699	6200175.590
6	1338.50'	20°40'02"	244.06'	482.81'	2183704.944	6200066.599
7	3000.00'	03°11'58"	83.78'	167.52'	2182457.102	6198969.571
8	1950.00'	08°51'00"	150.90'	301.20'	2183205.751	6199705.794
9	2745.40'	11°48'10"	283.78'	565.55'	2182882.299	6199050.853
10	850.00'	71°37'57"	613.41'	1062.69'	2186185.459	6200453.725
11	3000.00'	03°11'43"	83.68'	167.31'	2186274.704	6202635.783
12	1299.81'	54°39'55"	671.82'	1240.13'	2186793.290	6198310.758
13	1748.00'	10°58'19"	167.88'	334.74'	2186969.216	6197898.538
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

DWG FILE => 4-160-con_gad-layout

DATE PLOTTED => August 6, 2010
TIME PLOTTED => 3:20:38 PM

PATH => X:\bypass authority-cc-10\07-sr4-160 connectors\cadd\gad

SR-4 Bypass/SR-4/160 Connectors
SR-4
Antioch, CA 94509

Inquiry Number: 2852866.1
August 24, 2010

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

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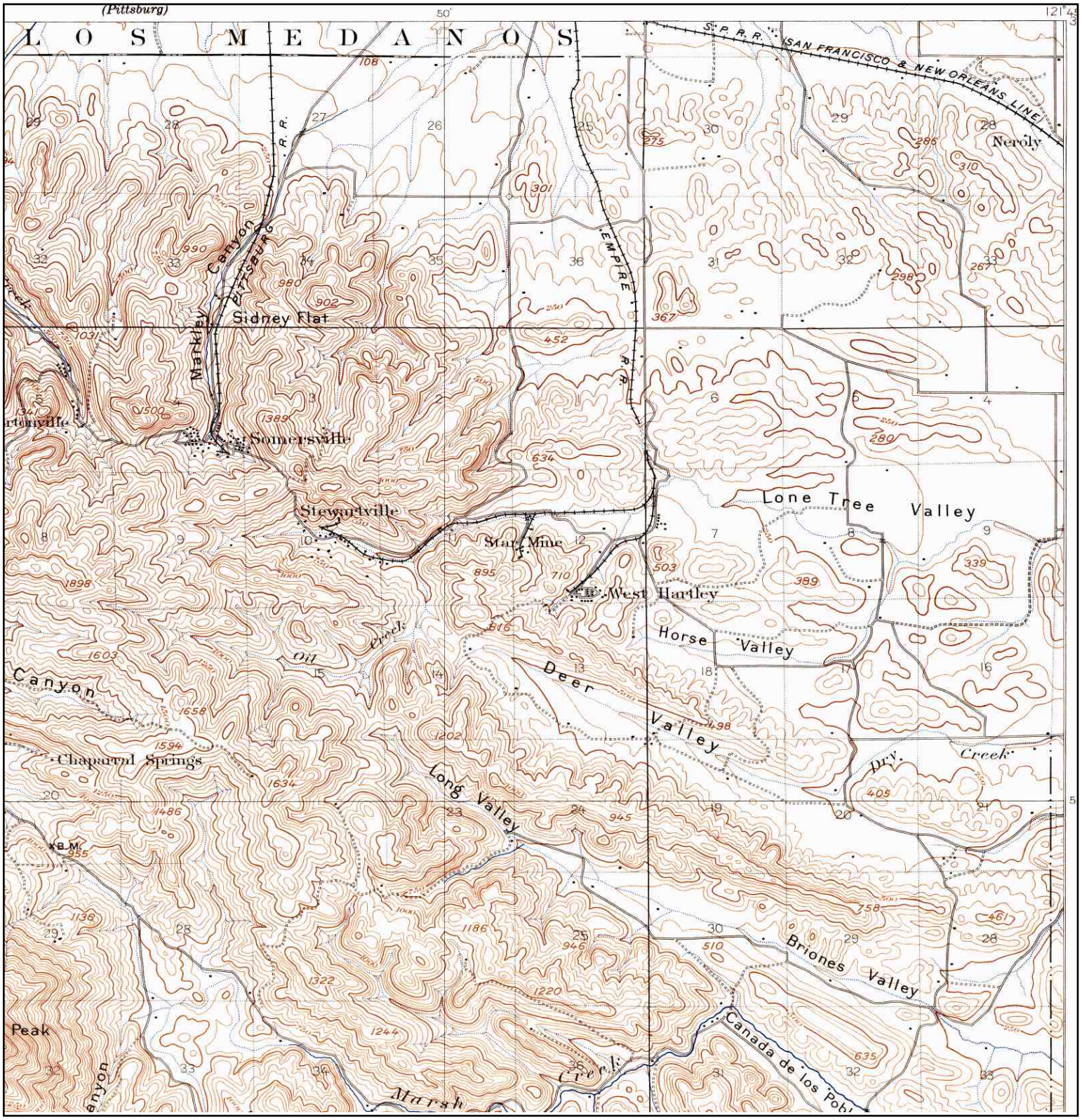

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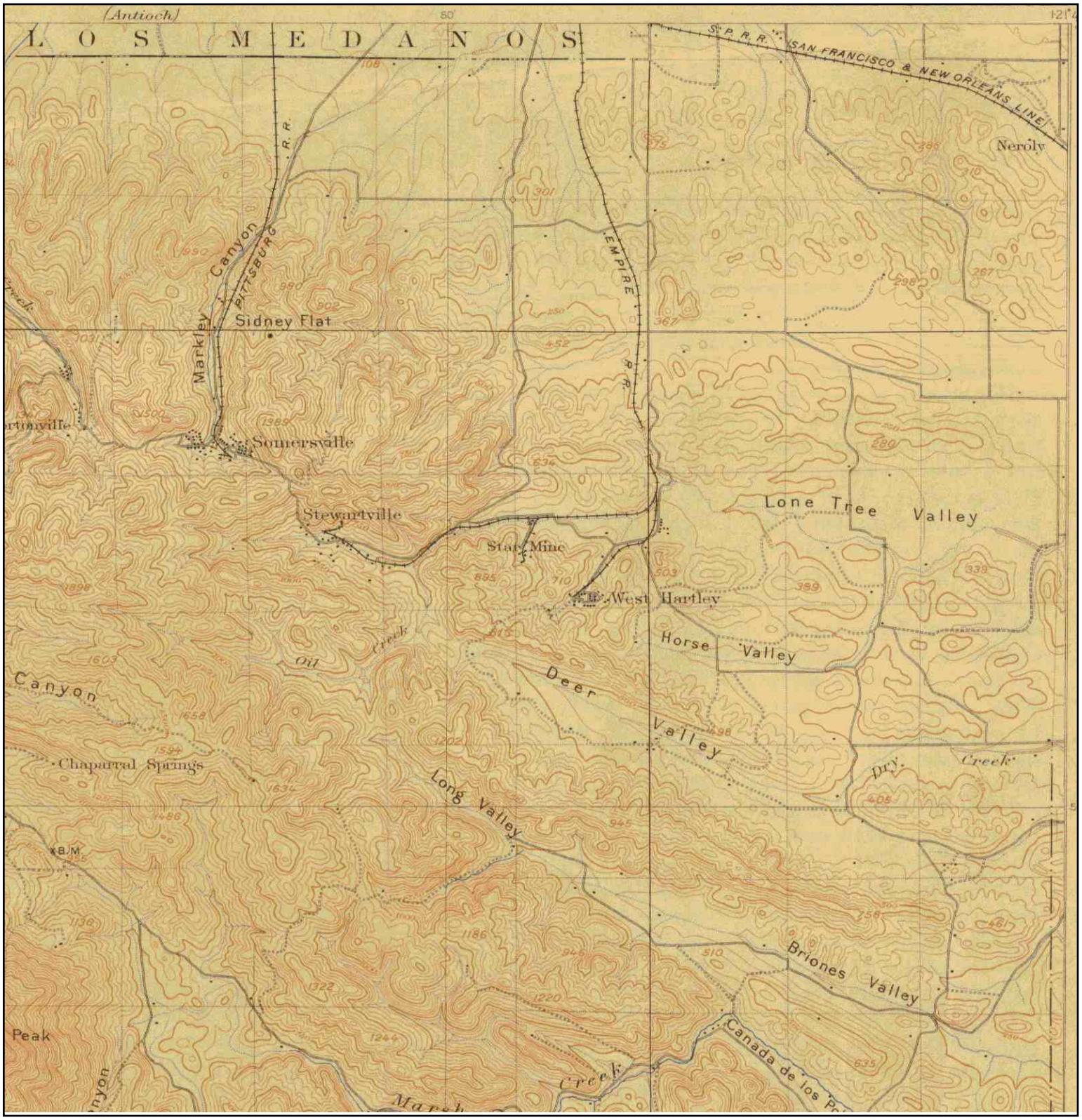
Historical Topographic Map



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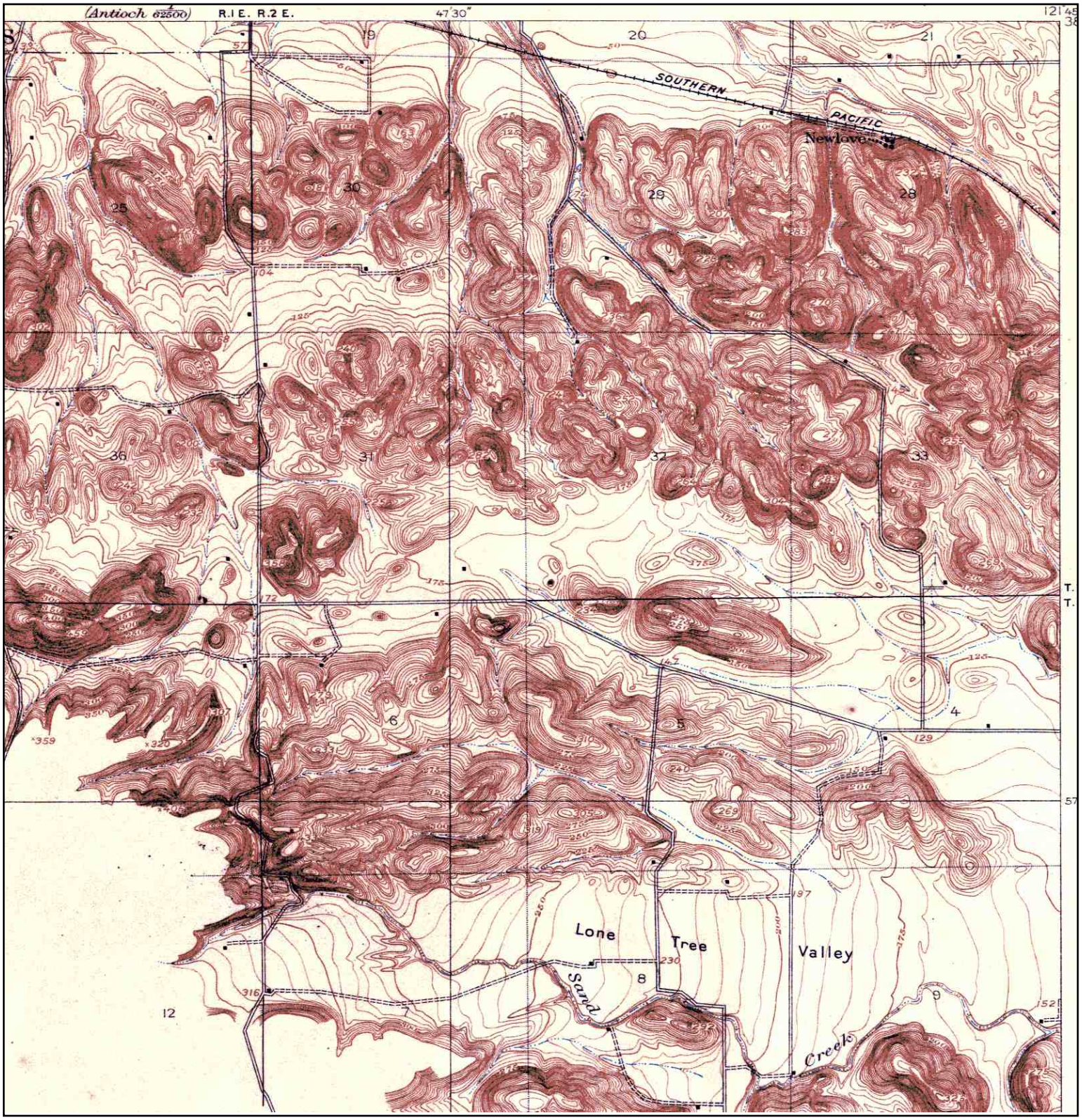

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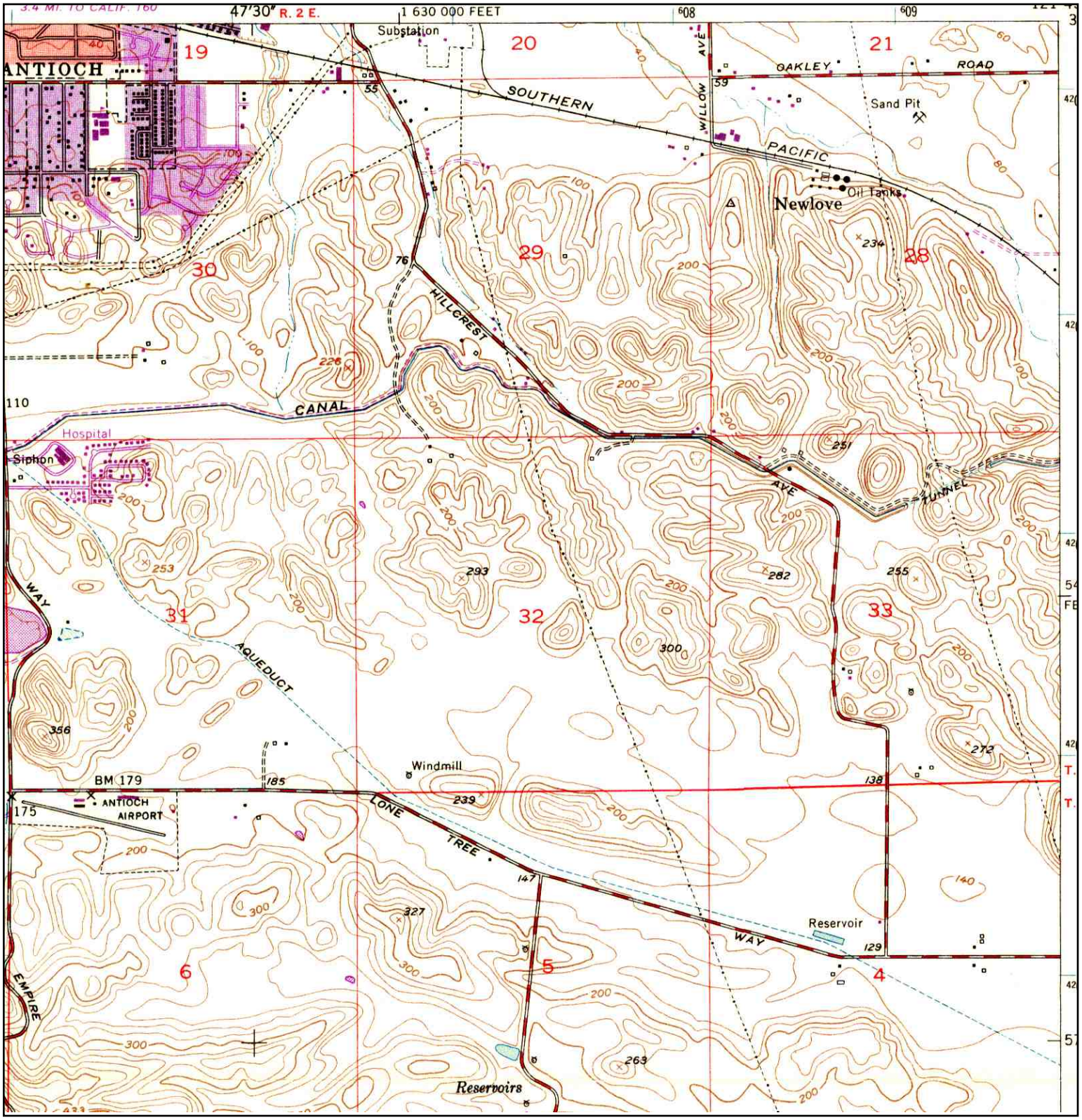
Historical Topographic Map

N	TARGET QUAD NAME: MT. DIABLO MAP YEAR: 1947 SERIES: 15 SCALE: 1:50000	SITE NAME: SR-4 Bypass/SR-4/160 Connectors ADDRESS: SR-4 Antioch, CA 94509 LAT/LONG: 37.9913 / -121.758	CLIENT: GeoCon Environmental Cons. CONTACT: Lauren Vigliotti INQUIRY#: 2852866.1 RESEARCH DATE: 08/24/2010

Historical Topographic Map

N	TARGET QUAD NAME: ANTIOCH SOUTH MAP YEAR: 1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: SR-4 Bypass/SR-4/160 Connectors ADDRESS: SR-4 Antioch, CA 94509 LAT/LONG: 37.9913 / -121.758	CLIENT: GeoCon Environmental Cons. CONTACT: Lauren Vigliotti INQUIRY#: 2852866.1 RESEARCH DATE: 08/24/2010

Historical Topographic Map



N	TARGET QUAD NAME: ANTIOCH SOUTH MAP YEAR: 1968 PHOTOREVISED:1953 SERIES: 7.5 SCALE: 1:24000	SITE NAME: SR-4 Bypass/SR-4/160 Connectors ADDRESS: SR-4 Antioch, CA 94509 LAT/LONG: 37.9913 / -121.758	CLIENT: GeoCon Environmental Cons. CONTACT: Lauren Vigliotti INQUIRY#: 2852866.1 RESEARCH DATE: 08/24/2010

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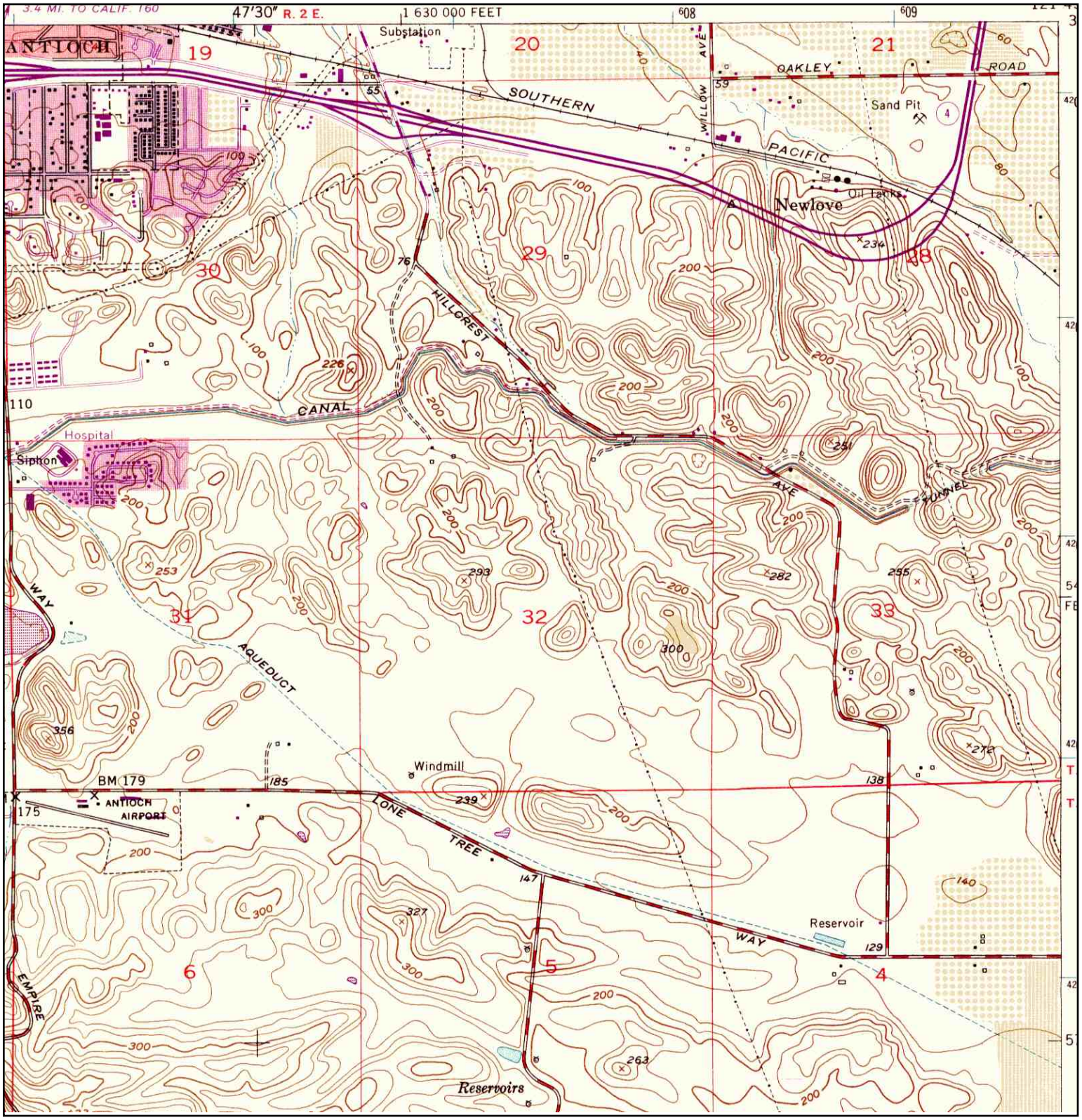

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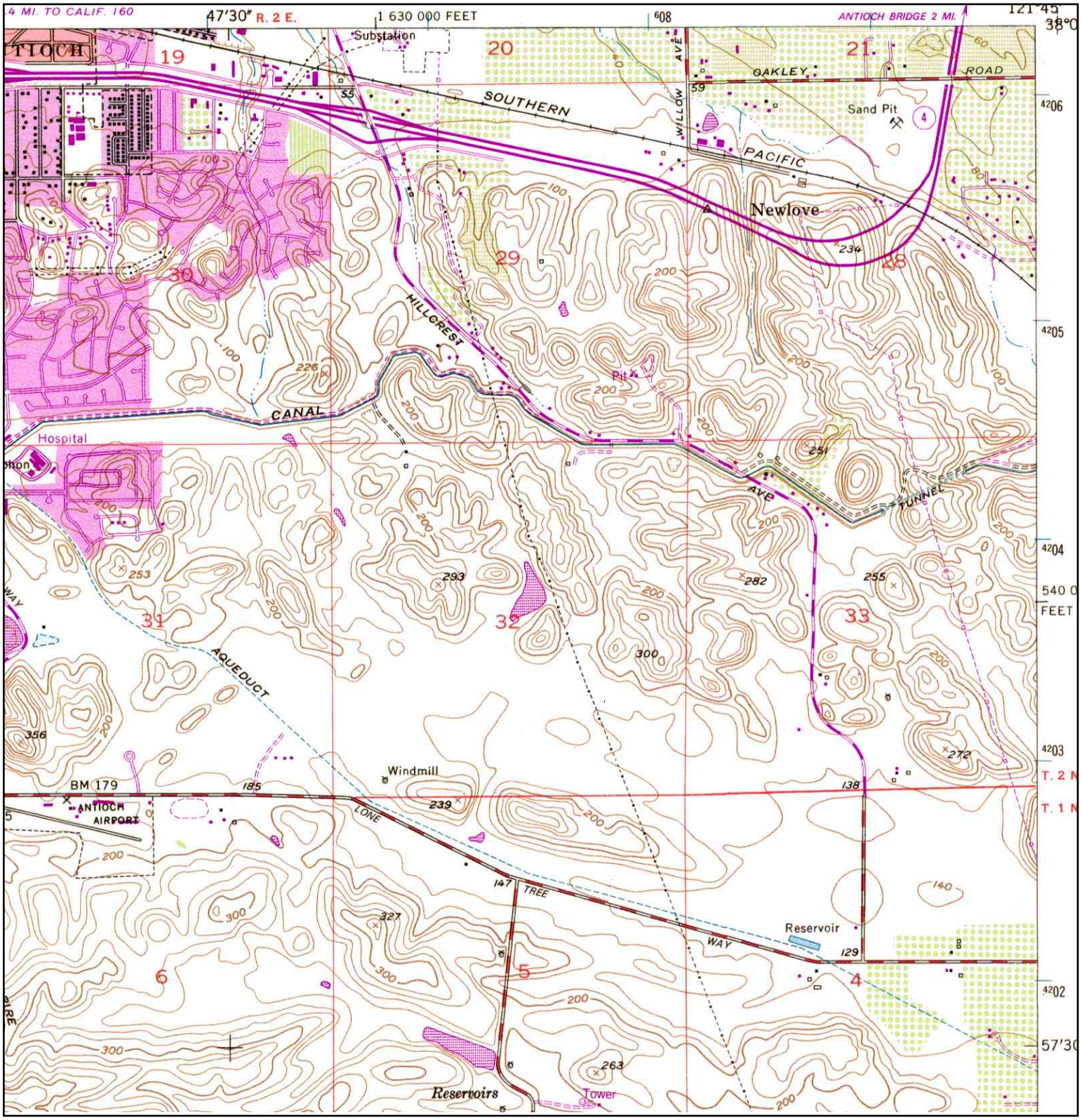
Historical Topographic Map



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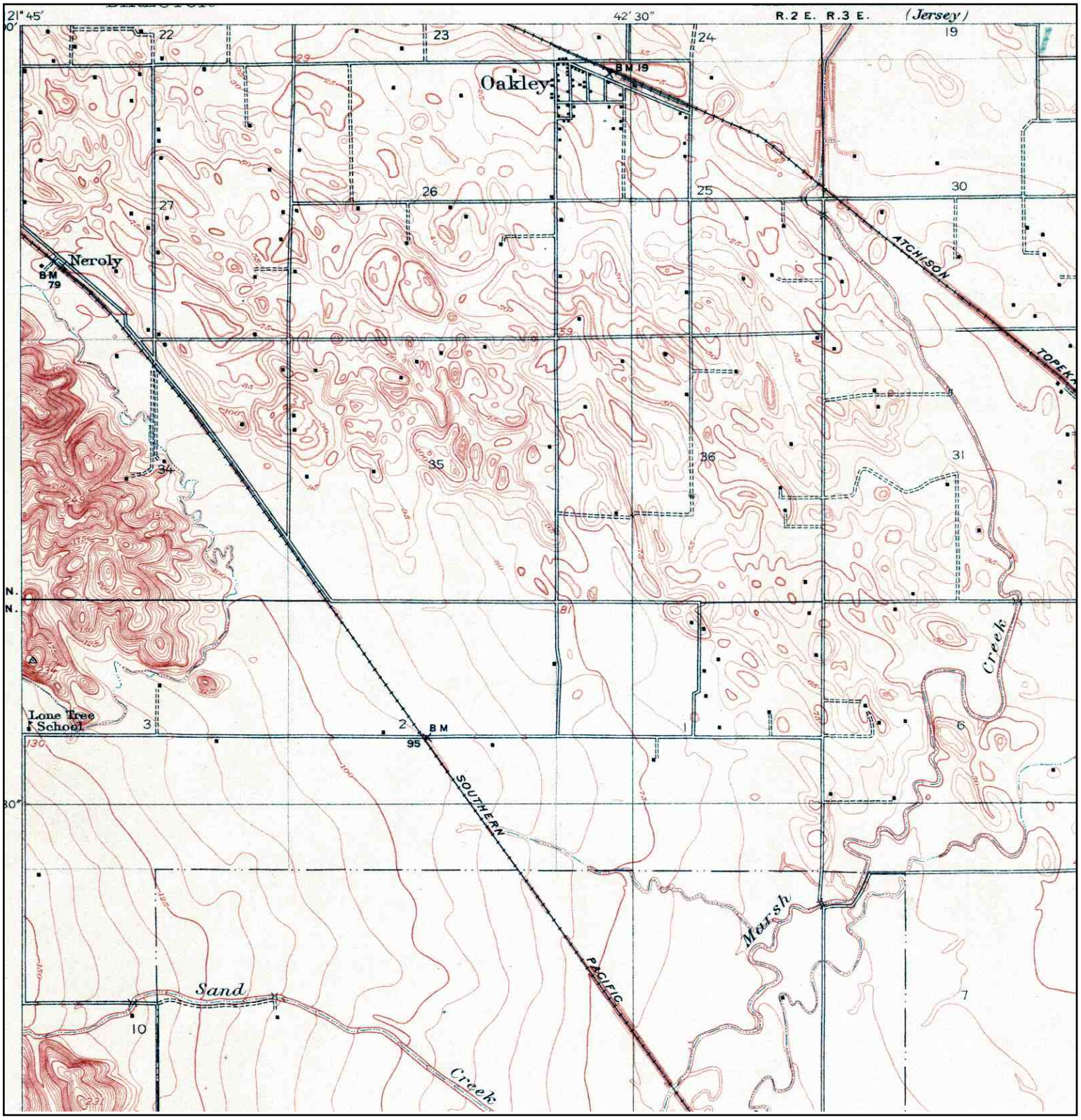

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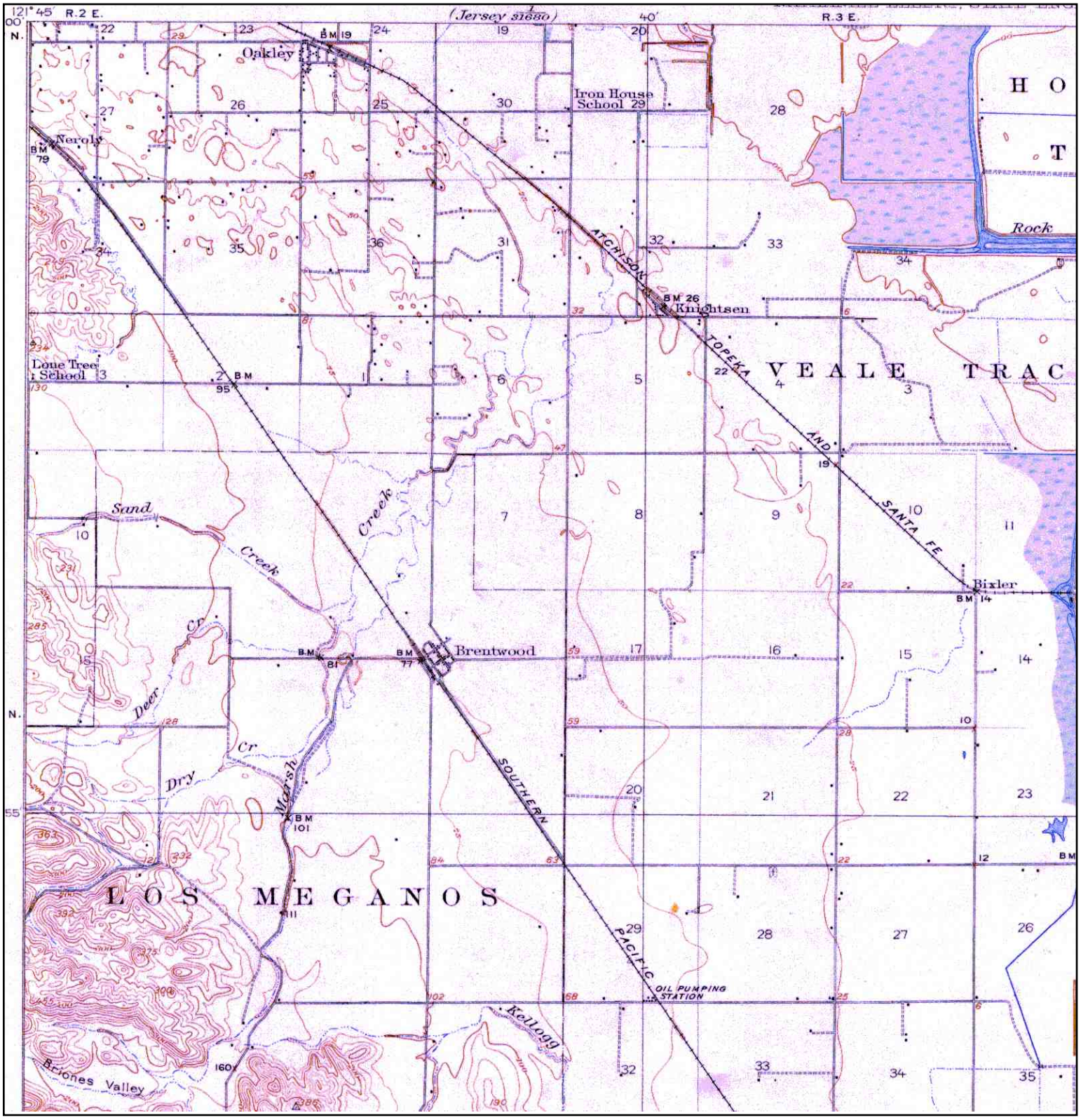
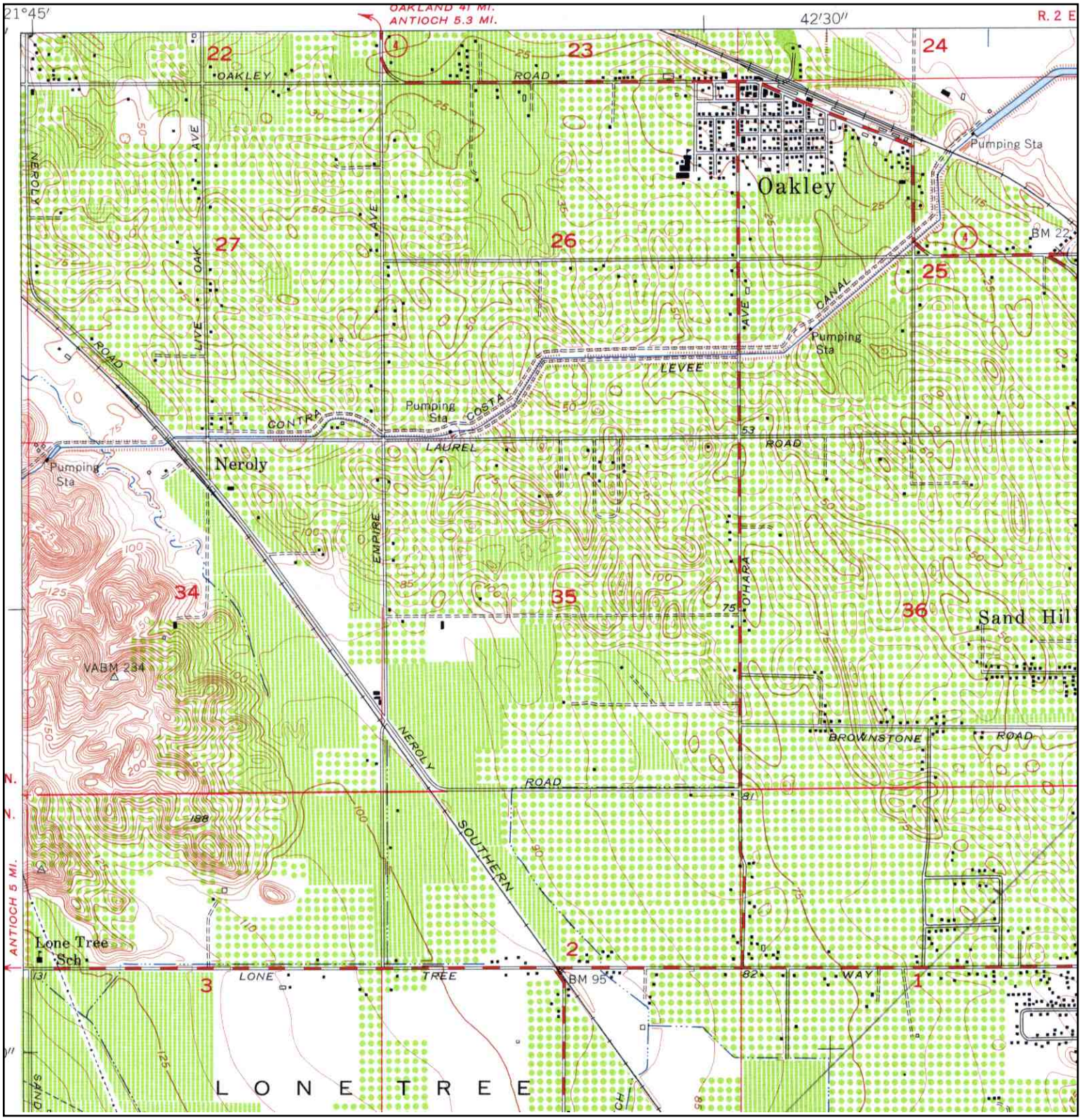


N	ADJOINING QUAD NAME: BYRON MAP YEAR: 1916 SERIES: 15 SCALE: 1:62500	SITE NAME: SR-4 Bypass/SR-4/160 Connectors ADDRESS: SR-4 Antioch, CA 94509 LAT/LONG: 37.9913 / -121.758	CLIENT: GeoCon Environmental Cons. CONTACT: Lauren Vigliotti INQUIRY#: 2852866.1 RESEARCH DATE: 08/24/2010

Historical Topographic Map



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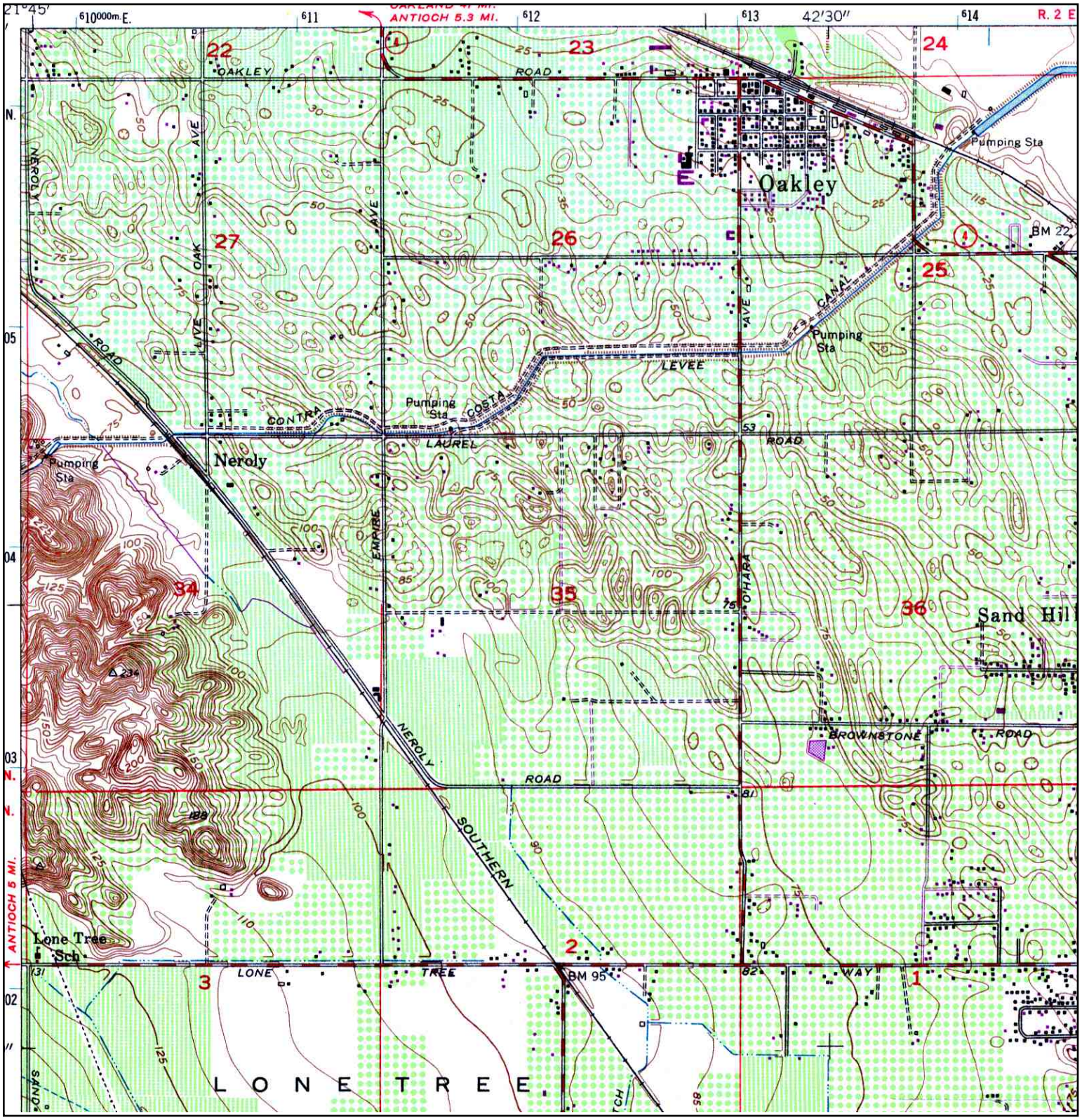

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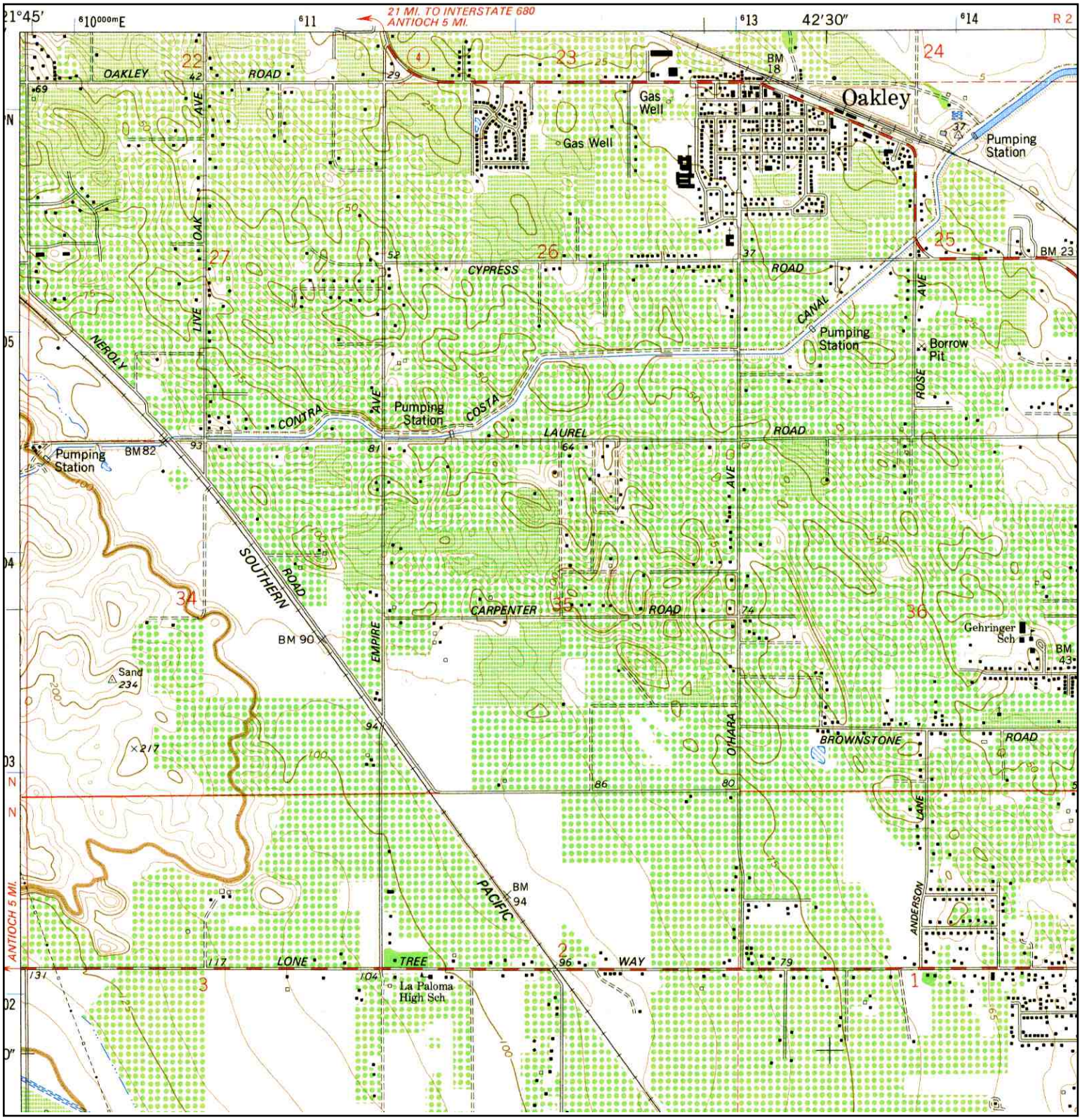

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SR-4 Bypass/SR-4/160 Connectors
SR-4
Antioch, CA 94509

Inquiry Number: 2849018.4
August 24, 2010

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EDR® Environmental Data Resources Inc

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800.352.0050
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EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography August 24, 2010

Target Property:

SR-4

Antioch, CA 94509

Year	***Scale***	***Details***	***Source***
1939	Aerial Photograph. Scale: 1"=555'	Flight Year: 1939	Fairchild
1948	Aerial Photograph. Scale: 1"=655'	Flight Year: 1948	USGS
1958	Aerial Photograph. Scale: 1"=555'	Flight Year: 1958	Cartwright
1965	Aerial Photograph. Scale: 1"=333'	Flight Year: 1965	Cartwright
1974	Aerial Photograph. Scale: 1"=666'	Flight Year: 1974	NASA
1984	Aerial Photograph. Scale: 1"=690'	Flight Year: 1984	USGS
1993	Aerial Photograph. Scale: 1"=666'	Flight Year: 1993	USGS
1998	Aerial Photograph. Scale: 1"=666'	Flight Year: 1998	USGS
2005	Aerial Photograph. Scale: 1"=604'	Flight Year: 2005	EDR

INQUIRY #: 2849018.4
YEAR: 1939
= 555'
N

INQUIRY #: 2849018.4
YEAR: 1948
= 655'
N

INQUIRY #: 2849018.4
YEAR: 1958
= 555'
N

INQUIRY #: 2849018.4
YEAR: 1965
= 333'
N
EDR Environmental Data Resources Inc

INQUIRY #: 2849018.4
YEAR: 1974
= 666'
N

INQUIRY #: 2849018.4
YEAR: 1984
= 690'
N

INQUIRY #: 2849018.4
YEAR: 1993
= 666'
N

INQUIRY #: 2849018.4
YEAR: 1998
= 666'
N

INQUIRY #: 2849018.4
YEAR: 2005
= 604'
N

SR-4 Bypass/SR-4/160 Connectors
SR-4
Antioch, CA 94509

Inquiry Number: 2849018.2s
August 18, 2010

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

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with any questions or comments.

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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

SR-4
ANTIOCH, CA 94509

COORDINATES

Latitude (North):	37.991300 - 37˚ 59' 28.7''
Longitude (West):	121.757700 - 121˚ 45' 27.7''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	609088.3
UTM Y (Meters):	4205372.0
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	37121-H7 ANTIOCH SOUTH, CA
Most Recent Revision:	1980
North Map:	38121-A7 ANTIOCH NORTH, CA
Most Recent Revision:	1978
Northeast Map:	38121-A6 JERSEY ISLAND, CA
Most Recent Revision:	1978
East Map:	37121-H6 BRENTWOOD, CA
Most Recent Revision:	1978

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2006, 2005
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

EXECUTIVE SUMMARY

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 FACILITY ..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ..... CERCLIS No Further Remedial Action Planned

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ..... RCRA - Large 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

INDIAN LUST ..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ..... Active UST Facilities
INDIAN UST ..... Underground Storage Tanks on Indian Land
FEMA UST ..... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP ..... Voluntary Cleanup Priority Listing
VCP ..... Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

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

DOT OPS ..... Incident and Accident Data

EXECUTIVE SUMMARY

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
PROC	Certified Processors Database
HWT	Registered Hazardous Waste Transporter Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
COAL ASH DOE	Sleam-Electric Plan Operation Data
MWMP	Medical Waste Management Program Listing
PCB TRANSFORMER	PCB Transformer Registration Database
FINANCIAL ASSURANCE	Financial Assurance Information Listing

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

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

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/25/2010 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUPONT OAKLEY SITE	***6000 BRIDGEHEAD RD***	***NNE 1/2 - 1 (0.929 mi.)***	***E18***	***27***

Federal RCRA generators list

RCRA-SQG: 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.

A review of the RCRA-SQG list, as provided by EDR, and dated 02/17/2010 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
P G & E OAKLEY RD METER SITE	***OAKLEY RD NR PHILLIPS L***	***WNW 1/8 - 1/4 (0.211 mi.)***	***A5***	***12***

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 06/16/2010 has revealed that there are 4 ENVIROSTOR sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
OAKLEY ROAD METERING SITE Status: Refer: RWQCB	OAKLEY RD. / PHILLIPS	WNW 1/8 - 1/4 (0.168 mi.)	A2	8
NEW OAKLEY RD ES Status: No Further Action	***LIVE OAKE AVE/OAKLEY RD***	***ENE 1/2 - 1 (0.641 mi.)***	***16***	***24***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUPONT DE NEMOURS & CO INC Status: Refer: RCRA	6000 BRIDGEHEAD ROAD	NNE 1/2 - 1 (0.929 mi.)	E17	26
DUPONT CHEMICAL CO., ANTIOCH W Status: Active	***6000 BRIDGEHEAD RD***	***NNE 1/2 - 1 (0.933 mi.)***	***E19***	***63***

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 07/23/2010 has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON #9-3801 Status: Completed - Case Closed	***5433 NEROLY RD***	***NNE 1/4 - 1/2 (0.413 mi.)***	***C11***	***20***
PECKHAM PROPERTY Status: Completed - Case Closed	***3215 18TH ST E***	***NW 1/4 - 1/2 (0.478 mi.)***	***15***	***23***

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 07/23/2010 has revealed that there are 5 SLIC sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PACIFIC GAS & ELECTRIC COMPANY	***OAKLEY RD & PHILLIPS LN***	***WNW 1/8 - 1/4 (0.168 mi.)***	***A3***	***9***
CHEVRON, HICKSON KERLEY, ANTIO Facility Status: Open - Site Assessment	3951 OAKLEY ROAD	WNW 1/4 - 1/2 (0.370 mi.)	9	16
PACIFIC GAS & ELECTRIC Facility Status: Completed - Case Closed	5400 NERLOY	NNE 1/4 - 1/2 (0.446 mi.)	D12	21
PG&E ANTIOCH DISTRICT MAINTENA	5400 NERLOY RD	NNE 1/4 - 1/2 (0.446 mi.)	D13	21
HICKSON-KERLEY (FORMER), F.K.P Facility Status: Open - Remediation Facility Status: Open - Inactive	***3951 OAKLEY RD AT SOUTH***	***WNW 1/4 - 1/2 (0.449 mi.)***	***14***	***22***

State and tribal registered storage tank lists

AST: The Aboveground Storage Tank database contains registered ASTs. The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the AST list, as provided by EDR, and dated 08/01/2009 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	*LAUREL RD/NEROLY RD*	*E 1/8 - 1/4 (0.229 mi.)*	*B8*	*14*

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properites addressed by Cooperative Agreement Recipients and Brownfields properties addressed by Targeted Brownfields Assessments

A review of the US BROWNFIELDS list, as provided by EDR, and dated 06/24/2010 has revealed that there is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PG&E CORP. YARD	5400 NEROLY ROAD	NNE 1/4 - 1/2 (0.378 mi.)	C10	17

Other Ascertainable Records

RCRA-NonGen: 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.

A review of the RCRA-NonGen list, as provided by EDR, and dated 02/17/2010 has revealed that there is 1 RCRA-NonGen site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
COBERN TRUCKING	*3017 FRANDORAS CIRCLE*	*0 - 1/8 (0.000 mi.)*	*1*	*7*

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 are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON #9-3801	*5433 NEROLY RD*	*NNE 1/4 - 1/2 (0.413 mi.)*	*C11*	*20*
PECKHAM PROPERTY	*3215 18TH ST E*	*NW 1/4 - 1/2 (0.478 mi.)*	*15*	*23*

EXECUTIVE SUMMARY

CONTRA COSTA CO. SITE LIST: Lists includes sites from the Underground Tank Program, Hazardous Waste Generator Program & Business Plan 12185 Program

A review of the CONTRA COSTA CO. SITE LIST list, as provided by EDR, and dated 05/24/2010 has revealed that there are 4 CONTRA COSTA CO. SITE LIST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PAUL'S AUTOMOTIVE SERVICE CENT	5060 NEROLY RD	ENE 1/8 - 1/4 (0.188 mi.)	4	12
MATAMORES PIPELINES INC	3991 NEROLY RD	E 1/8 - 1/4 (0.226 mi.)	B6	14
GTE WIRELESS/OAKLEY	NEROLY RD / LAUREL RD	E 1/8 - 1/4 (0.229 mi.)	B7	14
Not reported	***LAUREL RD/NEROLY RD***	***E 1/8 - 1/4 (0.229 mi.)***	***B8***	***14***

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 05/11/2010 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

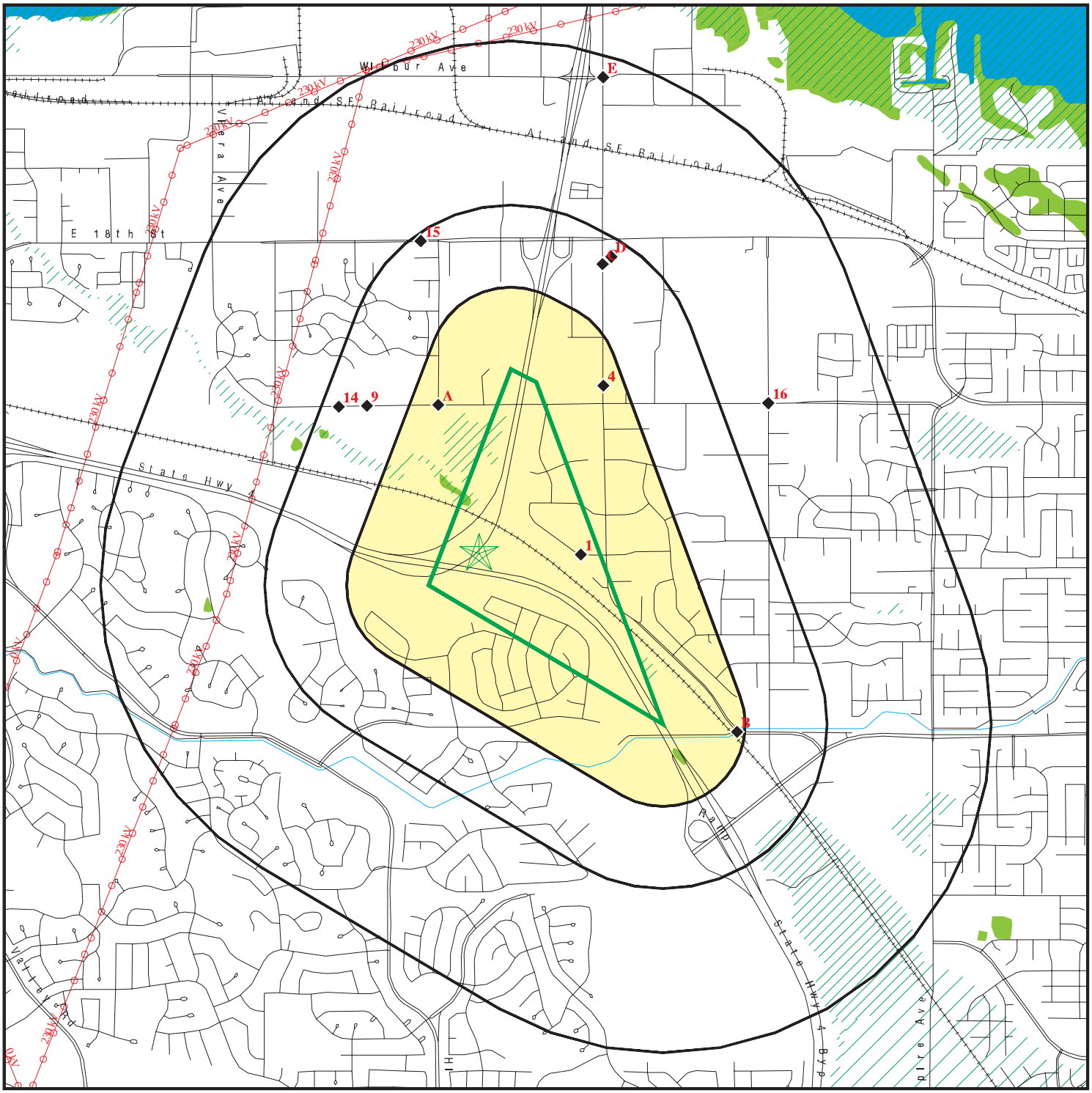
Lower Elevation	Address	Direction / Distance	Map ID	Page
DUPONT CHEMICAL CO., ANTIOCH W	***6000 BRIDGEHEAD RD***	***NNE 1/2 - 1 (0.933 mi.)***	***E19***	***63***

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
SHERMAN ISL. DEHYDRATOR-ODORAN	SWEEPS UST
MELLO'S SHEET METAL	SWEEPS UST
CONTRA COSTA WATER DISTRICT	SWEEPS UST
OAKLEY BETHEL ISLAND WASTEWATE	HIST UST,SWEEPS UST
OAKLEY BUILDERS SUPPLY	SWEEPS UST
ABANDONED DRUM/ANTIOCH	CERCLIS-NFRAP
ANTIOCH DSPL SITE	CERCLIS-NFRAP
7-ELEVEN STORE #32787	UST ALAMEDA
SHERMAN ISL. DEHYDRATOR-ODORAN	HIST UST
CROWN ZELLERBACH CORPORATION	HIST UST
FIBREBOARD CORPORATION	HIST UST
STACY TRUCKING	FINDS,RCRA-NLR,HIST UST
J.J. LEWIS RANCH	HIST UST
WALGREENS 4724	RCRA-SQG,FINDS,HAZNET
P G AND E DUTCH SLOUGH DEHYDRATOR	RCRA-SQG,FINDS,HAZNET
WOLF CAMERA NO 983	RCRA-SQG,FINDS
O P S CUSTOM PAINT & BODY	RCRA-SQG,FINDS
CALIFORNIA ORGANICS	FINDS,RCRA-NLR
CYPRESS RD YARD	FINDS,RCRA-NLR
FORMER PISSIGONI TOWING	BROWNFIELDS
24/680 CALTRANS	SLIC REGION 2
PG&E GAS DEHYDRATOR STATION, DUTCH	SLIC REGION 2
CHEVRON SS# 96946	SL CONTRA COSTA
SHOSHONE OIL CORPORATION	SL CONTRA COSTA
VENOCO INC/NUNN CONTINENTE TRACT	SL CONTRA COSTA
WAPA/CC SUBSTATION #4	SL CONTRA COSTA
JACUZZI RANCH	SL CONTRA COSTA
J J LEWIS RANCH	SL CONTRA COSTA
WESTERN CONT'L NGC-KYSH-1	SL CONTRA COSTA

OVERVIEW MAP - 2849018.2s



0 1/4 1/2 1 Miles

- 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
- National Wetland Inventory
- 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: SR-4 Bypass/SR-4/160 Connectors ADDRESS: SR-4 Antioch CA 94509 LAT/LONG: 37.9913 / 121.7577	CLIENT: GeoCon Environmental Cons. CONTACT: Lauren Vigliotti INQUIRY #: 2849018.2s DATE: August 18, 2010 3:52 pm

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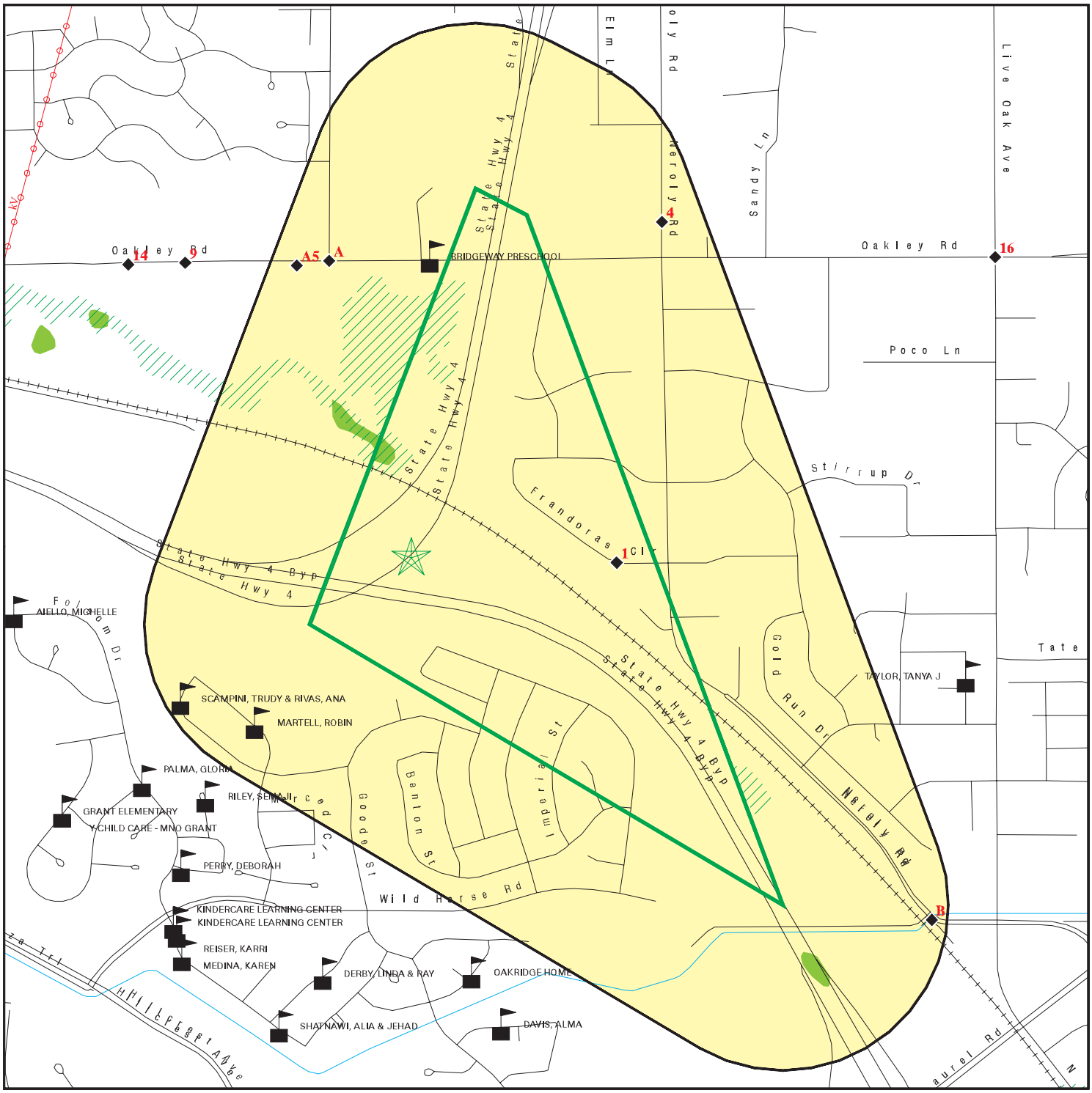
DETAIL MAP - 2849018.2s



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 1/8 1/4 1/2 Miles

Indian Reservations BIA

Power transmission lines

Oil & Gas pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

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:	SR-4 Bypass/SR-4/160 Connectors	CLIENT:	GeoCon Environmental Cons.
ADDRESS:	SR-4 Antioch CA 94509	CONTACT:	Lauren Vigliotti
LAT/LONG:	37.9913 / 121.7577	INQUIRY #:	2849018.2s
		DATE:	August 18, 2010 3:53 pm

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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 FACILITY		1.000	0	0	0	0	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	1	NR	1
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	1	NR	NR	NR	1
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	1	0	3	NR	4
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	2	NR	NR	2
SLIC		0.500	0	1	4	NR	NR	5

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
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	1	NR	NR	NR	1
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	1	NR	NR	1
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

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
MCS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	1	0	NR	NR	NR	1
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	2	NR	NR	2
CONTRA COSTA CO. SITE LIST		0.250	0	4	NR	NR	NR	4
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
PROC		0.500	0	0	0	NR	NR	0
HWP		1.000	0	0	0	1	NR	1
HWT		0.250	0	0	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0
MWMP		0.250	0	0	NR	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
FINANCIAL ASSURANCE		TP	NR	NR	NR	NR	NR	0
EDR PROPRIETARY RECORDS								
EDR Proprietary Records								
Manufactured Gas Plants		1.000	0	0	0	0	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1 **COBERN TRUCKING** **RCRA-NonGen** **1000216519**
3017 FRANDORAS CIRCLE **FINDS** **CAD982346637**
< 1/8 **OAKLEY, CA 94561**
1 ft.

Relative:
Lower

Actual:
84 ft.

RCRA-NonGen:

Date form received by agency:	02/08/1988
Facility name:	COBERN TRUCKING
Facility address:	3017 FRANDORAS CIRCLE OAKLEY, CA 94561
EPA ID:	CAD982346637
Mailing address:	FRANDORAS CIRCLE OAKLEY, CA 94561
Contact:	ENVIRONMENTAL MANAGER
Contact address:	3017 FRANDORAS CIRCLE OAKLEY, CA 94561
Contact country:	US
Contact telephone:	(415) 778-0628
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	ROY M COBERN
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Yes
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No

COBERN TRUCKING (Continued) **1000216519**

Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Verified to be non-commercial

Violation Status: No violations found

FINDS:

Registry ID: 110002797652

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

A2 WNW 1/8-1/4 0.168 mi. 887 ft. | **OAKLEY ROAD METERING SITE** | **ENVIROSTOR** | **S101479973**
OAKLEY RD. / PHILLIPS LN. | **N/A**
ANTIOCH, CA 94509

Site 1 of 3 in cluster A

Relative: Lower

Actual: 79 ft.

ENVIROSTOR:

Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	0.7
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Berkeley
Facility ID:	7490002
Site Code:	Not reported
Assembly:	11
Senate:	7
Special Program:	Not reported
Status:	Refer: RWQCB
Status Date:	8/28/2002 0:00
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.9975
Longitude:	-121.7597222
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	10009, 30018
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported

OAKLEY ROAD METERING SITE (Continued) **S101479973**

Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: 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

A3
WNW
1/8-1/4
0.168 mi.
887 ft.

Relative:
Lower

Actual:
79 ft.

PACIFIC GAS & ELECTRIC COMPANY **FINDS** **1006824694**
OAKLEY RD & PHILLIPS LN **SLIC** **N/A**
ANTIOCH, CA 94509 **EMI**

Site 2 of 3 in cluster A

FINDS:

Registry ID: 110013832996

Environmental Interest/Information System
The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

SLIC:
Region: 5
Facility Status: RI
Unit: Facility is a Spill or site
Pollutant: TPH-d,g
Lead Agency: MES
Date Filed: / /
Report Date: / /
Date Added: Not reported
Date Closed: Not reported

EMI:
Year: 1998
County Code: 7
Air Basin: SF
Facility ID: 11250
Air District Name: BA
SIC Code: 4953
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

PACIFIC GAS & ELECTRIC COMPANY (Continued) **1006824694**

Year:	1999
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4953
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2000
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4953
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2001
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4953
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2002
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4923

PACIFIC GAS & ELECTRIC COMPANY (Continued) **1006824694**

Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2003
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4923
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2004
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4923
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.482
Reactive Organic Gases Tons/Yr:	0.3367252
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2005
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4923
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.756
Reactive Organic Gases Tons/Yr:	.5281416
Carbon Monoxide Emissions Tons/Yr:	0

PACIFIC GAS & ELECTRIC COMPANY (Continued) **1006824694**

NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2006
County Code:	7
Air Basin:	SF
Facility ID:	11250
Air District Name:	BA
SIC Code:	4923
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.792
Reactive Organic Gases Tons/Yr:	.5532912
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

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4 ENE 1/8-1/4 0.188 mi. 993 ft.

PAUL'S AUTOMOTIVE SERVICE CENTER **CONTRA COSTA CO. SITE LIST** **S109167769**
5060 NEROLY RD **N/A**
OAKLEY, CA

Relative: Lower

Actual: 61 ft.

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	773857
Tier:	Not reported
Program Status:	HWG, Hmmp
Generator Fee Item:	No
Inactive Date:	Not reported

A5 WNW 1/8-1/4 0.211 mi. 1115 ft.

P G & E OAKLEY RD METER SITE **RCRA-SQG** **1000597282**
OAKLEY RD NR PHILLIPS LN **FINDS** **CAD983612854**
ANTIOCH, CA 94509

Site 3 of 3 in cluster A

Relative: Lower

Actual: 75 ft.

RCRA-SQG:

Date form received by agency:	05/20/1997
Facility name:	P G & E OAKLEY RD METER SITE
Facility address:	OAKLEY RD NR PHILLIPS LN ANTIOCH, CA 94509
EPA ID:	CAD983612854
Mailing address:	4690 EVORA RD CONCORD, CA 94520
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	Not reported
Contact email:	Not reported

P G & E OAKLEY RD METER SITE (Continued) **1000597282**

EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Verified to be non-commercial

Historical Generators:
Date form received by agency: 05/20/1997
Facility name: P G & E OAKLEY RD METER SITE
Classification: Small Quantity Generator

Date form received by agency: 09/01/1996
Facility name: P G & E OAKLEY RD METER SITE
Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110008282562

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

B6 **MATAMORES PIPELINES INC** **CONTRA COSTA CO. SITE LIST** **S105455313**
East **3991 NEROLY RD** **N/A**
1/8-1/4 **OAKLEY, CA 94561**
0.226 mi.
1195 ft. **Site 1 of 3 in cluster B**

Relative:
Lower

Actual:
85 ft.

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	772853
Tier:	Not reported
Program Status:	Not reported
Generator Fee Item:	Yes
Inactive Date:	3/18/2003

B7 **GTE WIRELESS/OAKLEY** **CONTRA COSTA CO. SITE LIST** **S103464380**
East **NEROLY RD / LAUREL RD** **N/A**
1/8-1/4 **OAKLEY, CA 94561**
0.229 mi.
1209 ft. **Site 2 of 3 in cluster B**

Relative:
Lower

Actual:
85 ft.

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	771978
Tier:	Not reported
Program Status:	Hmmp
Generator Fee Item:	No
Inactive Date:	3/8/2000

B8 **AST** **S100218691**
East **LAUREL RD/NEROLY RD** **CONTRA COSTA CO. SITE LIST** **N/A**
1/8-1/4 **OAKLEY, CA 94561** **CHMIRS**
0.229 mi.
1209 ft. **Site 3 of 3 in cluster B**

Relative:
Lower

Actual:
85 ft.

AST:

Owner:	Not reported
Total Gallons:	6,030
Certified Unified Program Agencies:	Contra Costa

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	771808
Tier:	Not reported
Program Status:	Hmmp
Generator Fee Item:	No
Inactive Date:	Not reported

Region:	CONTRA COSTA
Facility ID:	770987
Tier:	Not reported
Program Status:	UST
Generator Fee Item:	No
Inactive Date:	11/13/1989

CHMIRS:

OES Incident Number:	8910566
OES notification:	Not reported

(Continued) **S100218691**

OES Date:	Not reported
OES Time:	Not reported
Incident Date:	17-JUL-89
Date Completed:	**17-JUL-89**
Property Use:	600
Agency Id Number:	7065
Agency Incident Number:	448-B
Time Notified:	1631
Time Completed:	1705
Surrounding Area:	650
Estimated Temperature:	90
Property Management:	K
Special Studies 1:	Not reported
Special Studies 2:	Not reported
Special Studies 3:	Not reported
Special Studies 4:	Not reported
Special Studies 5:	Not reported
Special Studies 6:	Not reported
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA/DOT/PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	MANUEL TOVAR #9301 A/CHIEF
Report Date:	17-JUL-89
Comments:	Not reported
Facility Telephone:	415 625-2102
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	Not reported
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	16-MAY-90
Substance:	Not reported
Quantity Released:	Not reported
BBLS:	Not reported
Cups:	Not reported

(Continued) **S100218691**

CUFT:	Not reported
Gallons:	Not reported
Grams:	Not reported
Pounds:	Not reported
Liters:	Not reported
Ounces:	Not reported
Pints:	Not reported
Quarts:	Not reported
Sheen:	Not reported
Tons:	Not reported
Unknown:	Not reported
Description:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
Description:	Not reported

9
WNW
1/4-1/2
0.370 mi.
1954 ft.

CHEVRON, HICKSON KERLEY, ANTIOCH
3951 OAKLEY ROAD
ANTIOCH, CA 94509

SLIC **S108937538**
N/A

Relative:
Lower

Actual:
66 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Site Assessment**
Status Date:	1995-05-01 00:00:00
Global Id:	SL0601370344
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5F)
Lead Agency Case Number:	Not reported
Latitude:	37.9968
Longitude:	-121.7711
Case Type:	Cleanup Program Site
Case Worker:	CDH
Local Agency:	Not reported
RB Case Number:	1862300
File Location:	Regional Board
Potential Media Affected:	Other Groundwater (uses other than drinking water), Soil
Potential Contaminants of Concern:	Heating Oil / Fuel Oil
Site History:	The Site is located at 3951 Oakley Road in Antioch on approximately 153 acres. A variety of nitrogen and sulfur based fertilizers were manufactured at the plant from 1962 to 1992. The former process area is now graded and operated as PES Towing. Approximately 40 non-operational vehicles are stored at the PES impound yard. Six active or former petroleum pipelines are located within and parallel to the Union Pacific Railroad right-of-way parallel to the south side of the former Hickson Kerley site. This includes Chevron and Texaco's former pipelines that transported heavy petroleum, crude and Bunker C fuel oil, from Bakersfield to Richmond, California. Multiple investigations have been performed at the Site to assess the extent of impacts to soil and groundwater from the agricultural chemicals. In February of 1995 an underground rail car used to store ammonium sulfide sludge residue was removed from the former process area. The groundwater monitoring wells were installed in the area to assess any potential release of chemicals associated with the former tank. Petroleum hydrocarbons were encountered in the former process area and investigations have been conducted since 1997. The Site currently operates under MRP No. R5-2006-0813.

C10 NNE 1/4-1/2 0.378 mi. 1994 ft. | **PG&E CORP. YARD 5400 NEROLY ROAD OAKLEY, CA 94561** | **US BROWNFIELDS** | **1008377019 N/A**

Site 1 of 2 in cluster C

Relative: Lower

Actual: 31 ft.

US BROWNFIELDS:

Recipient name:	Oakley, City of
Grant type:	Assessment Grant
Property name:	PG&E Corp. Yard
Property #:	35-050-014
Parcel size:	2
Latitude:	38.0028
Longitude:	-121.7507
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	Not reported
ACRES property ID:	15611
Start date:	N/A
Completed date:	N/A
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	$2,400.00
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	N/A
Assessment funding entity:	US EPA - Brownfields Assessment Cooperative Agreement
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase II Environmental Assessment
Ownership entity:	Not reported
Current owner:	Pacific Gas & Electric Co.
Did owner change:	No
Cleanup required:	Not reported
Video available:	No
Photo available:	Yes
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	N/A
IC in place:	Unknown
Enrolled in state/tribal program:	No
State/tribal program date:	N/A
State/tribal program ID:	Not reported
State/tribal NFA date:	N/A
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported

PG&E CORP. YARD (Continued) **1008377019**

Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Yes
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
Unknown found:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Property highlights:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported

Recipient name:	Oakley, City of
Grant type:	Assessment Grant
Property name:	PG&E Corp. Yard
Property #:	35-050-014
Parcel size:	2
Latitude:	38.0028
Longitude:	-121.7507
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	Not reported
ACRES property ID:	15611
Start date:	N/A
Completed date:	N/A
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	$11,000.00

PG&E CORP. YARD (Continued) **1008377019**

Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	N/A
Assessment funding entity:	Local Funding
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase II Environmental Assessment
Ownership entity:	Not reported
Current owner:	Pacific Gas & Electric Co.
Did owner change:	No
Cleanup required:	Not reported
Video available:	No
Photo available:	Yes
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	N/A
IC in place:	Unknown
Enrolled in state/tribal program:	No
State/tribal program date:	N/A
State/tribal program ID:	Not reported
State/tribal NFA date:	N/A
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Yes
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
Unknown found:	Not reported

PG&E CORP. YARD (Continued) **1008377019**

VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Property highlights:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported

Property Description: farmland

C11 NNE 1/4-1/2 0.413 mi. 2182 ft. | **CHEVRON #9-3801** | **HIST CORTESE** | **S102427224**
5433 NEROLY RD | **LUST** | **N/A**
ANTIOCH, CA 94509 | **CONTRA COSTA CO. SITE LIST**

Site 2 of 2 in cluster C

Relative: Lower

Actual: 32 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	7
Reg By:	LTNKA
Reg Id:	070047

LUST:

Region:	STATE
Global Id:	T0601300773
Latitude:	38.0024306
Longitude:	-121.7632976
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	2002-05-29 00:00:00
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Case Worker:	PMV
Local Agency:	CONTRA COSTA COUNTY
RB Case Number:	070047
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	070047
Case Type:	Drinking Water Aquifer affected
Substance:	GASOLINE
Staff Initials:	PMV
Lead Agency:	Regional
Program:	LUST
MTBE Code:	0

CHEVRON #9-3801 (Continued) **S102427224**

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	707694
Tier:	Not reported
Program Status:	Not reported
Generator Fee Item:	No
Inactive Date:	8/23/2000

D12 **PACIFIC GAS & ELECTRIC** **SLIC** **S106855344**
NNE **5400 NERLOY** **N/A**
1/4-1/2 **OAKLEY, CA**
0.446 mi.
2354 ft. **Site 1 of 2 in cluster D**

Relative:
Lower

Actual:
32 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	2010-03-23 00:00:00
Global Id:	SL0601327305
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number:	Not reported
Latitude:	38.004239
Longitude:	-121.749912
Case Type:	Cleanup Program Site
Case Worker:	ZZZ
Local Agency:	Not reported
RB Case Number:	Not reported
File Location:	Not reported
Potential Media Affected:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	* Volatile Organic Compounds (VOC)
Site History:	Not reported

D13 **PG&E ANTIOCH DISTRICT MAINTENANCE STATION** **SLIC** **S106112408**
NNE **5400 NERLOY RD** **N/A**
1/4-1/2 **OAKLEY, CA**
0.446 mi.
2354 ft. **Site 2 of 2 in cluster D**

Relative:
Lower

Actual:
32 ft.

SLIC:

Region:	5
Facility Status:	Remediation Completed
Unit:	Facility is a Spill or site
Pollutant:	TPH
Lead Agency:	DLL
Date Filed:	07/23/02
Report Date:	/ /
Date Added:	Not reported
Date Closed:	11/21/2003

14 WNW 1/4-1/2 0.449 mi. 2373 ft. | **HICKSON-KERLEY (FORMER), F.K.P., INC.** | **SLIC** | **S106230279**
3951 OAKLEY RD AT SOUTH END OF WILLOW AVE, 153 ACR | **CONTRA COSTA CO. SITE LIST** | **N/A**
ANTIOCH, CA

Relative: Lower

Actual: 60 ft.

SLIC:

Region:	STATE
Facility Status:	**Open - Remediation**
Status Date:	2004-05-18 00:00:00
Global Id:	SL185922952
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number:	Not reported
Latitude:	37.9943112282794
Longitude:	-121.805901877683
Case Type:	Cleanup Program Site
Case Worker:	ZZZ
Local Agency:	Not reported
RB Case Number:	SL185922952
File Location:	Not reported
Potential Media Affected:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	* Fertilizers, * Metals/Heavy Metals, * Other Spill
Site History:	Not reported

Region:	STATE
Facility Status:	**Open - Inactive**
Status Date:	1999-10-02 00:00:00
Global Id:	SL186232981
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number:	Not reported
Latitude:	37.998648
Longitude:	-121.769909
Case Type:	Cleanup Program Site
Case Worker:	ZZZ
Local Agency:	Not reported
RB Case Number:	SL186232981
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

SLIC:

Region:	5
Facility Status:	Remediation Underway
Unit:	Facility is a Spill or site
Pollutant:	ammonium, nitrate
Lead Agency:	DLL
Date Filed:	/ /
Report Date:	/ /
Date Added:	Not reported
Date Closed:	Not reported

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	707601
Tier:	Not reported
Program Status:	UST
Generator Fee Item:	No

HICKSON-KERLEY (FORMER), F.K.P., INC. (Continued) **S106230279**

Inactive Date: 8/1/1996

15
NW
1/4-1/2
0.478 mi.
2522 ft.

PECKHAM PROPERTY
3215 18TH ST E
ANTIOCH, CA 94509

HIST CORTESE **S104403147**
LUST **N/A**
CONTRA COSTA CO. SITE LIST

Relative:
Lower

Actual:
43 ft.

CORTESE:

Region:	CORTESE
Facility County Code:	7
Reg By:	LTNKA
Reg Id:	070057

LUST:

Region:	STATE
Global Id:	T0601300779
Latitude:	38.005953
Longitude:	-121.760986
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	1997-01-27 00:00:00
Lead Agency:	CONTRA COSTA COUNTY
Case Worker:	BRU
Local Agency:	CONTRA COSTA COUNTY
RB Case Number:	070057
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LUST REG 5:

Region:	5
Status:	Case Closed
Case Number:	070057
Case Type:	Soil only
Substance:	GASOLINE
Staff Initials:	PMV
Lead Agency:	Local
Program:	LUST
MTBE Code:	N/A

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	770782
Tier:	Not reported
Program Status:	UST
Generator Fee Item:	No
Inactive Date:	9/12/1990

16 ENE 1/2-1 0.641 mi. 3385 ft. | **NEW OAKLEY RD ES**
LIVE OAKE AVE/OAKLEY RD
OAKLEY, CA 94561 | **SCH**
ENVIROSTOR | **S107027232**
N/A

Relative: Lower

Actual: 43 ft.

SCH:

Facility ID:	7820015
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	19
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Mitigation And Brownfield Reuse Program
Project Manager:	NEAL HUTCHISON
Supervisor:	Mark Malinowski
Division Branch:	Sacramento
Site Code:	204154
Assembly:	15
Senate:	7
Special Program Status:	Not reported
Status:	No Further Action
Status Date:	9/15/2005 0:00
Restricted Use:	NO
Funding:	School District
Latitude:	38.0000253
Longitude:	-121.74015
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ORCHARD, EQUIPMENT/INSTRUMENT REPAIR, RESIDENTIAL AREA, VEHICLE MAINTENANCE
Potential COC:	30001, 30004, 30005, 30006, 30007, 30008, 30013, 30014, 30021, 30023, 3002502
Confirmed COC:	30021-NO,30023-NO,30001-NO,30004-NO,30005-NO,30006,30007,30008, 30013-NO,30014-NO,3002502-NO
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	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

ENVIROSTOR:

NEW OAKLEY RD ES (Continued) **S107027232**

Site Type:	School Investigation
Site Type Detailed:	School
Acres:	19
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	NEAL HUTCHISON
Supervisor:	Mark Malinowski
Division Branch:	Sacramento
Facility ID:	7820015
Site Code:	204154
Assembly:	15
Senate:	7
Special Program:	Not reported
Status:	No Further Action
Status Date:	9/15/2005 0:00
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	School District
Latitude:	38.0000253
Longitude:	-121.74015
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ORCHARD, EQUIPMENT/INSTRUMENT REPAIR, RESIDENTIAL AREA, VEHICLE MAINTENANCE
Potential COC:	30001, 30004, 30005, 30006, 30007, 30008, 30013, 30014, 30021, 30023, 3002502
Confirmed COC:	30021-NO,30023-NO,30001-NO,30004-NO,30005-NO,30006,30007,30008, 30013-NO,30014-NO,3002502-NO
Potential Description:	SOIL
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	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

E17 NNE 1/2-1 0.929 mi. 4906 ft. | **DUPONT DE NEMOURS & CO INC**
6000 BRIDGEHEAD ROAD
ANTIOCH, CA 94509 | **ENVIROSTOR** | **S101479932**
N/A

Site 1 of 3 in cluster E

Relative: Lower

Actual: 20 ft.

ENVIROSTOR:

Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	378
NPL:	NO
Regulatory Agencies:	DTSC
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Rizgar Ghazi
Division Branch:	Berkeley
Facility ID:	7280084
Site Code:	Not reported
Assembly:	15
Senate:	7
Special Program:	Not reported
Status:	Refer: RCRA
Status Date:	5/20/2009 0:00
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.00777778
Longitude:	-121.7505556
APN:	NONE SPECIFIED
Past Use:	HAZARDOUS WASTE TREATMENT, MANUFACTURING - CHEMICALS
Potential COC:	30001, 30013, 30587, 3002502, 30024, 30025, 10009, 30026, 30192, 30194, 30116, 30022, 30027, 30028, 30012, 30343
Confirmed COC:	3,000,130,022,300,240,000,000,000,000,000,000,000,000,000,000,000,000, 000,000,000,000,000,000,000,000,000,000
Potential Description:	OTH, SED, SOIL, SV, SURFW, UE
Alias Name:	Not reported
Alias Type:	Not reported

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	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

E18	**DUPONT OAKLEY SITE**	**RCRA-TSDF**	**1000111309**
NNE	**6000 BRIDGEHEAD RD**	**CERC-NFRAP**	**CAD009151671**
1/2-1	**ANTIOCH, CA 94509**	**CORRACTS**	
0.929 mi.		**RCRA-LQG**	
4906 ft.	**Site 2 of 3 in cluster E**	**FINDS**	
		HIST UST	
Relative:		**FINANCIAL ASSURANCE**	
Lower			

Actual:
20 ft.

RCRA-TSDF:

Date form received by agency:	06/27/2008
Facility name:	DUPONT OAKLEY SITE
Facility address:	6000 BRIDGEHEAD ROAD OAKLEY, CA 94561
EPA ID:	CAD009151671
Contact:	BOBBY C DEAVER
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(925) 757-5836
Contact email:	BOBBY.C.DEAVER-1@USA.DUPONT.COM
EPA Region:	09
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste
TSD commencement date:	Not reported
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	E.I. DUPONT
Owner/operator address:	6000 BRIDGEHEAD ROAD OAKLEY, CA 94561
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1956
Owner/Op end date:	Not reported
Owner/operator name:	E.I. DEPONT
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1956

DUPONT OAKLEY SITE (Continued) **1000111309**

Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Universal Waste Summary:

Waste type: Batteries
Accumulated waste on-site: Yes
Generated waste on-site: Not reported

Waste type: Lamps
Accumulated waste on-site: Yes
Generated waste on-site: Not reported

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: Not reported

Historical Generators:

Date form received by agency: 02/15/2002
Facility name: DUPONT OAKLEY SITE
Site name: E. I. DUPONT DE NEMOURS & CO
Classification: Small Quantity Generator

Date form received by agency: 02/15/2002
Facility name: DUPONT OAKLEY SITE
Site name: E. I. DUPONT DE NEMOURS & CO
Classification: Large Quantity Generator

Date form received by agency: 10/12/2000
Facility name: DUPONT OAKLEY SITE
Site name: E. I. DU PONT DE NEMOURS & CO
Classification: Large Quantity Generator

Date form received by agency: 03/04/1999
Facility name: DUPONT OAKLEY SITE
Site name: E. I. DU PONT DE NEMOURS & CO

DUPONT OAKLEY SITE (Continued) **1000111309**

Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Facility name: DUPONT OAKLEY SITE
Site name: E I DUPONT DE NEMOURS & CO INC
Classification: Large Quantity Generator

Date form received by agency: 03/14/1996
Facility name: DUPONT OAKLEY SITE
Site name: E. I. DU PONT DE NEMOURS & CO.
Classification: Large Quantity Generator

Date form received by agency: 03/29/1994
Facility name: DUPONT OAKLEY SITE
Site name: E I DUPONT DENEMOURS & CO
Classification: Large Quantity Generator

Date form received by agency: 02/26/1992
Facility name: DUPONT OAKLEY SITE
Site name: E I DUPONT DE NEMOURS & COMPAN
Classification: Large Quantity Generator

Date form received by agency: 02/25/1991
Facility name: DUPONT OAKLEY SITE
Site name: E I DUPONT DE NEMOURS & CO INC
Classification: Large Quantity Generator

Date form received by agency: 04/11/1990
Facility name: DUPONT OAKLEY SITE
Site name: E.I. DUPONT DE NEMOURS & CO. INC.
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D008
Waste name: LEAD

Biennial Reports:

Last Biennial Reporting Year: 2009

Annual Waste Handled:
Waste code: D008
Waste name: LEAD
Amount (Lbs): 460800

Corrective Action Summary:
Event date: 01/01/1983
Event: RFI Imposition

Event date: 01/10/1983
Event: RFI Workplan Approved

Event date: 02/20/1984
Event: RFI Approved

Event date: 01/28/1985

DUPONT OAKLEY SITE (Continued) **1000111309**

Event: Stabilization Measures Implemented, Primary measure is source removal and/or treatment (e.g., soil or waste excavation, in-situ soil treatment, off-site treatment).

Event date: 03/01/1985
Event: CA049SI

Event date: 09/25/1985
Event: Stabilization Construction Completed

Event date: 08/24/1988
Event: CA049PA

Event date: 11/23/1988
Event: CA029WQ

Event date: 11/23/1988
Event: CA049RE

Event date: 11/23/1988
Event: CA074HI

Event date: 11/23/1988
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 06/18/1990
Event: CA036WQ

Event date: 06/30/1993
Event: RFA Completed, Assessment was an RFA.

Event date: 06/30/1994
Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).

Event date: 01/01/1995
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 01/01/1995
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

DUPONT OAKLEY SITE (Continued) **1000111309**

Event date: 02/10/1995
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity at the present time for reasons other than 1- it appears to be technically infeasible or inappropriate (NF) or 2- there is a lack of technical information (IN). Reasons for this conclusion may be the status of closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other administrative considerations.

Event date: 10/08/1997
Event: Stabilization Measures Evaluation,This facility is amenable to stabilization activity based on the status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations.

Event date: 10/08/1997
Event: CA Responsibility Referred To A Non-RCRA Federal Authority

Event date: 10/08/1997
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 01/10/2001
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 01/10/2001
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 06/17/2003
Event: RFI Imposition

Event date: 12/12/2003
Event: RFI Workplan Received

Event date: 02/13/2004
Event: RFI Workplan Received

Event date: 04/26/2004
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 05/04/2004
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 06/29/2004
Event: RFI Workplan Received

Event date: 07/09/2004
Event: RFI Workplan Approved

Event date: 07/26/2004

DUPONT OAKLEY SITE (Continued) **1000111309**

Event: RFI Workplan Approved

Event date: 11/10/2004
Event: RFI Workplan Approved

Event date: 05/04/2005
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 05/04/2005
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 03/22/2006
Event: RFI Report Received

Event date: 05/31/2007
Event: RFI Workplan Received

Event date: 08/01/2007
Event: RFI Workplan Received

Event date: 08/23/2007
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 08/23/2007
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 09/14/2007
Event: RFI Workplan Approved

Event date: 09/25/2007
Event: RFI Supplemental Information Received

Event date: 10/01/2007
Event: RFI Supplemental Information Deemed Satisfactory

Event date: 10/09/2007
Event: RFI Workplan Received

Event date: 10/16/2007

DUPONT OAKLEY SITE (Continued) **1000111309**

Event: RFI Workplan Approved

Event date: 10/31/2007
Event: CA805

Event date: 11/20/2007
Event: RFI Report Received

Event date: 12/17/2007
Event: RFI Supplemental Information Received

Event date: 12/28/2007
Event: RFI Workplan Approved

Event date: 01/08/2008
Event: RFI Approved

Event date: 01/25/2008
Event: CA805

Event date: 02/12/2008
Event: CA805

Event date: 05/02/2008
Event: RFI Report Received

Event date: 05/19/2008
Event: RFI Approved

Event date: 06/18/2008
Event: RFI Report Received

Event date: 06/27/2008
Event: RFI Approved

Event date: 12/19/2008
Event: RFI Report Received

Event date: Not reported
Event: CA03191

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 08/24/2007
Date achieved compliance: 09/07/2007
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/28/2007
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60

DUPONT OAKLEY SITE (Continued) **1000111309**

Area of violation:	Generators - General
Date violation determined:	05/14/1996
Date achieved compliance:	05/14/1996
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	05/14/1996
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 264.190-201.J
Area of violation:	TSD - General
Date violation determined:	05/14/1996
Date achieved compliance:	06/14/1996
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	05/14/1996
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 262.30-34.C
Area of violation:	Generators - General
Date violation determined:	05/14/1996
Date achieved compliance:	05/14/1996
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	05/14/1996
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 264.190-201.J
Area of violation:	TSD - General
Date violation determined:	09/28/1994
Date achieved compliance:	11/03/1994
Violation lead agency:	State
Enforcement action:	WRITTEN INFORMAL
Enforcement action date:	10/04/1994
Enf. disposition status:	Not reported
Enf. disp. status date:	Not reported
Enforcement lead agency:	State
Proposed penalty amount:	Not reported
Final penalty amount:	Not reported
Paid penalty amount:	Not reported

Regulation violated:	FR - 270
Area of violation:	TSD - General

DUPONT OAKLEY SITE (Continued) **1000111309**

Date violation determined: 09/28/1994
Date achieved compliance: 09/28/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 09/28/1994
Date achieved compliance: 11/03/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.10-18.B
Area of violation: TSD - General
Date violation determined: 09/28/1994
Date achieved compliance: 09/28/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 02/03/1994
Date achieved compliance: 11/03/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.10-18.B
Area of violation: TSD - General
Date violation determined: 02/03/1994

DUPONT OAKLEY SITE (Continued) **1000111309**

Date achieved compliance: 09/28/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 02/03/1994
Date achieved compliance: 11/03/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 06/30/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 200000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 02/03/1994
Date achieved compliance: 11/03/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 06/30/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 200000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.10-18.B
Area of violation: TSD - General
Date violation determined: 02/03/1994
Date achieved compliance: 09/28/1994
Violation lead agency: State
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 06/30/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: 200000
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.190-201.J
Area of violation: TSD - General
Date violation determined: 02/03/1994
Date achieved compliance: 11/03/1994

DUPONT OAKLEY SITE (Continued) **1000111309**

Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 12/11/1990
Date achieved compliance: 01/11/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State

DUPONT OAKLEY SITE (Continued) **1000111309**

Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY

DUPONT OAKLEY SITE (Continued) **1000111309**

Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.70-77.E
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/27/1989
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/25/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/30/1988
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/06/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/30/1988
Date achieved compliance: 01/11/1991
Violation lead agency: State
Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 04/28/1989

DUPONT OAKLEY SITE (Continued) **1000111309**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/30/1988
Date achieved compliance: 01/11/1991
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 11/30/1988
Date achieved compliance: 01/11/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/06/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/30/1988
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 11/30/1988
Date achieved compliance: 12/11/1990
Violation lead agency: State
Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 04/28/1989
Enf. disposition status: Not reported

DUPONT OAKLEY SITE (Continued) **1000111309**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.140-150.H
Area of violation: TSD - Financial Requirements
Date violation determined: 11/01/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/31/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/03/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/31/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/03/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268 ALL
Area of violation: LDR - General
Date violation determined: 03/31/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

DUPONT OAKLEY SITE (Continued) **1000111309**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 03/31/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.110-120.G
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/03/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

DUPONT OAKLEY SITE (Continued) **1000111309**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 264.90-94.F
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/03/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/11/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 270
Area of violation: TSD - General
Date violation determined: 03/29/1988
Date achieved compliance: 03/21/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/03/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 09/29/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/24/2007
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 09/07/2007

DUPONT OAKLEY SITE (Continued) **1000111309**

Evaluation lead agency: State

Evaluation date: 06/27/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/20/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/30/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 06/24/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/02/1998
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/14/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 06/14/1996
Evaluation lead agency: State

Evaluation date: 05/14/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/14/1996
Evaluation lead agency: State

Evaluation date: 08/30/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 11/03/1994
Evaluation lead agency: State

Evaluation date: 08/30/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 09/28/1994
Evaluation lead agency: State

Evaluation date: 08/30/1994

DUPONT OAKLEY SITE (Continued) **1000111309**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/03/1994
Evaluation lead agency: State

Evaluation date: 11/18/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 11/03/1994
Evaluation lead agency: State

Evaluation date: 11/18/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 11/03/1994
Evaluation lead agency: State

Evaluation date: 11/18/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 09/28/1994
Evaluation lead agency: State

Evaluation date: 10/01/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/10/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/23/1992
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/18/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/11/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/11/1991

DUPONT OAKLEY SITE (Continued) **1000111309**

Evaluation lead agency: State

Evaluation date: 11/27/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 12/11/1990
Evaluation lead agency: State

Evaluation date: 11/27/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 12/11/1990
Evaluation lead agency: State

Evaluation date: 11/21/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/30/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 01/11/1991
Evaluation lead agency: State

Evaluation date: 11/30/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 12/11/1990
Evaluation lead agency: State

Evaluation date: 11/01/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 03/21/1989
Evaluation lead agency: State

Evaluation date: 06/14/1988
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/31/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 03/21/1989
Evaluation lead agency: State

Evaluation date: 03/29/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 03/21/1989
Evaluation lead agency: State

Evaluation date: 03/29/1988

DUPONT OAKLEY SITE (Continued) **1000111309**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 03/21/1989
Evaluation lead agency: State

Evaluation date: 03/29/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 03/21/1989
Evaluation lead agency: State

Evaluation date: 11/02/1987
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0901175
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP

CERCLIS-NFRAP Site Contact Name(s):
Contact Title: Not reported
Contact Name: Carl Brickner
Contact Tel: (415) 972-3814

Contact Title: Not reported
Contact Name: Brunilda Davila
Contact Tel: (415) 972-3162

Contact Title: Not reported
Contact Name: Jeff Inglis
Contact Tel: (415) 972-3095

Contact Title: Not reported
Contact Name: Karen Jurist
Contact Tel: (415) 972-3219

Contact Title: Not reported
Contact Name: Matt Mitguard
Contact Tel: (415) 972-3096

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: DUPONT ANTIOCH WORKS
Alias Address: Not reported
CA

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 11/01/1979
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT

DUPONT OAKLEY SITE (Continued) **1000111309**

Date Started: Not reported
Date Completed: 03/01/1985
Priority Level: Higher priority for further assessment

Action: SITE INSPECTION
Date Started: Not reported
Date Completed: 03/01/1985
Priority Level: Higher priority for further assessment

Action: 7E
Date Started: Not reported
Date Completed: 09/29/1987
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 11/23/1988
Priority Level: Deferred to RCRA (Subtitle C)

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 09/13/1990
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 09/13/1990
Priority Level: NFRAP: No further Remedial Action planned

CORRACTS:

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/01/1983
Action: CA100 - RFI Imposition
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/01/1995
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/01/1995

DUPONT OAKLEY SITE (Continued) **1000111309**

Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/08/2008
Action: CA200 - RFI Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/10/1983
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/10/2001
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/10/2001
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 01/28/1985
Action: CA600SR - Stabilization Measures Implemented, Primary measure is source removal and/or treatment
NAICS Code(s): 326199

DUPONT OAKLEY SITE (Continued) **1000111309**

All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 02/10/1995
Action: CA225NR - Stabilization Measures Evaluation, This facility is, not amenable to stabilization activity at the, present time for reasons other than (1) it appears to be technically, infeasible or inappropriate (NF) or (2) there is a lack of technical, information (IN). Reasons for this conclusion may be the status of, closure at the facility, the degree of risk, timing considerations, the status of corrective action work at the facility, or other, administrative considerations
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 02/13/2004
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 02/20/1984
Action: CA200 - RFI Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 03/22/2006
Action: CA190 - RFI Report Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 04/26/2004
Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): 326199

DUPONT OAKLEY SITE (Continued) **1000111309**

All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 05/02/2008
Action: CA190 - RFI Report Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 05/04/2004
Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 05/04/2005
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 05/19/2008
Action: CA200 - RFI Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 05/31/2007
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09

DUPONT OAKLEY SITE (Continued) **1000111309**

Area Name: ENTIRE FACILITY
Actual Date: 06/17/2003
Action: CA100 - RFI Imposition
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 06/18/2008
Action: CA190 - RFI Report Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 06/27/2008
Action: CA200 - RFI Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 06/29/2004
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 06/30/1993
Action: CA050RF - RFA Completed, Assessment was an RFA
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: FLOURIDE & IRON CHLORIDE SYST.
Actual Date: 06/30/1994
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction and treatment
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported

DUPONT OAKLEY SITE (Continued) **1000111309**

Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 06/30/1994
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction and treatment
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 07/09/2004
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 07/26/2004
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 08/01/2007
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 08/23/2007
Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 08/23/2007

DUPONT OAKLEY SITE (Continued) **1000111309**

Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 09/14/2007
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 09/25/1985
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 09/25/2007
Action: CA160 - RFI Supplemental Information Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 10/01/2007
Action: CA170 - RFI Supplemental Information Deemed Satisfactory
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 10/08/1997
Action: CA210 - CA Responsibility Referred To A Non-RCRA Federal Authority
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671

DUPONT OAKLEY SITE (Continued) **1000111309**

EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 10/08/1997
Action: CA225YE - Stabilization Measures Evaluation, This facility ,is amenable to stabilization activity based on the, status of corrective action work at the facility, technical factors, the degree of risk, timing considerations and administrative considerations
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 10/08/1997
Action: CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 10/09/2007
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 10/16/2007
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 11/10/2004
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY

DUPONT OAKLEY SITE (Continued) **1000111309**

Actual Date: 11/20/2007
Action: CA190 - RFI Report Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 11/23/1988
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 12/12/2003
Action: CA110 - RFI Workplan Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 12/17/2007
Action: CA160 - RFI Supplemental Information Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ENTIRE FACILITY
Actual Date: 12/19/2008
Action: CA190 - RFI Report Received
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: CAD009151671
EPA Region: 09
Area Name: ESFIM
Actual Date: 12/28/2007
Action: CA150 - RFI Workplan Approved
NAICS Code(s): 326199
All Other Plastics Product Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

DUPONT OAKLEY SITE (Continued) **1000111309**

FINDS:

Registry ID: 110000482718

Environmental Interest/Information System

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

DUPONT OAKLEY SITE (Continued) **1000111309**

HIST UST:

Region:	STATE
Facility ID:	00000008471
Facility Type:	Other
Other Type:	CHEMICAL MFG.
Total Tanks:	0028
Contact Name:	D.T. ARGYRIOU
Telephone:	4157796371
Owner Name:	E.I. DU PONT DE NEMOURS&CO.INC
Owner Address:	P.O. BOX 310
Owner City,St,Zip:	ANTIOCH, CA 94509

Tank Num:	001
Container Num:	101
Year Installed:	1969
Tank Capacity:	00751000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Tank Construction:	4 inches
Leak Detection:	None

Tank Num:	002
Container Num:	102
Year Installed:	1971
Tank Capacity:	02478000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Tank Construction:	4 inches
Leak Detection:	None

Tank Num:	003
Container Num:	103
Year Installed:	1972
Tank Capacity:	02260000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Tank Construction:	4 inches
Leak Detection:	None

Tank Num:	004
Container Num:	104
Year Installed:	1956
Tank Capacity:	01870000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Tank Construction:	120 inches
Leak Detection:	None

Tank Num:	005
Container Num:	105
Year Installed:	1956
Tank Capacity:	01870000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Tank Construction:	120 inches
Leak Detection:	None

DUPONT OAKLEY SITE (Continued) **1000111309**

Tank Num: 006
Container Num: 106
Year Installed: 1956
Tank Capacity: 00001500
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 6 inches
Leak Detection: None

Tank Num: 007
Container Num: 107
Year Installed: 1972
Tank Capacity: 00003800
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 8 inches
Leak Detection: None

Tank Num: 008
Container Num: 111
Year Installed: 1974
Tank Capacity: 00001400
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 6 inches
Leak Detection: None

Tank Num: 009
Container Num: 112
Year Installed: 1956
Tank Capacity: 00006227
Tank Used for: Not reported
Type of Fuel: Not reported
Tank Construction: 10 inches
Leak Detection: None

Tank Num: 010
Container Num: 113
Year Installed: 1967
Tank Capacity: 00019400
Tank Used for: Not reported
Type of Fuel: Not reported
Tank Construction: 10 inches
Leak Detection: None

Tank Num: 011
Container Num: 114
Year Installed: 1965
Tank Capacity: 00048800
Tank Used for: Not reported
Type of Fuel: Not reported
Tank Construction: 12 inches
Leak Detection: None

Tank Num: 012
Container Num: 115
Year Installed: 1956

DUPONT OAKLEY SITE (Continued) **1000111309**

Tank Capacity: 00004320
Tank Used for: Not reported
Type of Fuel: Not reported
Tank Construction: 8 inches
Leak Detection: None

Tank Num: 013
Container Num: 201
Year Installed: 1961
Tank Capacity: 00002400
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 2 inches
Leak Detection: None

Tank Num: 014
Container Num: 202
Year Installed: 1979
Tank Capacity: 00000540
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 0.5 inches
Leak Detection: None

Tank Num: 015
Container Num: 301
Year Installed: 1962
Tank Capacity: 01000000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 016
Container Num: 302
Year Installed: 1965
Tank Capacity: 01000000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: Not reported
Leak Detection: None

Tank Num: 017
Container Num: 303
Year Installed: 1982
Tank Capacity: 00042500
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 8 inches
Leak Detection: None

Tank Num: 018
Container Num: 304
Year Installed: 1971
Tank Capacity: 00035400
Tank Used for: WASTE
Type of Fuel: Not reported

DUPONT OAKLEY SITE (Continued) **1000111309**

Tank Construction: 8 inches
Leak Detection: None

Tank Num: 019
Container Num: 305
Year Installed: 1962
Tank Capacity: 00004300
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 10 inches
Leak Detection: None

Tank Num: 020
Container Num: 306
Year Installed: 1984
Tank Capacity: 00001300
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 3/8 inches
Leak Detection: None

Tank Num: 021
Container Num: 307
Year Installed: 1962
Tank Capacity: 00006000
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 10 inches
Leak Detection: None

Tank Num: 022
Container Num: 308
Year Installed: 1963
Tank Capacity: 00006988
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 0.25 inches
Leak Detection: Not reported

Tank Num: 023
Container Num: 401
Year Installed: 1956
Tank Capacity: 00000420
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 6 inches
Leak Detection: None

Tank Num: 024
Container Num: 402
Year Installed: 1956
Tank Capacity: 00025000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Tank Construction: 5/16 inches
Leak Detection: None

DUPONT OAKLEY SITE (Continued) **1000111309**

Tank Num: 025
Container Num: 403
Year Installed: 1962
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Tank Construction: 0.25 inches
Leak Detection: Stock Inventor

Tank Num: 026
Container Num: 404
Year Installed: 1979
Tank Capacity: 00000515
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Tank Construction: 12 gauge
Leak Detection: Stock Inventor

Tank Num: 027
Container Num: 405
Year Installed: 1975
Tank Capacity: 00005000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Tank Construction: 0.25 inches
Leak Detection: Stock Inventor

Tank Num: 028
Container Num: 406
Year Installed: 1962
Tank Capacity: 00001001
Tank Used for: WASTE
Type of Fuel: Not reported
Tank Construction: 6 inches
Leak Detection: None

FINANCIAL ASSURANCE:
EPA ID Number: CAD009151671
Closure Mechanism: Not reported
Closure Amount: FT
Post Clousure Mechanism: 297,000
Post Clousure Amount: Not reported
Corrective Action Mechanism: Not reported
Corrective Action Amount: Not reported
Sudden Mecahanism Type: FT
Sudden Mecahanism Amount: 2,000,000
Non Sudden Mecahanism Type: Not reported
Non Sudden Mecahanism Amount: Not reported

E19 NNE 1/2-1 0.933 mi. 4927 ft. | **DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC**
6000 BRIDGEHEAD RD
OAKLEY, CA

Site 3 of 3 in cluster E

Relative: Lower

Actual: 20 ft.

CA WDS | **S104573837**
NPDES | **N/A**
SLIC
CONTRA COSTA CO. SITE LIST
HAZNET
EMI
ENVIROSTOR
HWP

CA WDS:

Facility ID:	5S 07I016773
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:	0
Facility Telephone:	9257575836
Facility Contact:	BOBBY C DEAVER
Agency Name:	E I DUPONT DE NEMOURS & CO
Agency Address:	6000 Bridgehead Rd
Agency City,St,Zip:	Oakley 945612940
Agency Contact:	BOBBY C DEAVER
Agency Telephone:	9257575836
Agency Type:	Private
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
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.

NPDES:

Npdes Number:	Not reported
Facility Status:	Active
Agency Id:	14287
Region:	5S
Regulatory Measure Id:	198178

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Order No:	97-03-DWQ
Regulatory Measure Type:	Storm water industrial
Place Id:	221724
WDID:	5S07I016773
Program Type:	INDSTW
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	2001-09-13 00:00:00
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	El Du Pont De Nemours & Co Inc
Discharge Address:	6000 Bridgehead Rd
Discharge City:	Oakley
Discharge State:	CA
Discharge Zip:	94561-2940

SLIC:

Region:	5
Facility Status:	RI, REM
Unit:	Facility is a Spill or site
Pollutant:	PCE,TCE, DCE, other VOCs, Pb, As, benzene, freon 113
Lead Agency:	DTSC
Date Filed:	/ /
Report Date:	/ /
Date Added:	Not reported
Date Closed:	Not reported

Region:	5
Facility Status:	Remediation Underway
Unit:	Facility is a Spill or site
Pollutant:	Metals, VOCs
Lead Agency:	DTSC/DLL
Date Filed:	/ /
Report Date:	/ /
Date Added:	10/25/2004
Date Closed:	Not reported

CONTRA COSTA CO. SITE LIST:

Region:	CONTRA COSTA
Facility ID:	708471
Tier:	Not reported
Program Status:	HWG
Generator Fee Item:	No
Inactive Date:	Not reported

HAZNET:

Gepaid:	CAD009151671
Contact:	BOB DEAVER
Telephone:	9257575836
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6000 BRIDGEHEAD RD
Mailing City,St,Zip:	OAKLEY, CA 945612940
Gen County:	Contra Costa
TSD EPA ID:	AZ0000337360
TSD County:	99
Waste Category:	Other inorganic solid waste

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Disposal Method:	Recycler
Tons:	5.9
Facility County:	Not reported

Gepaid:	CAD009151671
Contact:	BOB DEAVER
Telephone:	9257575836
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6000 BRIDGEHEAD RD
Mailing City,St,Zip:	OAKLEY, CA 945612940
Gen County:	Contra Costa
TSD EPA ID:	CAT000646117
TSD County:	Kings
Waste Category:	Other inorganic solid waste
Disposal Method:	Not reported
Tons:	15.1704
Facility County:	Contra Costa

Gepaid:	CAD009151671
Contact:	BOB DEAVER
Telephone:	9257575836
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6000 BRIDGEHEAD RD
Mailing City,St,Zip:	OAKLEY, CA 945612940
Gen County:	Contra Costa
TSD EPA ID:	CAD008302903
TSD County:	Los Angeles
Waste Category:	Contaminated soil from site clean-ups
Disposal Method:	H141
Tons:	0.02
Facility County:	Contra Costa

Gepaid:	CAD009151671
Contact:	BOB DEAVER
Telephone:	9257575836
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6000 BRIDGEHEAD RD
Mailing City,St,Zip:	OAKLEY, CA 945612940
Gen County:	Contra Costa
TSD EPA ID:	CAT000646117
TSD County:	Kings
Waste Category:	Other inorganic solid waste
Disposal Method:	H132
Tons:	273.0672
Facility County:	Contra Costa

Gepaid:	CAD009151671
Contact:	E I DUPONT DE NEMOURS & CO INC
Telephone:	3027741000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	6000 BRIDGEHEAD RD
Mailing City,St,Zip:	OAKLEY, CA 945612940
Gen County:	7

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

TSD EPA ID:	CAT000646117
TSD County:	Kings
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Not reported
Tons:	.7000
Facility County:	7

Click this hyperlink while viewing on your computer to access
202 additional CA_HAZNET: record(s) in the EDR Site Report.

EMI:

Year:	1999
County Code:	7
Air Basin:	SF
Facility ID:	21
Air District Name:	BA
SIC Code:	2869
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2000
County Code:	7
Air Basin:	SF
Facility ID:	21
Air District Name:	BA
SIC Code:	2869
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	3
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

Year:	2001
County Code:	7
Air Basin:	SF
Facility ID:	21
Air District Name:	BA
SIC Code:	3559
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

ENVIROSTOR:

Site Type:	Corrective Action
Site Type Detailed:	Corrective Action
Acres:	378
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	WM
Program Manager:	PETER RUTTAN
Supervisor:	Rizgar Ghazi
Division Branch:	Sacramento
Facility ID:	80001610
Site Code:	200165
Assembly:	15
Senate:	7
Special Program:	Not reported
Status:	Active
Status Date:	1/1/2008 0:00
Restricted Use:	NO
Site Mgmt. Req.:	NONE SPECIFIED
Funding:	Not reported
Latitude:	38.01215757
Longitude:	-121.7507458
APN:	NONE SPECIFIED
Past Use:	HAZARDOUS WASTE TREATMENT, MANUFACTURING - CHEMICALS
Potential COC:	30001, 30013, 30587, 30024, 30025, 30193, 30195, 30116, 30022, 30027, 30012
Confirmed COC:	3,000,130,022,300,240,000,000,000,000,000,000,000,000,000,000,000,000, 000
Potential Description:	OTH, SED, SOIL, SV
Alias Name:	SL0601340233
Alias Type:	GeoTracker Global ID
Alias Name:	Dupont Oakley Site
Alias Type:	Alternate Name
Alias Name:	200165
Alias Type:	Project Code (Site Code)
Alias Name:	CAD009151671
Alias Type:	EPA Identification Number
Alias Name:	80001610
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name:	Not reported
Completed Document Type:	RFI Report
Completed Date:	2009-12-01 00:00:00
Comments:	Not reported

Completed Area Name:	GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name:	Not reported
Completed Document Type:	Monitoring Report
Completed Date:	2009-07-07 00:00:00
Comments:	Not reported

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Completed Area Name: SOIL INVESTGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 2010-03-02 00:00:00
Comments: Report conditionally approved

Completed Area Name: SOIL INVESTGATION AND REMEDIATION
Completed Sub Area Name: AOPC 2.5 Pigment Evaporation Basin
Completed Document Type: Technical Report
Completed Date: 2009-06-15 00:00:00
Comments: Chracterization of Brick Samples Complete

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 2009-06-15 00:00:00
Comments: Not reported

Completed Area Name: Development Focus Area 1
Completed Sub Area Name: Not reported
Completed Document Type: RFI Report
Completed Date: 2009-06-10 00:00:00
Comments: This approval paves the path for the issuance of the final DFA1 release report that will address additional media (such as groundwater) and exposure pathways (e.g. vapor intrusion into buildings).

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2009-07-13 00:00:00
Comments: First Draft of this report acceptable. DTSC Approved.

Completed Area Name: Off-Site Investigations
Completed Sub Area Name: Lauritzen Yacht Harbor
Completed Document Type: Technical Report
Completed Date: 2009-08-04 00:00:00
Comments: Not reported

Completed Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 2009-06-10 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 2010-03-17 00:00:00
Comments: Not reported

Completed Area Name: TiO2 Green Remediation Pilot Project
Completed Sub Area Name: SWMU 4.19, SWMU 4.20 South and North Retention Ponds
Completed Document Type: Technical Workplan
Completed Date: 2009-06-12 00:00:00
Comments: Not reported

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ESFIM
Completed Document Type: RFI Report
Completed Date: 2008-06-18 00:00:00
Comments: Exploratory Sampling and Focused Intermim Measures Report Approval

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Workplan
Completed Date: 2007-09-14 00:00:00
Comments: Phase 2 Soil Sampling Report NOD

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Report
Completed Date: 2008-01-08 00:00:00
Comments: Phase 2 groundwater RFI MIP (Membrane interface probe) Report Approved. cs 7/10/08

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Monitoring Report
Completed Date: 2008-01-25 00:00:00
Comments: Ponds and Basins Backfill Soil Sampling Plan

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Monitoring Report
Completed Date: 2007-10-31 00:00:00
Comments: 2007 Semi-Annual Groundwater Monitoring Report

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Monitoring Report
Completed Date: 2008-02-12 00:00:00
Comments: Groundwater Monitoring Data Evaluation Plan Report

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Workplan
Completed Date: 2004-11-10 00:00:00
Comments: Phase 1 Groundwater RFT Workplan approved. cs 7/10/08

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Report
Completed Date: 2008-05-19 00:00:00
Comments: Phase I Groundwater RFI Report - DTSC Approval Letter

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Interim Measures Implementation Report
Completed Date: 1985-09-25 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Completed Document Type: RFI Report
Completed Date: 1984-02-20 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Preliminary Assessment Report
Completed Date: 1985-03-01 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Preliminary Assessment Report
Completed Date: 1988-08-24 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Workplan
Completed Date: 2004-07-09 00:00:00
Comments: Phase 1 soil RFI

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ESFIM
Completed Document Type: RFI Workplan
Completed Date: 2007-10-16 00:00:00
Comments: Revised ESFIM Work Plan Approval Letter

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ESFIM
Completed Document Type: RFI Workplan
Completed Date: 2007-12-28 00:00:00
Comments: Approval of addendum to the ESFIM workplan. cs 9/25/08

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ESFIM
Completed Document Type: RFI Workplan Addendum
Completed Date: 2007-10-01 00:00:00
Comments: RTC approval letter for ESFIM Work Plan

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Interim Measures Workplan
Completed Date: 1985-01-28 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Workplan
Completed Date: 1983-01-10 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RFI Workplan
Completed Date: 2004-07-26 00:00:00
Comments: Phase 2 groundwater RFI MIP (Membrane interface probe) Workplan

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

approved. cs 7/10/08

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Preliminary Assessment Report
Completed Date: 1988-11-23 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 2009-11-03 00:00:00
Comments: Not reported

Completed Area Name: SOIL INVESTGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 2009-11-17 00:00:00
Comments: This Report is a Data Presentation only. DTSC acknowledges receipt.

Completed Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2009-12-09 00:00:00
Comments: Not reported

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: SURFACE WATER - Little Break, San Joaquin River, Lauritzen Yacht Harbor
Completed Document Type: Technical Report
Completed Date: 2009-08-12 00:00:00
Comments: Final Scoping Level Ecological Report for SJR, LB, and LYH Approved

Completed Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2009-07-07 00:00:00
Comments: Not reported

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2009-10-27 00:00:00
Comments: Not reported

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 2009-03-18 00:00:00
Comments: Final Surface Water Monitoring Plan Accepted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2009-07-13 00:00:00
Comments: Not reported

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Completed Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 2010-04-13 00:00:00
Comments: Report Accepted

Completed Area Name: SOIL INVESTGATION AND REMEDIATION
Completed Sub Area Name: SWMU 4.2 West Basin
Completed Document Type: Technical Report
Completed Date: 2010-01-28 00:00:00
Comments: The Report is acceptable. No revisions necessary. There are conditions that need to be addressed.

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: SURFACE WATER - Little Break, San Joaquin River, Lauritzen Yacht Harbor
Completed Document Type: Ecological Risk Assessment Report
Completed Date: 2010-03-16 00:00:00
Comments: Not reported

Completed Area Name: SURFACE WATER AND SEDIMENT INVESTIGATION AND
Completed Sub Area Name: SURFACE WATER - Little Break, San Joaquin River, Lauritzen Yacht Harbor
Completed Document Type: Ecological Risk Assessment Report
Completed Date: 2010-04-22 00:00:00
Comments: Final SLERA for LB, LYH, and SJR. Inlcudes previously approved SLERA and Sediment Sampling Addendum. No furhter eco study neeeded for LB, SJR seds, and LYH.

Completed Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Completed Sub Area Name: Plume 3
Completed Document Type: Other Report
Completed Date: 2010-05-03 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Interim Measures Questionnaire
Completed Date: 1995-02-10 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Consent Order
Completed Date: 1983-01-01 00:00:00
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Unilateral Order (I/SE, RAO, CAO, EPA AO)
Completed Date: 1994-07-20 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: Interim Measures Questionnaire
Completed Date: 1997-10-08 00:00:00

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Comments: GW PLUME DISCOVERED TO BE MOVING BEYOND EXTRACTION SYSTEM....ACTIONS SHOULD BE TAKEN TO CORRECT THIS SITUATION. RSARACINO 19971110.14:27S

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: ENTIRE FACILITY
Completed Document Type: RCRA Facility Assessment Report
Completed Date: 1993-06-30 00:00:00
Comments: Not reported

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Western/Eastern Dev Areas & Cline Prop
Completed Document Type: Interim Measures Questionnaire
Completed Date: 2006-04-30 00:00:00
Comments: Western Development Area and Cline Property

Completed Area Name: Sites With No Operable Unit
Completed Sub Area Name: Western/Eastern Dev Areas & Cline Prop
Completed Document Type: * CA Process is Terminated
Completed Date: 2006-04-30 00:00:00
Comments: Western and Eastern Areas and Cline Property - No Further Action

Future Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Future Sub Area Name: Plume 3
Future Document Type: Corrective Measures Study Report
Future Due Date: 2010
Future Area Name: GROUNDWATER INVESTIGATION AND REMEDIATION
Future Sub Area Name: Plume 3
Future Document Type: Public Notice
Future Due Date: 2010
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

HWP:
EPA Id: CAD009151671
Latitude: 38.012275
Longitude: -121.750745
Facility Type: HAZ WASTE - NON-OPERATING
Cleanup Status: Not reported
Region: BERKELEY; STANDARDIZED PERMIT & CORRECTIVE ACTION
Permit Maintenance Lead: SHERRY BLUNK
Permit Renewal Lead: PETER RUTTAN
Corrective Action Lead: PETER RUTTAN
Supervisor: Not reported
Site Code: 22120, 200165
Assembly District: 15
Senate District: 7
Public Information Officer: Not reported
Facility Status: STATUS: The overall RCRA Facility Investigation (RFI) process at the site has been separated into discrete RFI activities pertaining to Soil, Groundwater, Sediment, and Surface Water. The results of a Phase 1 Soil RFI were submitted to DTSC in March, 2006. Included in the submittal of the Phase 1 Soil RFI data was the proposed scope of work for Phase 2 Soil Sampling. DTSC and DuPont agreed to a modified approach, with portions of the site with identified soil remediation

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

needs moving directly into corrective action. The Phase 2 Soil Sampling Workplan has been revised accordingly; sampling activities are scheduled to begin in late 2007. A small-scale exploratory soil sampling program was complete in October 2007; the laboratory results of the sampling are expected in November 2007. Contaminants in groundwater have been categorized into three regions identified as Plumes 1, 2 and 3. A Phase 1 Groundwater RFI Report completed in September 2006 and under review, presents a summary of various geologic and hydrogeologic field activities conducted in the area of Plume 1 (predominantly the west and central portions of this plume). A Phase 2 Groundwater RFI report will address groundwater-related site investigation efforts conducted from April 2004 through December 2005, for which the predominant area of focus was the eastern portion of Plume 1, Plume 2, and the overlap area shared between Plumes 2 and 3. Finally, the Phase 3 Groundwater RFI will address any remaining groundwater issues under investigation after the Phase 2 Groundwater RFI is issued. SITE HISTORY: E.I. du Pont de Nemours and Company (DuPont) operated a chemical manufacturing facility at 6000 Bridgehead Road, Antioch, California that was referred to as the Antioch Plant. Operations at the Antioch Plant began in 1956. Production of fuel-additive anti-knock compounds (AKCs) and chlorofluorocarbons (CFCs) began in 1956, while titanium dioxide (TiO 2) production was added in 1963. Production of all three product lines has been eliminated, beginning with AKC manufacturing in 1981, CFC manufacturing in 1996, and TiO2 manufacturing in July 1998, followed by a general shutdown of all TiO 2 and CFC blending operations on March 31, 1999. The facility is now referred to as the DuPont Oakley Site and is undergoing investigation and remediation activity under the Resource Conservation and Recovery Act (RCRA), with the eventual goal of redeveloping the site as a business park, including commercial office and retail uses. The site has been designated as a Jobs Opportunity Zone as part of a smart growth initiative passed by the California State Legislature. The property had been subdivided into four areas and a separate wetlands area for evaluation of soil, soil gas, and sediment contamination. The Western and Eastern Development Areas consist of relatively uncontaminated areas of the site such as current and former vineyards, the administrative building, parking lots, etc. DTSC released the Western Development Area and Eastern Development Area from further regulatory oversight on May 1, 2006. Target cleanup levels for the remainder of the site Northern and Southern Development Areas and the wetlands will be risk-based remediation goals suitable for commercial/industrial/retail use. The Northern Development Area consists of the former CFC Manufacturing Area, the former AKC Blending Area, and closed surface impoundments. The Southern Development Area consists of the area just north of a plant rail spur extending south through the AKC Manufacturing Area, the TiO2 Manufacturing Area, and the Manufacturing Support Area to the main rail line along the southern property boundary. RCRA Facility Investigations (RFI) have included the collection of more than 1,200 soil samples and the monitoring of nearly 200 groundwater wells at the site. Constituents of concern (COCs) in soils include primarily: arsenic, lead, organolead, and Tetrachloroethene (PCE). COCs

Site History: Not reported

HWP:

EPA Id: CAD009151671

Unit Names: CONTAIN1, TANKSTR1

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Event Description: INTENDS/CLOSED ALL WASTE HANDLING FACILITY
Actual Date: 1990-11-16 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, TANKSTR1, TANKSTR2, TANKTRT2
Event Description: INTENDS/CLOSED ALL WASTE HANDLING FACILITY
Actual Date: 1993-02-26 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: INJECT1
Event Description: INTENDS/CLOSED ALL WASTE HANDLING FACILITY
Actual Date: 1982-04-09 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, TANKSTR1, TANKSTR2
Event Description: Initial Submittal
Actual Date: 1980-11-19 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: INJECT1, SURFSTR1
Event Description: Approved Request
Actual Date: 1982-05-24 00:00:00
Doc Comments: Not reported

HWP:
EPA Id: CAD009151671
Unit Names: SURFSTR1
Event Description: Receive Closure Certification
Actual Date: 1985-11-07 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, CONTAIN2, TANKSTR1, TANKTRT2
Event Description: Clean Closure Acceptable
Actual Date: 2000-01-20 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: TANKSTR2
Event Description: In-Place Closure Acceptable
Actual Date: 2000-01-20 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, CONTAIN2, TANKSTR1, TANKSTR2, TANKTRT2
Event Description: Receive Closure Certification
Actual Date: 2000-01-20 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: INJECT1
Event Description: In-Place Closure Acceptable
Actual Date: 1982-04-09 00:00:00

DUPONT CHEMICAL CO., ANTIOCH WORKS UP TO 2000 ARC (Continued) **S104573837**

Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, TANKSTR1, TANKSTR2, TANKTRT2
Event Description: Closure Notice Received
Actual Date: 1996-05-14 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: CONTAIN1, CONTAIN2, TANKSTR1, TANKSTR2, TANKTRT2
Event Description: Public Notice - Closure
Actual Date: 1996-06-17 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: INJECT1
Event Description: Clean Closure Acceptable
Actual Date: 1982-05-30 00:00:00
Doc Comments: Not reported

EPA Id: CAD009151671
Unit Names: SURFIMP1, SURFIMP2, SURFIMP3, SURFIMP4, SURFIMP5, SURFIMP6
Event Description: Notice of Deficiency
Actual Date: 2007-06-26 00:00:00
Doc Comments: Not reported

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ANTIOCH	1000130501	O P S CUSTOM PAINT & BODY	484 ELM LANE BLDG 1	94509	RCRA-SQG,FINDS
OAKLEY	1000182487	STACY TRUCKING	LIVE OAK AVE	94561	FINDS,RCRA-NLR,HIST UST
ANTIOCH	1000252416	CALIFORNIA ORGANICS	445 A OLD HWY 4	94509	FINDS,RCRA-NLR
ANTIOCH	1000355266	FIBREBOARD CORPORATION	WILBUR AVENUE	94509	HIST UST
OAKLEY	1000356575	CYPRESS RD YARD	CYPRESS RD 7MI E JERSEY IS RD	94561	FINDS,RCRA-NLR
ANTIOCH	1000437837	CROWN ZELLERBACH CORPORATION	PO BOX 10	94509	HIST UST
ANTIOCH	1001231257	WOLF CAMERA NO 983	COUNTY EAST MALL STE 62	94509	RCRA-SQG,FINDS
OAKLEY	1001459705	P G AND E DUTCH SLOUGH DEHYDRATOR	OAKLEY RD / HWY 4	94561	RCRA-SQG,FINDS,HAZNET
ANTIOCH	1001492799	WALGREENS 4724	INT OF DEER VALLEY / DAVIDSO	94509	RCRA-SQG,FINDS,HAZNET
ANTIOCH	1003878417	ANTIOCH DSPL SITE	PASO CORTO & SOMERSVILLE RDS	94509	CERCLIS-NFRAP
ANTIOCH	1003878987	ABANDONED DRUM/ANTIOCH	ANTIOCH	94509	CERCLIS-NFRAP
OAKLEY	1009311227	FORMER PISSIGONI TOWING	590-5904 MAIN STREET	94509	BROWNFIELDS
OAKLEY	S102261412	JACUZZI RANCH	NEROLY RD	94561	SL CONTRA COSTA
OAKLEY	S102261413	J J LEWIS RANCH	NEROLY RD	94561	SL CONTRA COSTA
OAKLEY	S102261414	WAPA/CC SUBSTATION #4	NEROLY RD	94561	SL CONTRA COSTA
OAKLEY	S102261425	SHOSHONE OIL CORPORATION	OAKLEY GAS FIELD-HWY 4	94561	SL CONTRA COSTA
OAKLEY	S102261448	WESTERN CONT'L NGC-KYSH-1	SUNSET/HWY 4	94561	SL CONTRA COSTA
OAKLEY	S106230280	PG&E GAS DEHYDRATOR STATION, DUTCH	OAKLEY RD.		SLIC REGION 2
	S106235238	24/680 CALTRANS	HIGHWAY 24 @ I 680		SLIC REGION 2
ANTIOCH	S106666501	CHEVRON SS# 96946	BRIDGEHEAD RD / HWY 4	94509	SL CONTRA COSTA
OAKLEY	S106924890	CONTRA COSTA WATER DISTRICT	NEROLY RD	94561	SWEEPS UST
OAKLEY	S106929309	MELLO'S SHEET METAL	HWY 4 AT BRIDGEHEAD	94561	SWEEPS UST
OAKLEY	S106930066	OAKLEY BUILDERS SUPPLY	800 MAIN ST HWY 4	94561	SWEEPS UST
ANTIOCH	S106932144	SHERMAN ISL. DEHYDRATOR-ODORAN	HIGHWAY 160	94509	SWEEPS UST
OAKLEY	S109167765	VENOCO INC/NUNN CONTINENTE TRACT	EMPIRE AVE @ NEROLY RD		SL CONTRA COSTA
RURAL	U001596245	SHERMAN ISL. DEHYDRATOR-ODORAN	HIGHWAY 160	94509	HIST UST
OAKLEY	U001597812	J.J. LEWIS RANCH	RT. #1 RFD BOX 145 NEROLY RD.	94561	HIST UST
OAKLEY	U001597816	OAKLEY BETHEL ISLAND WASTEWATE	750 OAKLEY RD	94561	HIST UST,SWEEPS UST
OAKLEY	U003937357	7-ELEVEN STORE #32787	EMPIRE RD/HWY 4	94561	UST ALAMEDA

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: 03/31/2010
Date Data Arrived at EDR: 04/02/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 10/25/2010
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: 03/31/2010
Date Data Arrived at EDR: 04/02/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 10/25/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 03/31/2010
Date Data Arrived at EDR: 04/02/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 10/25/2010
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: 01/29/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 62

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPAa??s Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2009
Date Data Arrived at EDR: 01/15/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 10/25/2010
Data Release Frequency: Varies

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: 06/23/2009
Date Data Arrived at EDR: 09/02/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 19

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 09/13/2010
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: 03/25/2010
Date Data Arrived at EDR: 03/31/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, 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: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 12/20/2009
Date Data Arrived at EDR: 01/20/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 12/20/2009
Date Data Arrived at EDR: 01/20/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 07/09/2010
Date Data Arrived at EDR: 07/09/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 39

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 06/16/2010
Date Data Arrived at EDR: 06/17/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
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: 06/16/2010
Date Data Arrived at EDR: 06/17/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
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: 05/24/2010
Date Data Arrived at EDR: 05/25/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 45

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/25/2010
Next Scheduled EDR Contact: 09/06/2010
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: No Update Planned

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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 07/07/2010
Next Scheduled EDR Contact: 10/18/2010
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: 06/07/2010
Next Scheduled EDR Contact: 09/20/2010
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: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
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: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Quarterly

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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: No Update Planned

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: 07/23/2010
Date Data Arrived at EDR: 07/23/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 07/23/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Quarterly

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: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

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: 07/23/2010
Date Data Arrived at EDR: 07/23/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/23/2010
Next Scheduled EDR Contact: 10/04/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
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: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
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: 07/07/2010
Next Scheduled EDR Contact: 10/18/2010
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: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 08/09/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/04/2010
Date Data Arrived at EDR: 05/05/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 22

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/24/2010
Date Data Arrived at EDR: 05/27/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 74

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/03/2010
Date Data Arrived at EDR: 05/05/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 22

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/19/2010
Date Data Arrived at EDR: 05/21/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/27/2010
Date Data Arrived at EDR: 05/28/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 05/04/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 64

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

State and tribal registered storage tank lists

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 07/23/2010
Date Data Arrived at EDR: 07/23/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 20

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 06/23/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 10/25/2010
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: 05/04/2010
Date Data Arrived at EDR: 05/05/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 22

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/27/2010
Date Data Arrived at EDR: 05/28/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 73

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

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: 05/24/2010
Date Data Arrived at EDR: 05/27/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 74

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

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: 08/11/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/03/2010
Date Data Arrived at EDR: 05/05/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 22

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/11/2010
Date Data Arrived at EDR: 02/11/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 60

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/19/2010
Date Data Arrived at EDR: 05/21/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

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

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: 06/16/2010
Date Data Arrived at EDR: 06/17/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/08/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Varies

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: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
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: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/28/2010
Next Scheduled EDR Contact: 09/20/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 14

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 07/19/2010
Date Data Arrived at EDR: 07/21/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 22

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 09/06/2010
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: 08/09/2010
Next Scheduled EDR Contact: 11/22/2010
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: 05/07/2010
Date Data Arrived at EDR: 06/18/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/08/2010
Next Scheduled EDR Contact: 09/20/2010
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: 06/16/2010
Date Data Arrived at EDR: 06/17/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
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: 12/31/2009
Date Data Arrived at EDR: 02/25/2010
Date Made Active in Reports: 03/04/2010
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 10/18/2010
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: 09/23/2009
Date Data Arrived at EDR: 09/23/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 8

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 06/07/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: Annually

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: 05/06/2010
Date Data Arrived at EDR: 05/11/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/24/2010
Next Scheduled EDR Contact: 09/06/2010
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: 05/05/2010
Date Data Arrived at EDR: 05/07/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
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: 06/14/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/15/2010
Next Scheduled EDR Contact: 09/27/2010
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: 04/06/2010
Date Data Arrived at EDR: 04/07/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 07/23/2010
Date Data Arrived at EDR: 07/23/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 20

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/23/2010
Next Scheduled EDR Contact: 10/04/2010
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: 07/23/2010
Date Data Arrived at EDR: 07/23/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 20

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 07/23/2010
Next Scheduled EDR Contact: 10/04/2010
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: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 01/12/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 62

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
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: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
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: 12/31/2008
Date Data Arrived at EDR: 09/30/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 62

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/12/2010
Next Scheduled EDR Contact: 09/27/2010
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: 04/11/2010
Date Data Arrived at EDR: 04/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 28

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/08/2010
Next Scheduled EDR Contact: 10/18/2010
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: 06/01/2010
Date Data Arrived at EDR: 06/16/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 62

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/16/2010
Next Scheduled EDR Contact: 09/27/2010
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: 06/01/2010
Next Scheduled EDR Contact: 09/13/2010
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: 02/12/2010
Date Data Arrived at EDR: 03/10/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 68

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/09/2010
Next Scheduled EDR Contact: 09/20/2010
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: 12/31/2008
Date Data Arrived at EDR: 01/13/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 36

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 06/04/2010
Next Scheduled EDR Contact: 09/13/2010
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: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
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: 06/01/2010
Next Scheduled EDR Contact: 09/13/2010
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: 06/01/2010
Next Scheduled EDR Contact: 09/13/2010
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: 12/31/2008
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/15/2010
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: 04/24/2010
Date Data Arrived at EDR: 04/29/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 18

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
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: 02/01/2010
Date Data Arrived at EDR: 04/22/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 109

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/30/2010
Next Scheduled EDR Contact: 11/01/2010
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: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 07/13/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 10/25/2010
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: 04/14/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 41

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 09/27/2010
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: 02/25/2010
Date Made Active in Reports: 05/12/2010
Number of Days to Update: 76

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/25/2010
Next Scheduled EDR Contact: 09/06/2010
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

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: 06/01/2010
Next Scheduled EDR Contact: 09/13/2010
Data Release Frequency: Quarterly

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/21/2010
Date Data Arrived at EDR: 05/25/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/25/2010
Next Scheduled EDR Contact: 09/06/2010
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: 07/08/2010
Date Data Arrived at EDR: 07/09/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 34

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
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: 12/22/2009
Date Data Arrived at EDR: 01/25/2010
Date Made Active in Reports: 01/29/2010
Number of Days to Update: 4

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 09/27/2010
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: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
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: 12/31/2009
Date Data Arrived at EDR: 07/07/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 36

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 11/01/2010
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: 07/09/2010
Next Scheduled EDR Contact: 10/11/2010
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: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
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: 05/12/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/09/2010
Next Scheduled EDR Contact: 11/08/2010
Data Release Frequency: Varies

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 14

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/24/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/27/2010
Date Data Arrived at EDR: 06/16/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 23

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 11/09/2009
Date Data Arrived at EDR: 12/18/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/21/2010
Date Data Arrived at EDR: 07/21/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 22

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/11/2010
Date Data Arrived at EDR: 05/12/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 6

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Quarterly

FINANCIAL ASSURANCE 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 07/16/2010
Date Data Arrived at EDR: 07/19/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 24

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 09/06/2010
Data Release Frequency: Varies

FINANCIAL ASSURANCE: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 03/01/2007
Date Data Arrived at EDR: 06/01/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 08/13/2010
Next Scheduled EDR Contact: 11/15/2010
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: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
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: 08/10/2010
Next Scheduled EDR Contact: 11/15/2010
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

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 07/14/2010
Date Data Arrived at EDR: 07/16/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 07/14/2010
Date Data Arrived at EDR: 07/16/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/18/2010
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: 05/24/2010
Date Data Arrived at EDR: 05/25/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 43

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 08/09/2010
Next Scheduled EDR Contact: 11/22/2010
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: 07/19/2010
Date Data Arrived at EDR: 07/21/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 22

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/24/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 15

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 04/13/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 35

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/23/2010
Date Data Arrived at EDR: 04/26/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 22

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/26/2010
Next Scheduled EDR Contact: 11/08/2010
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: 06/18/2010
Next Scheduled EDR Contact: 09/06/2010
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/09/2010
Date Data Arrived at EDR: 02/12/2010
Date Made Active in Reports: 03/04/2010
Number of Days to Update: 20

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/26/2010
Next Scheduled EDR Contact: 11/08/2010
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 07/27/2010
Date Data Arrived at EDR: 07/28/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 15

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/26/2010
Next Scheduled EDR Contact: 11/08/2010
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: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 07/07/2010
Date Data Arrived at EDR: 07/30/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 04/19/2010
Date Data Arrived at EDR: 04/30/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 18

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 10/25/2010
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: 06/07/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: No Update Planned

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: 06/07/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: No Update Planned

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 05/05/2010
Date Data Arrived at EDR: 05/21/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 47

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 05/05/2010
Date Data Arrived at EDR: 05/21/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 47

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/03/2010
Date Data Arrived at EDR: 02/12/2010
Date Made Active in Reports: 02/23/2010
Number of Days to Update: 11

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 08/17/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 06/22/2010
Date Data Arrived at EDR: 06/24/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 15

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 06/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 04/19/2010
Date Data Arrived at EDR: 04/19/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 29

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/19/2010
Date Data Arrived at EDR: 04/19/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 29

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
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: 06/30/2010
Date Data Arrived at EDR: 07/21/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 22

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 10/25/2010
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: 03/03/2010
Date Data Arrived at EDR: 04/16/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 32

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 10/25/2010
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: 06/09/2010
Date Data Arrived at EDR: 06/11/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 28

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 06/23/2010
Next Scheduled EDR Contact: 09/27/2010
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 12/04/2009
Date Made Active in Reports: 01/18/2010
Number of Days to Update: 45

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
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: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/15/2010
Next Scheduled EDR Contact: 09/27/2010
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: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/17/2010
Date Data Arrived at EDR: 05/17/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 53

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 05/14/2010
Date Data Arrived at EDR: 06/09/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 30

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
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: 07/15/2010
Date Data Arrived at EDR: 07/16/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 27

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/21/2010
Date Data Arrived at EDR: 06/22/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 17

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
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: 07/09/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: Annually

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: 408-535-7694
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
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: 06/07/2010
Date Data Arrived at EDR: 06/22/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 17

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/07/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/07/2010
Date Data Arrived at EDR: 06/23/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/08/2010
Next Scheduled EDR Contact: 09/20/2010
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: 07/12/2010
Date Data Arrived at EDR: 07/13/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 30

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 07/21/2010
Date Data Arrived at EDR: 07/22/2010
Date Made Active in Reports: 08/12/2010
Number of Days to Update: 21

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 09/27/2010
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: 04/26/2010
Date Data Arrived at EDR: 05/28/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 40

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/23/2010
Next Scheduled EDR Contact: 09/06/2010
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: 08/01/2009
Date Data Arrived at EDR: 10/05/2009
Date Made Active in Reports: 10/13/2009
Number of Days to Update: 8

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/15/2010
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: 05/24/2010
Next Scheduled EDR Contact: 09/06/2010
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: 05/26/2010
Date Data Arrived at EDR: 06/24/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 15

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/24/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 04/07/2010
Date Data Arrived at EDR: 04/13/2010
Date Made Active in Reports: 05/18/2010
Number of Days to Update: 35

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 10/11/2010
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: 06/04/2010
Next Scheduled EDR Contact: 09/06/2010
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 01/20/2010
Date Made Active in Reports: 02/05/2010
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
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: 04/30/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 06/21/2010
Number of Days to Update: 39

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 05/24/2010
Next Scheduled EDR Contact: 09/06/2010
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 11/03/2009
Date Data Arrived at EDR: 02/12/2010
Date Made Active in Reports: 02/22/2010
Number of Days to Update: 10

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 06/01/2010
Next Scheduled EDR Contact: 09/13/2010
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/06/2010
Date Made Active in Reports: 07/26/2010
Number of Days to Update: 20

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
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: Rextag Strategies Corp.
Telephone: (281) 769-2247
U.S. Electric Transmission and Power Plants Systems Digital GIS Data

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 2003 & 2009 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.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SR-4 BYPASS/SR-4/160 CONNECTORS
SR-4
ANTIOCH, CA 94509

TARGET PROPERTY COORDINATES

Latitude (North):	37.99130 - 37˚ 59' 28.7''
Longitude (West):	121.7577 - 121˚ 45' 27.7''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	609088.3
UTM Y (Meters):	4205372.0
Elevation:	126 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	37121-H7 ANTIOCH SOUTH, CA
Most Recent Revision:	1980
North Map:	38121-A7 ANTIOCH NORTH, CA
Most Recent Revision:	1978
Northeast Map:	38121-A6 JERSEY ISLAND, CA
Most Recent Revision:	1978
East Map:	37121-H6 BRENTWOOD, CA
Most Recent Revision:	1978

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).

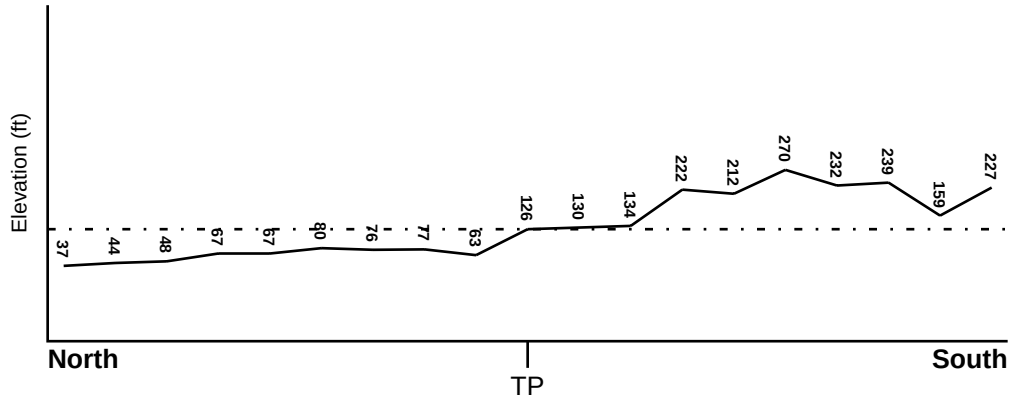
TOPOGRAPHIC INFORMATION

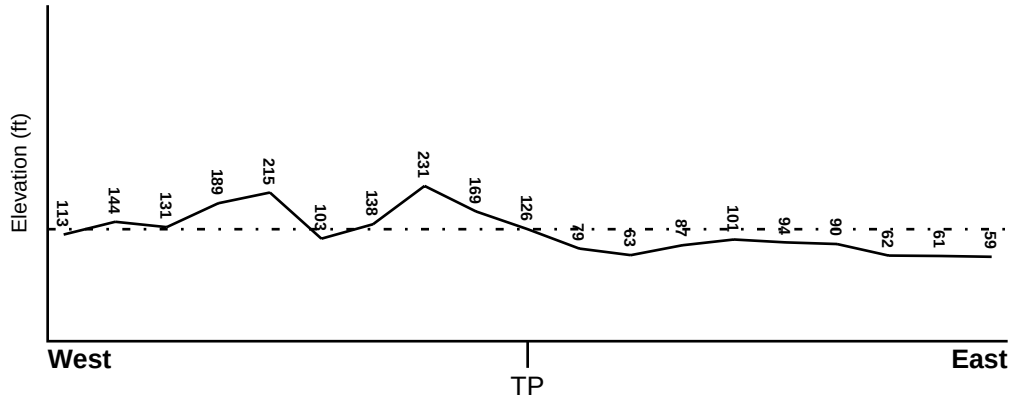
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ENE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 126 ft.

0 1/2 1 Miles

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
CONTRA COSTA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 06013C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
ANTIOCH SOUTH	YES - refer to the Overview Map and Detail Map

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		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

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

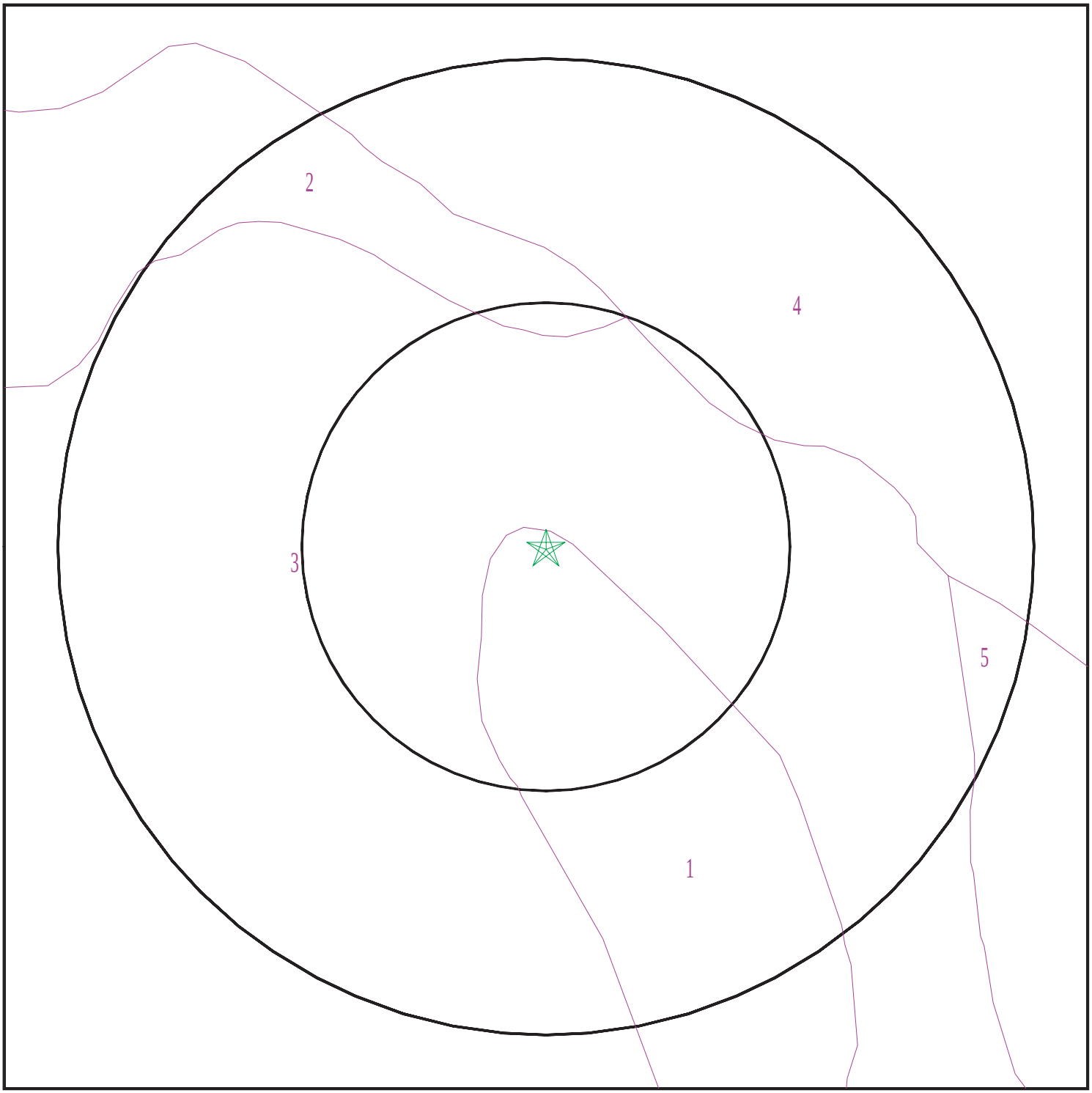
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

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 - 2849018.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	SR-4 Bypass/SR-4/160 Connectors	CLIENT:	GeoCon Environmental Cons.
ADDRESS:	SR-4 Antioch CA 94509	CONTACT:	Lauren Vigliotti
LAT/LONG:	37.9913 / 121.7577	INQUIRY #:	2849018.2s
		DATE:	August 18, 2010 3:53 pm

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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: DIABLO

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

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	29 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:
2	29 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:
3	42 inches	46 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:

Soil Map ID: 2

Soil Component Name: ZAMORA

Soil Surface Texture: silty clay 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	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
2	16 inches	72 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1

Soil Map ID: 3

Soil Component Name: DIABLO

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

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	29 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:
2	29 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:
3	42 inches	46 inches	weathered bedrock	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	Not reported	Max: 1.4 Min: 0	Max: Min:

Soil Map ID: 4

Soil Component Name: DELHI

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively 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	5 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.6
2	5 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Well-graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 6.6

Soil Map ID: 5

Soil Component Name: CAPAY

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially 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	35 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6

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		
2	35 inches	51 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6
3	51 inches	72 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6

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

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS3227864	1/2 - 1 Mile NNW

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.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

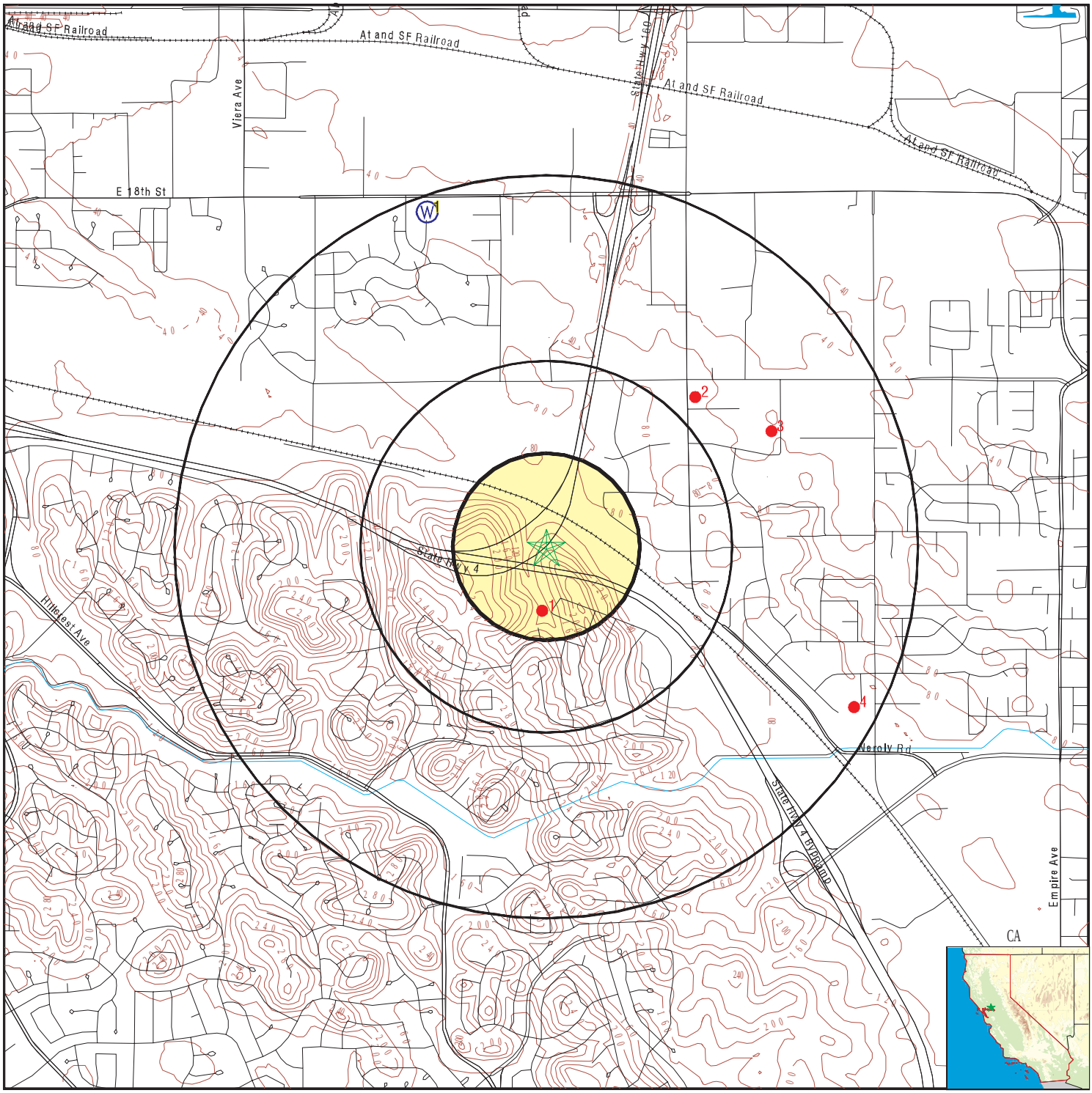
MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	CAOG60000192692	1/8 - 1/4 Mile South
2	CAOG60000192775	1/2 - 1 Mile NE
3	CAOG60000192763	1/2 - 1 Mile ENE
4	CAOG60000192630	1/2 - 1 Mile ESE

PHYSICAL SETTING SOURCE MAP - 2849018.2s



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

0 1/4 1/2 1 Miles

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location
Closest Hydrogeological Data
Oil, gas or related wells

N

SITE NAME:	SR-4 Bypass/SR-4/160 Connectors	CLIENT:	GeoCon Environmental Cons.
ADDRESS:	SR-4 Antioch CA 94509	CONTACT:	Lauren Vigliotti
LAT/LONG:	37.9913 / 121.7577	INQUIRY #:	2849018.2s
		DATE:	August 18, 2010 3:53 pm

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Map ID Direction Distance Elevation	Database	EDR ID Number
1 **NNW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS3227864**

Agency cd:	USGS	Site no:	380016121454501
Site name:	002N002E21L001M		
Latitude:	380016	EDR Site id:	USGS3227864
Longitude:	1214545	Dec lat:	38.00436596
Dec lon:	-121.76356558	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	06
State:	06	County:	013
Country:	US	Land net:	NENWSES21 T02N R02E M
Location map:	ANTIOCH NORTH	Map scale:	24000
Altitude:	50.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	10		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Upper ChowchillaUpper Fresno. California. Area = 938 sq.mi.		
Topographic:	Hillside (slope)		
Site type:	Ground-water other than Spring	Date construction:	19620101
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:	ALLUVIUM (QUATERNARY)		
Well depth:	140	Hole depth:	140
Source of depth data:	Not Reported		
Project number:	Not Reported		
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:	1972-09-20
Water quality data end date:	1982-09-24	Water quality data count:	26
Ground water data begin date:	1962-01-01	Ground water data end date:	1980-04-10
Ground water data count:	2		

Ground-water levels, Number of Measurements: 4

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1980-04-10	22.8		1980-04-10	22.8	
1962-01-01	50.00		1962-01-01	50.00	

Map ID Direction Distance	Database	EDR ID Number

1
South
1/8 - 1/4 Mile

OIL_GAS **CAOG60000192692**

Apinumber:	01300278	Operator:	Brazos Oil & Gas Co.
Lease:	Antioch Unit A	Well no:	1
Field:	Not Reported	Caog m2 area:	Not Reported
Map:	608	Status cod:	006
Source:	Not Reported		
Latitude27:	37.98888		
Longitude2:	-121.75684		
Latitude83:	37.988802		
Longitude8:	-121.757905		
Td:	0		
Sec:	28		
Twn:	2N	Rge:	2E
Bm:	MD		
X coord:	0		
Y coord:	0		
Zone:	Not Reported	Spuddate:	06/27/2007
Abanddate:	09/28/2007	Comments 1:	Not Reported
District:	6	Site id:	CAOG60000192692

2
NE
1/2 - 1 Mile

OIL_GAS **CAOG60000192775**

Apinumber:	01320142	Operator:	McFarland Energy, Inc.
Lease:	Calplans-New Love	Well no:	1
Field:	Not Reported	Caog m2 area:	Not Reported
Map:	608	Status cod:	006
Source:	Not Reported		
Latitude27:	37.99722		
Longitude2:	-121.74929		
Latitude83:	37.997142		
Longitude8:	-121.750355		
Td:	0		
Sec:	27		
Twn:	2N	Rge:	2E
Bm:	MD		
X coord:	0		
Y coord:	0		
Zone:	Not Reported	Spuddate:	06/27/2007
Abanddate:	09/28/2007	Comments 1:	Not Reported
District:	6	Site id:	CAOG60000192775

3
ENE
1/2 - 1 Mile

OIL_GAS **CAOG60000192763**

Apinumber:	01300277	Operator:	Occidental Petroleum Corp.
Lease:	Shell-Continente	Well no:	1-27
Field:	Not Reported	Caog m2 area:	Not Reported
Map:	608	Status cod:	006
Source:	Not Reported		
Latitude27:	37.99589		
Longitude2:	-121.74553		
Latitude83:	37.995812		
Longitude8:	-121.746595		
Td:	0		
Sec:	27		
Twn:	2N	Rge:	2E
Bm:	MD		
X coord:	0		
Y coord:	0		
Zone:	Not Reported	Spuddate:	06/27/2007
Abanddate:	09/28/2007	Comments 1:	Not Reported
District:	6	Site id:	CAOG60000192763

4
ESE **OIL_GAS** **CAOG60000192630**
1/2 - 1 Mile

Apinumber:	01320286	Operator:	Vern Jones Oil & Gas Corp.
Lease:	Fleet-Rogers	Well no:	1
Field:	Not Reported	Caog m2 area:	Not Reported
Map:	608	Status cod:	006
Source:	Not Reported		
Latitude27:	37.98512		
Longitude2:	-121.74146		
Latitude83:	37.985042		
Longitude8:	-121.742525		
Td:	0		
Sec:	27		
Twn:	2N	Rge:	2E
Bm:	MD		
X coord:	0		
Y coord:	0		
Zone:	Not Reported	Spuddate:	06/27/2007
Abanddate:	09/28/2007	Comments 1:	Not Reported
District:	6	Site id:	CAOG60000192630

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
94509	5	0	0.00

Federal EPA Radon Zone for CONTRA COSTA 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 Zip Code: 94509

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.500 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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 2003 & 2009 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

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Initial Site Assessment (ISA) Checklist

Project Information

District 4 County COCO Route 4 Bypass, SR-4/160 Connector Kilometer Post (Post Mile) SR-4 Bypass SR-4/160 Connector PM 32.4 to 38.1,
EA: 246571

Description:
The purpose of the State Route 4 (SR-4) Bypass SR-4/160 Connectors Project is to improve traffic operations and safety, and to provide route continuity in the area of Contra Costa County. The proposed project consists of constructing a freeway to freeway connector in each direction between the SR-4 Bypass and SR-160, the approach to the Antioch Bridge. The proposed construction project will be completed within existing Caltrans right-of-way (ROW). No property acquisitions will be required to accommodate the proposed project improvements.

Is the project on the HW Study Minimal-Risk Projects List (HW1)? No

Project Manager Mr. Mike Lohman phone # 925-938-0383

Project Engineer same as above phone # same as above

Project Screening

Attach the project location map to this checklist to show location of all known and/or potential HW sites identified.

1. Project Features: New R/W? Yes Excavation? Yes Railroad Involvement? No

   Structure demolition/modification? No Subsurface utility relocation? No

2. Project Setting SR-4 Bypass and SR-4/SR-160 Connector in a mixed commercial/agricultural/residential area.

   Rural or Urban Mix of Rural and Urban.

   Current land uses: Caltrans ROW, SR-4 Bypass and SR-4/160 Connectors highway corridor

   Adjacent land uses North – commercial, residential, and undeveloped, East – commercial and residential West – former unoccupied industrial property, and undeveloped; South – Residential
   (industrial, light industry, commercial, agricultural, residential, etc.)

3. Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.

Initial Site Assessment (ISA) Checklist
(continued)

4. Conduct Field Inspection. Date 8-26-10 Identified areas of historical agricultural land use in the project area.

STORAGE STRUCTURES / PIPELINES:

Underground tanks No Surface tanks No

Sumps Unknown Ponds None

Drums Unknown Basins None

Transformers None Landfill None

Other

CONTAMINATION: (spills, leaks, illegal dumping, etc.)

Surface staining None Oil sheen None

Odors None Vegetation damage None

Other

HAZARDOUS MATERIALS: (asbestos, lead, etc.)

Buildings None Spray-on fireproofing N/A

Pipe wrap Unknown Friable tile N/A

Acoustical plaster N/A Serpentine N/A

Paint Unknown Other (1) yellow thermoplastic paint on existing roadways.

5. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites. See ISA Report.

6. Other comments and/or observations: None.

ISA Determination

Does the project have potential hazardous waste involvement? Yes If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation? No If "YES," explain; then give an estimate of additional time required:

Based on the results of this ISA, additional investigations are recommended and include soil sampling for ADL along roadway shoulders, . The ISA was prepared by Geocon Consultants, Inc., and dated October 1, 2010

A brief memo should be prepared to transmit the ISA conclusions to the Project Manager and Project Engineer –See ISA Report and summary of conclusions below:

- Concentrations of ADL at levels exceeding hazardous waste criteria may be present in shallow soil within the unpaved shoulders and median of the existing SR-4 and SR-160 ROW. Additionally, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing WB SR-4 and EB SR-4 connectors to SR-160. An ADL investigation should be performed

along the SR-4 and SR-160 corridors to evaluate lead concentrations in planned excavation areas and associated soil material management and disposal requirements.

- Other potential identified environmental constraints included at the Site include bridge structure asbestos-containing materials and lead-containing paint, and yellow thermoplastic and paint striping. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans Special Provisions. Asbestos-containing pipe and treated-wood may also be encountered during planned demolition and construction of new highway improvements. Any encountered asbestos-containing pipe or treated-wood waste will require proper handling and disposal in accordance with regulatory requirements.
- The UPRR tracks cross the central portion of the Site. Potential accidental releases or impacts from railroad construction and historical operations (e.g., railroad ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the Site.
- Although there are no indications that contaminated groundwater will be encountered during the proposed construction project, we conservatively recommend groundwater sampling at overcrossing structures if planned bridge widening activities extend to the depth of groundwater to evaluate construction de-watering disposal options and potential exposure of workers to potential contaminated media.
- Based on the project location and proposed construction activities, environmental impacts at identified and potentially contaminated facilities within the project ESA represent a low risk to the design and construction of the planned SR-4 Bypass SR-4/160 Connectors Project (see Table 1 of ISA Report).

ISA Conducted by ____Lauren Vigliotti_____ **Date** __October 1, 2010
Geocon Consultants, Inc.

APPENDIX E
Noise Assessment

SR 4 BYPASS / SR 160 CONNECTOR RAMPS PROJECT ENVIRONMENTAL NOISE ASSESSMENT

September 28, 2010

♦ ♦ ♦

Prepared for:

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Prepared by:

Michael S. Thill

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Job No.: 10-093

INTRODUCTION

The proposed project will construct a freeway to freeway connector in each direction between the State Route 4 Bypass (SR 4 Bypass) and State Route 160 (SR 160). The northbound connector ramp exits from westbound (WB) SR 4 Bypass using standard freeway to freeway connector geometry, widening to two lanes for approximately 1200 feet crossing over the Union Pacific Rail Road (UPRR) right of way. The project will add one additional lane to the outside north underneath the Oakley Road Overcrossing extending approximately 3000 feet and exiting at the SR 160/East 18th/Main Street interchange. The project also proposes to widen Southbound SR 160 by one lane to the outside starting at the SR 160/East18th/Main Street Interchange, extending 1400 feet under the Oakley Road Overcrossing to a standard freeway to freeway connector diverge geometry for southbound (SB) SR 160 to WB SR 4. The mainline, SR 160 to eastbound (EB) SR 4 Bypass widens to two lanes immediately after the WB 4 exit rising up and crossing over the UPRR right of way, the EB SR 4 to northbound (NB) SR 160 connector and then the SR 4 Bypass and extending approximately 3300 feet before dropping a lane at the ramp metering limit line and then merging into the EB SR 4 Bypass.

In accordance with the 1994 SR 4 Bypass Final EIR, the purpose of this noise assessment is to assess existing and future noise impacts at receivers in the vicinity of the proposed modifications to the SR 4 Bypass / SR 160 interchange project and to identify the location and height of proposed noise barriers, as needed, to reduce future sound levels associated with the project to acceptable levels.

TABLE 1 Definitions of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

3

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), Caltrans, November 2009.

Regulatory Background

City of Oakley 2020 General Plan

Goal 9.1 of the Noise Element is to, "Protect residents from the harmful and annoying effects of exposure to excessive noise." Policies in support of this goal that are applicable in this assessment include:

9.1.5 Noise created by new transportation noise sources shall be mitigated so as not to exceed the levels specified in Table 9-3 (Table 3) at outdoor activity areas or interior spaces of existing noise-sensitive land uses.

9.1.6 It is anticipated that roadway improvement projects will be needed to accommodate buildout of the general plan. Therefore, existing noise-sensitive uses may be exposed to increased noise levels due to roadway improvement projects as a result of increased roadway capacity, increases in travel speeds, etc. It may not be practical to reduce increased traffic noise levels consistent with those contained in Table 9-3 (Table 3). Therefore, as an alternative, the following criteria may be used as a test of significance for roadway improvement projects:

- Where existing traffic noise levels are less than 60 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +5 dB L_{dn} increase in noise levels due to roadway improvement projects will be considered significant; and

- Where existing traffic noise levels range between 60 and 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in noise levels due to roadway improvement projects will be considered significant; and

- Where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in noise levels due to roadway improvement projects will be considered significant.

9.1.7 Where noise mitigation measures are required to achieve the standards of Tables 9-1 and 9-3 (Table 3), the emphasis of such measures shall be placed upon site planning and project design. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

TABLE 3 Maximum Allowable Noise Exposure Transportation Noise Sources*

Land Use	Outdoor Activities Areas[1] L_{dn}/ CNEL, dB	Interior Space	
		L_{dn}/CNEL, dB	L_{eq}, dB[2]
Residential	65	45	--
Transient Lodging	65[3]	45	--
Hospitals, Nursing Homes	65	45	
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	65	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies pf apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2. As determined for a typical worst-case hour during periods of use.
3. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

*Table 9-3 of the Oakley 2020 General Plan.

City of Antioch General Plan

The Environmental Hazards Chapter of the City of Antioch General Plan sets forth noise goals and policies to protect citizens from the harmful and annoying effects of excessive noise. Objectives and policies established in the Noise Element of the General Plan that are applicable in this assessment include:

11.6.1 Noise Objective

Achieve and maintain exterior noise levels appropriate to planned land uses throughout Antioch as described below:

Residential

Single-Family: 60 dBA CNEL within rear yards
Multi-Family: 60 dBA CNEL within exterior open space

Antioch City Council Resolution #2005/14 approved an amendment to the Environmental Hazards section of the General Plan to modify the allowable maximum exterior noise level for outdoor living areas of new single family and new multiple family residential units adjacent to

planned expressways from 60 dBA CNEL to 65 dBA CNEL and permit flexible standards for existing outdoor residential living areas adjacent to planned freeway expansions with no significant (5 dBA CNEL or greater) increase in current noise levels and introduced the ordinance amending Title 9, Chapter 5, Article 19 of the Antioch Municipal Code (Noise Attenuation Requirements) modifying the allowable maximum exterior noise level for outdoor living areas of new single family and new multiple family residential units located adjacent to planned expressways from 60 dBA CNEL to 65 dBA CNEL and no significant (5 dBA CNEL or greater) increase in current noise levels for existing residential development adjacent to the proposed expansion of State Route 4.

Existing Noise Environment

Noise sensitive land uses in the project vicinity include single-family residences located northeast of the SR 4/SR160/SR 4 Bypass interchange, a church west of SR 160 just north of Oakley Road, and a new residential subdivision (Monterra) located southwest of the interchange.

Existing noise levels were quantified at representative receiver locations throughout the study area between Friday, August 13, 2010 and Monday, August 16, 2010. The existing noise environment at receivers varies depending on the distance at which noise sources are located from receivers (primarily traffic on local roadways) and whether or not these receivers are shielded by existing noise barriers. Noise levels were monitored at three locations for a period of at least 36-hours and at ten additional locations for a period of ten minutes each. Noise monitoring locations are shown in Figure 1. Figures 2 through 10 summarize the results of the long-term noise measurements and Table 4 presents the results of short-term noise measurements. Weather conditions during the noise measurements were generally good for noise monitoring with clear skies, seasonable temperatures and light to moderate winds.

Long-term noise measurements were conducted to quantify the daily trend in noise levels at three locations in the study area. The first long-term noise measurement (LT-1) was made to document the existing noise environment at single-family residential receivers east of SR160 in the City of Oakley. Noise measurement LT-1 was made in the rear yard of 30 Madeira Court, and was partially shielded from traffic noise along SR-160 by a landscaped berm that reaches a height of 7 to 8 feet. Hourly average noise levels, resulting primarily from vehicular traffic, typically ranged from 54 dBA to 58 dBA L_{eq} during daytime hours and from 47 dBA to 54 dBA L_{eq} at night. The day-night average noise level at Site LT-1 varied from 58 to 59 dBA L_{dn} during the monitoring period. These data are summarized in Figures 2, 3, and 4.

The second long-term noise measurement (LT-2) was made in the rear yard of 3029 Frandoras Circle, near the SR 4 Bypass. Although this receiver is located closer to the SR 4 Bypass, the existing noise barrier provides considerable acoustical shielding. Traffic noise from SR 160 is more apparent at this receiver because no noise barrier exists along SR 160. Hourly average noise levels typically ranged from 48 dBA to 56 dBA L_{eq} during daytime hours and from 44 dBA to 53 dBA L_{eq} at night. Noise data recorded from 11:30 am to 11:40 am on August 16, 2010 was disregarded in the calculation of the L_{dn} because the noise levels appear to have been substantially increased as a result of local activities, (e.g., bird calls, dog barking). Excluding these data, the

day-night average noise level at Site LT-2 varied from 56 to 59 dBA L_{dn}. These data are summarized in Figures 5, 6, and 7.

Long-term noise measurement LT-3 was made in the rear yard of 4527 Le Conte Circle. An existing 8 to 9 foot noise barrier shields the rear yard of this receiver from SR 4 Bypass traffic noise. Hourly average noise levels at this location typically ranged from 54 dBA to 60 dBA L_{eq} during daytime hours and from 49 dBA to 56 dBA L_{eq} at night. The day-night average noise level varied from 61 to 62 dBA L_{dn}. The Community Noise Equivalent Level, the daily noise level metric utilized by the City of Antioch in noise and land use compatibility assessments, at this location is 62 to 63 dBA CNEL. These data are summarized in Figures 8, 9, and 10.

Ten short-term noise measurements were made at noise sensitive receivers along the project alignment to supplement the noise data gathered at the long-term noise measurement sites. The results of these measurements are summarized in Table 4.

Short-term measurement ST-1 was made 580 feet from the nearest lane of SR 160 at the set-back of residential front yards along Elm Lane. Noise levels ranged from 58 to 62 dBA during the measurement when traffic along Elm Lane passed by. Measurement ST-2 was made from the First Family Church parking lot, 410 feet from the nearest lane of SR 160 and 585 feet from the Oakley Road overpass. The noise environment at the site was dominated by traffic along SR160. Short-term measurement ST-3 was made in the rear yard of 4935 Calle De Oro, about 230 feet from the nearest lane of SR 160. About halfway between ST-3 and SR 160, near the property line, is a seven-foot high wood fence. Typical noise levels were 56 to 59 dBA when cars passed and truck traffic increased noise levels to around 63 dBA. ST-4 was located in a vacant lot about 170 feet south of long-term measurement LT-1, approximately 230 feet from the nearest lane of SR 160. There was partial line-of-sight of traffic along the roadway from this measurement location.

Measurement ST-5 was located in the rear yard of 3035 Frandoras Circle. Similar to long-term measurement LT-2, traffic noise from SR 160 was more noticeable than traffic noise from the SR 4 Bypass. ST-6 was located across the street from 3017 Frandoras Circle to represent second row noise-sensitive residential areas. An automobile passing on Frandoras Circle generated noise level of 62 dBA. Again, traffic noise from SR 160 was more noticeable than traffic noise along the SR 4 Bypass. Measurement location ST-7 was made adjacent to 4307 Neroly Road, about 60 feet from the center of the roadway. 43 automobiles passed during the measurement resulting in noise levels ranging from 55 to 60 dBA. Traffic noise levels along the SR 4 Bypass typically ranged from 51 to 54 dBA and an emergency siren caused a level of 64 dBA.

Measurement location ST-8 was south of the SR 4 Bypass near the corner of Spire Street and La Conte Circle, in a vacant lot prepared for a future single-family residential unit. The measurement represented the existing noise environment at 33 feet from a 7 to 8 foot high noise barrier. Traffic noise levels generated by the SR 4 Bypass typically ranged from 57 to 59 dBA. Measurement location ST-9 was along Half Dome Street, 150 feet from the center of Le Conte Circle from within the same neighborhood as ST-8, but represented the second row of houses from the sound wall, at a higher elevation.

Figure 1 Noise Measurements Locations

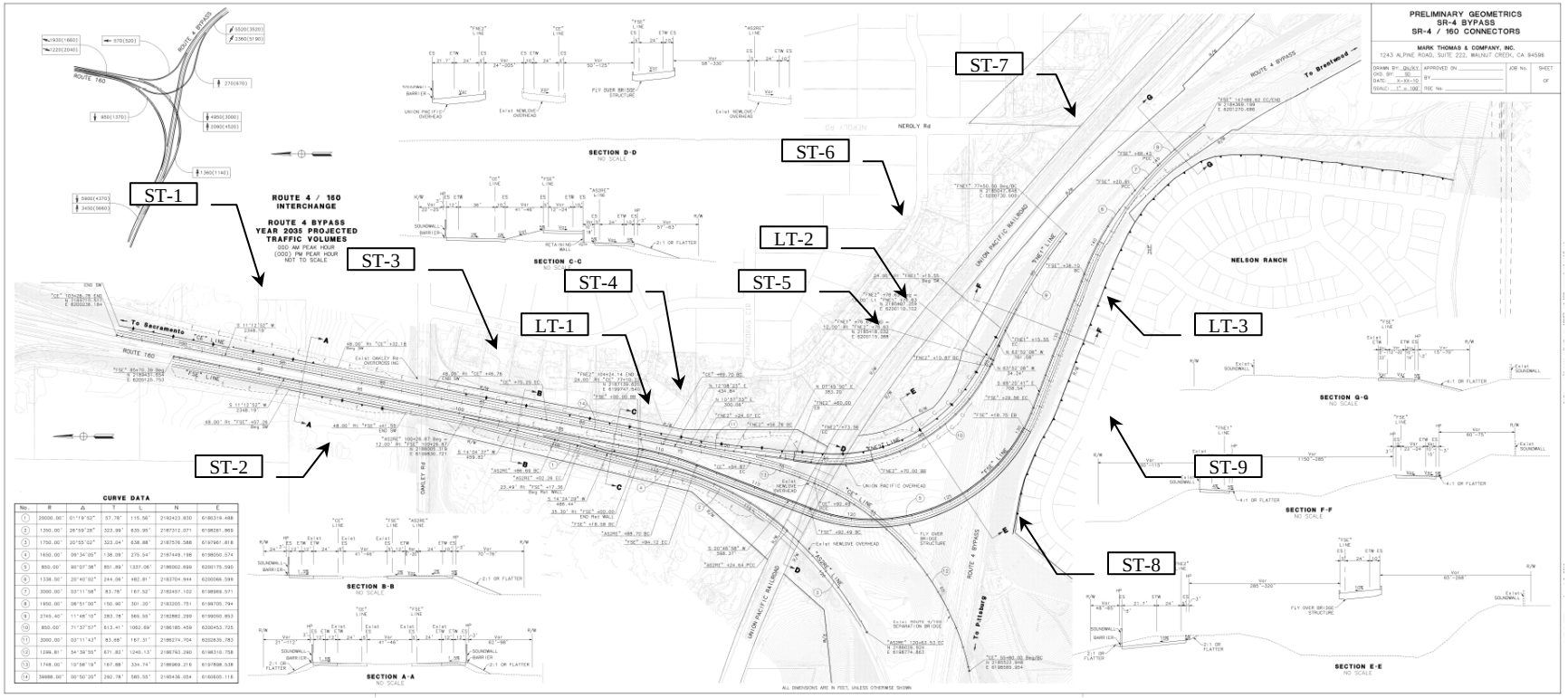


Figure 2 Daily Trend in Noise Levels at LT-1

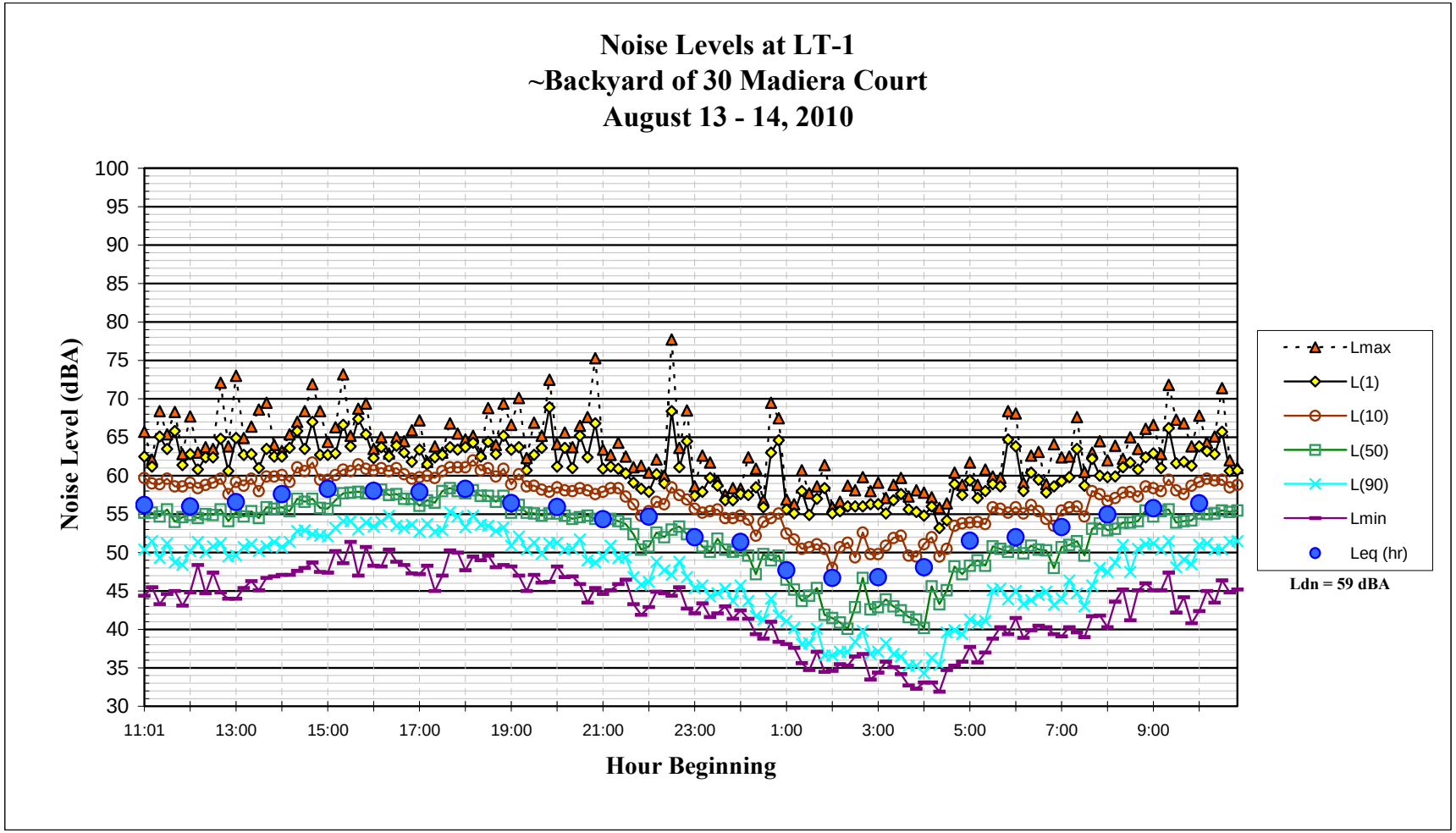


Figure 3 Daily Trend in Noise Levels at LT-1

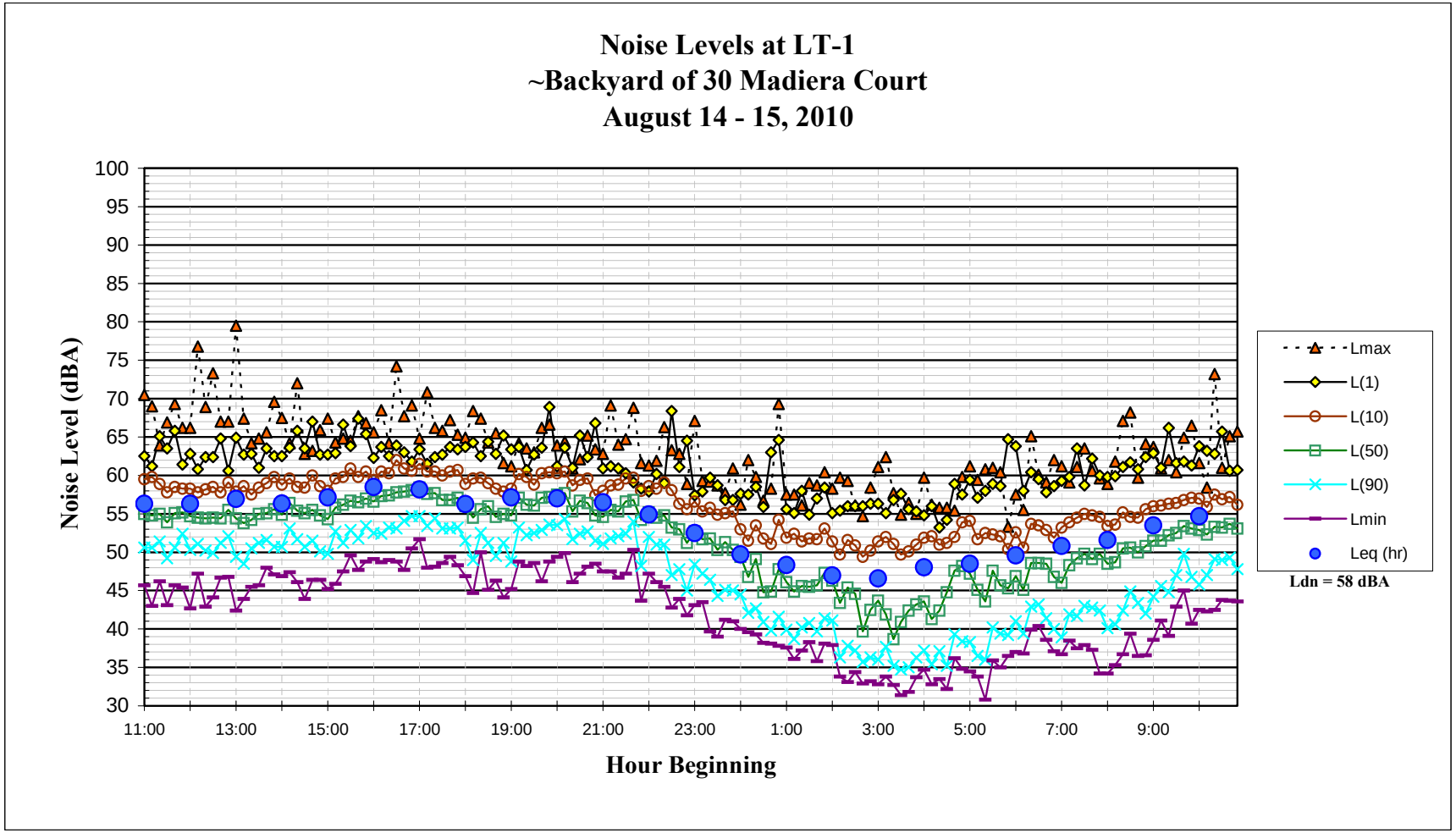


Figure 4 Daily Trend in Noise Levels at LT-1

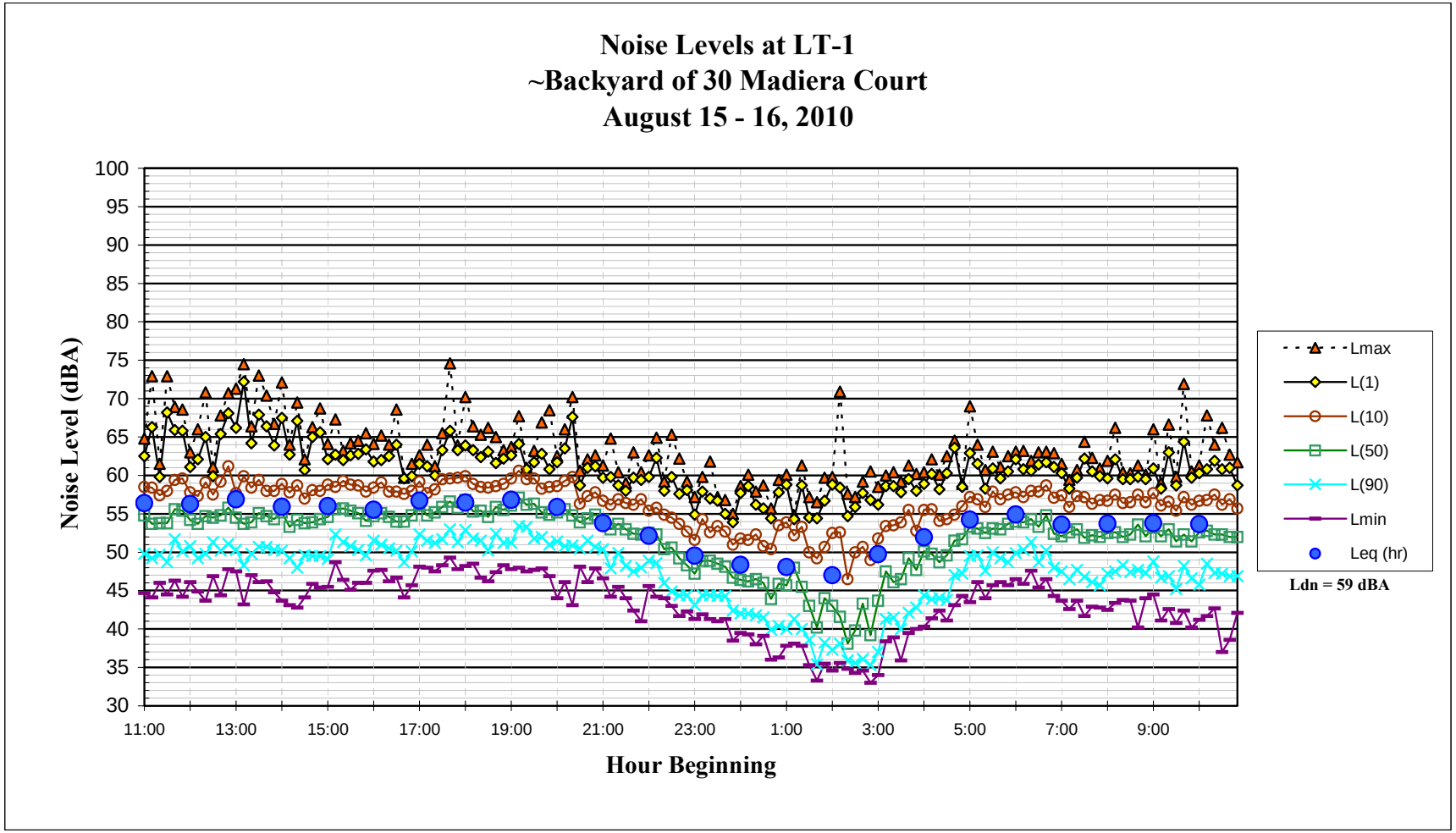


Figure 5 Daily Trend in Noise Levels at LT-2

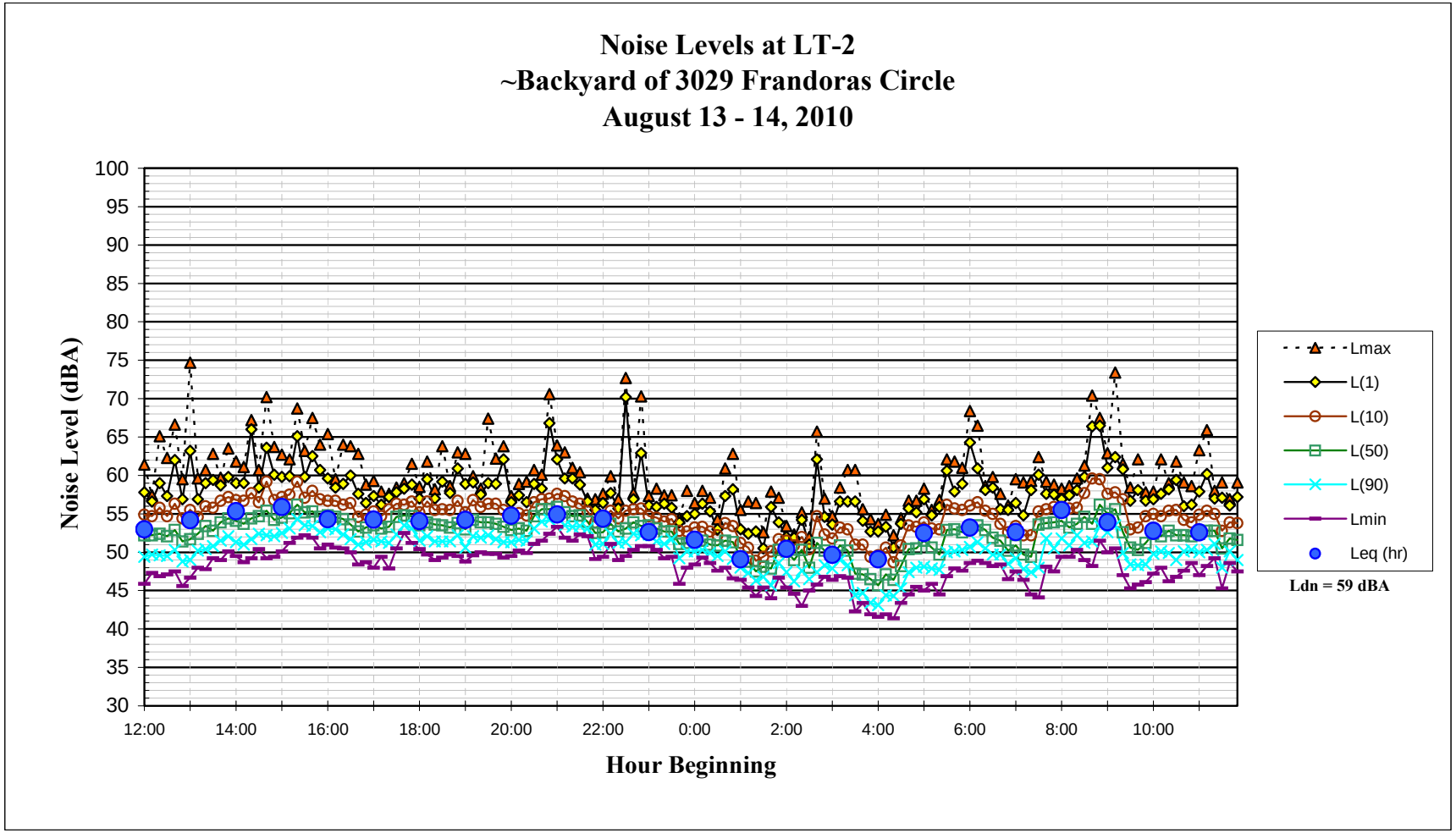


Figure 6 Daily Trend in Noise Levels at LT-2

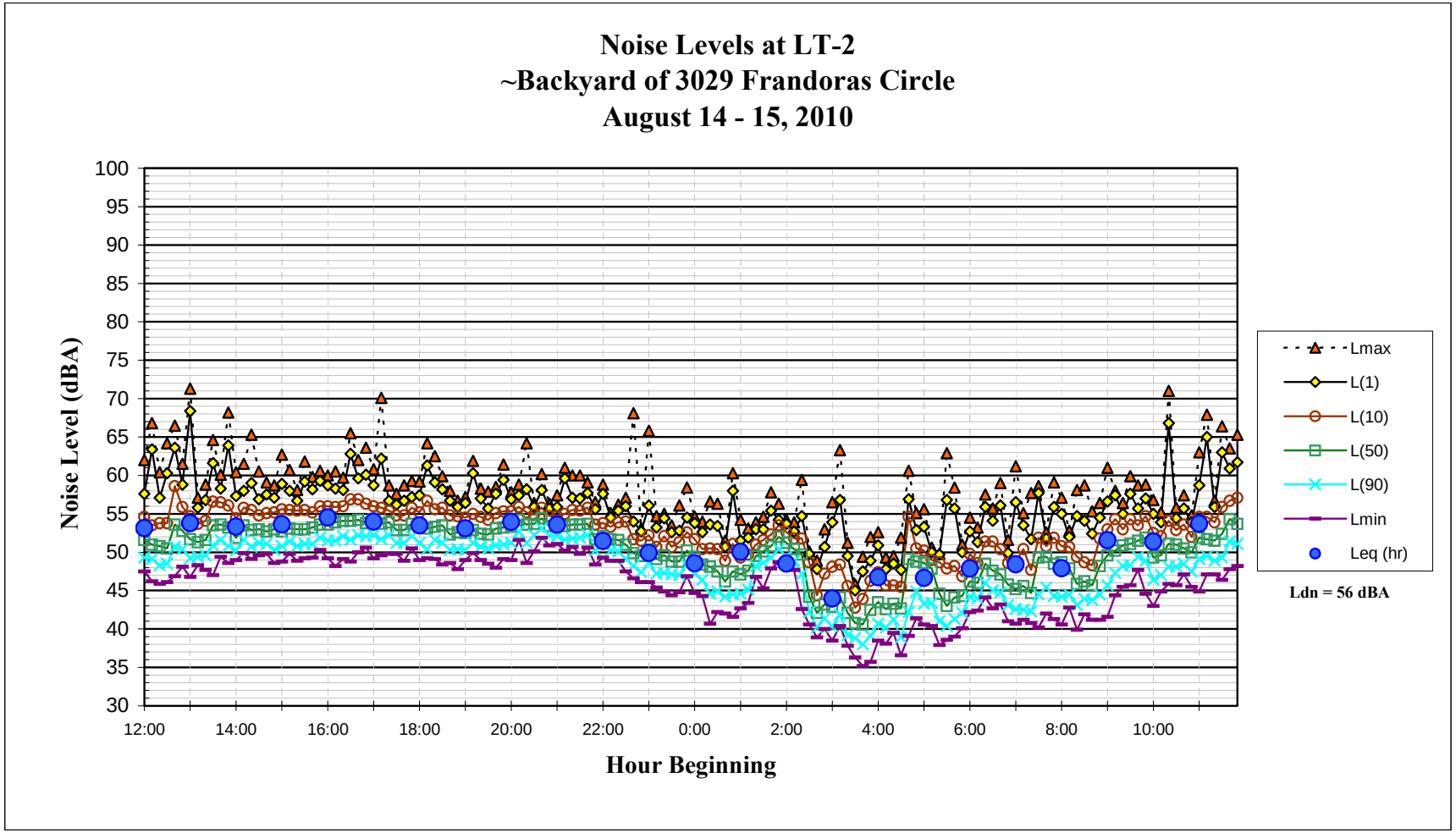


Figure 7 Daily Trend in Noise Levels at LT-2

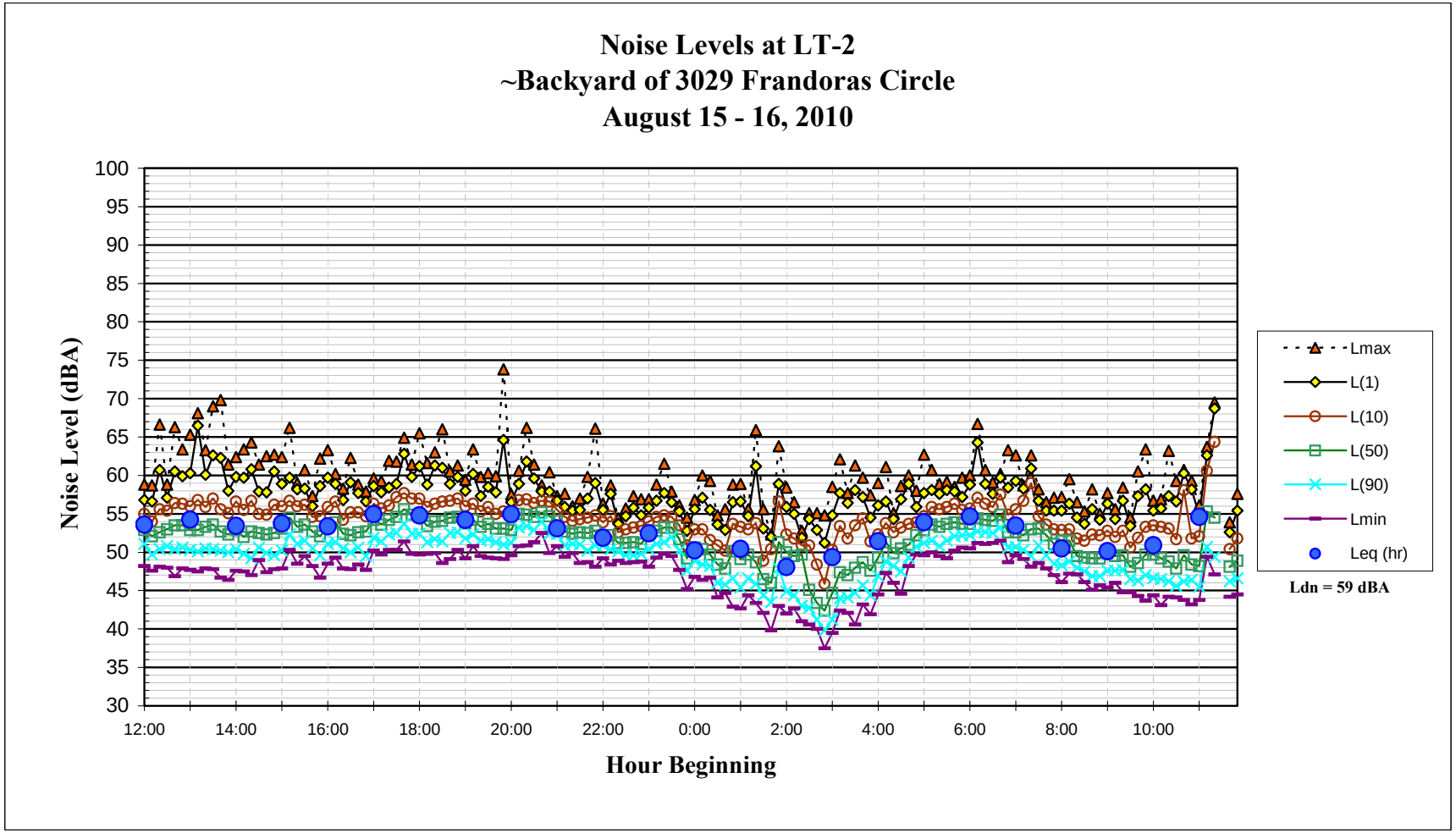


Figure 8 Daily Trend in Noise Levels at LT-3

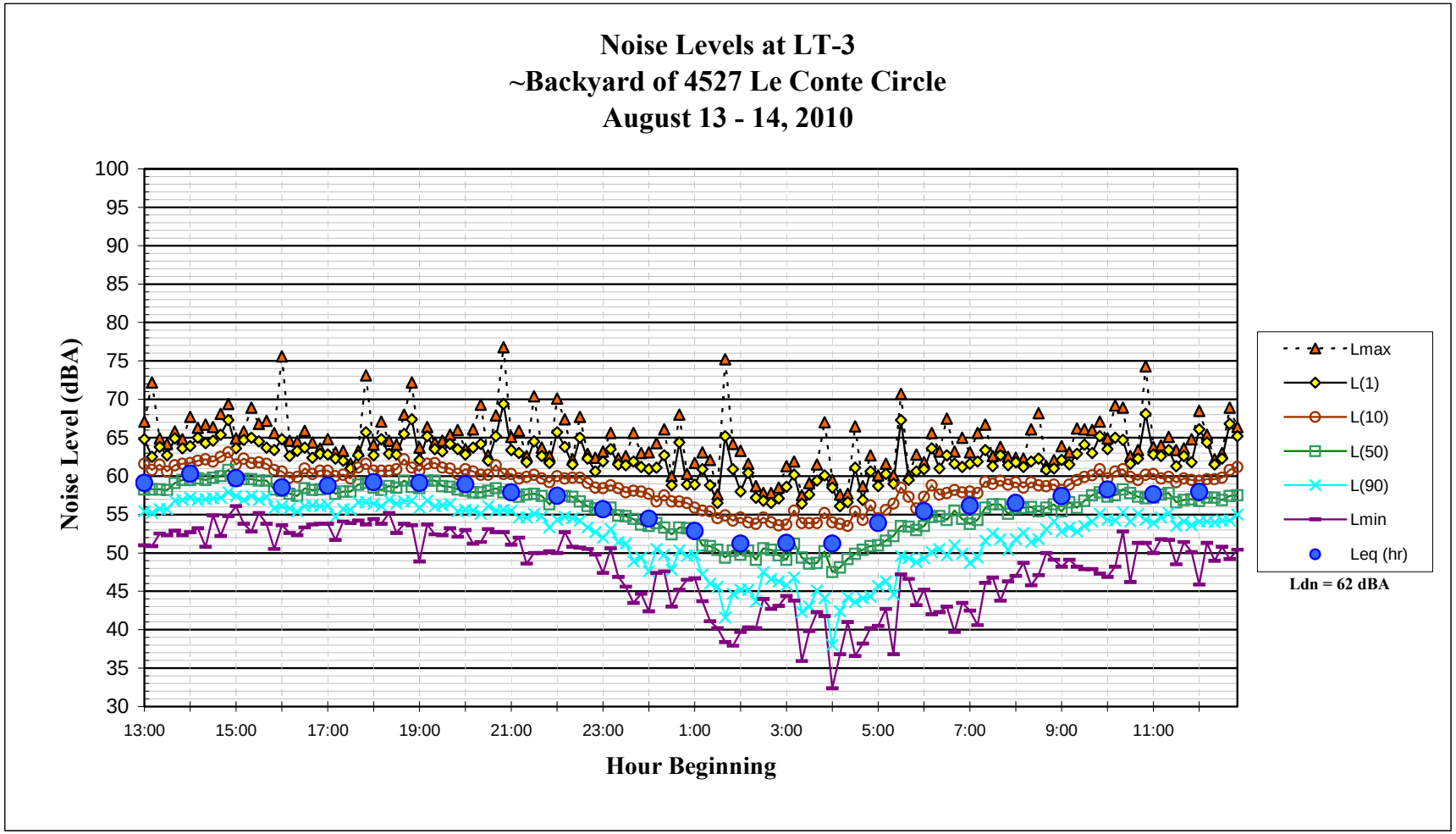


Figure 9 Daily Trend in Noise Levels at LT-3

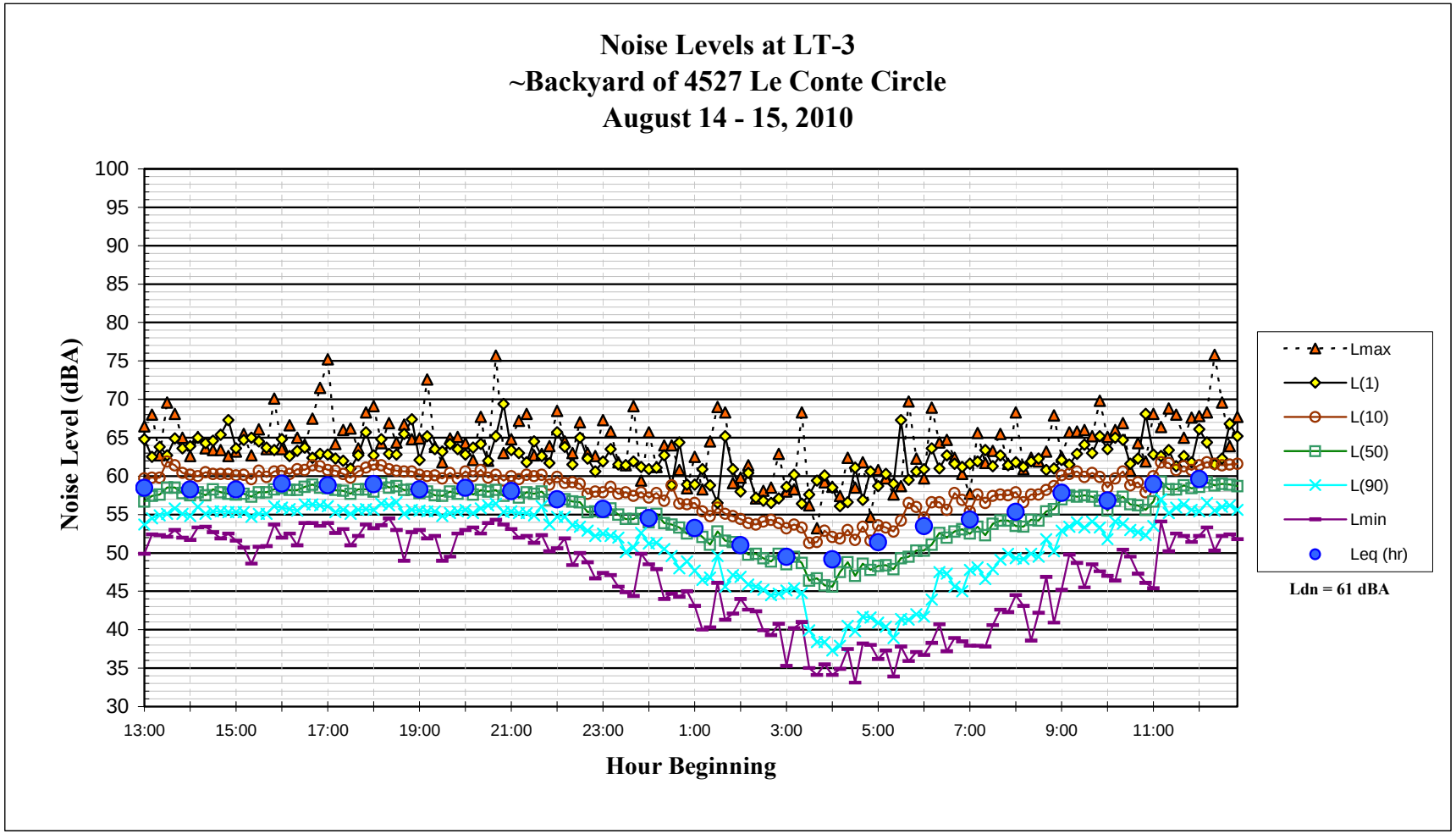


Figure 10 Daily Trend in Noise Levels at LT-3

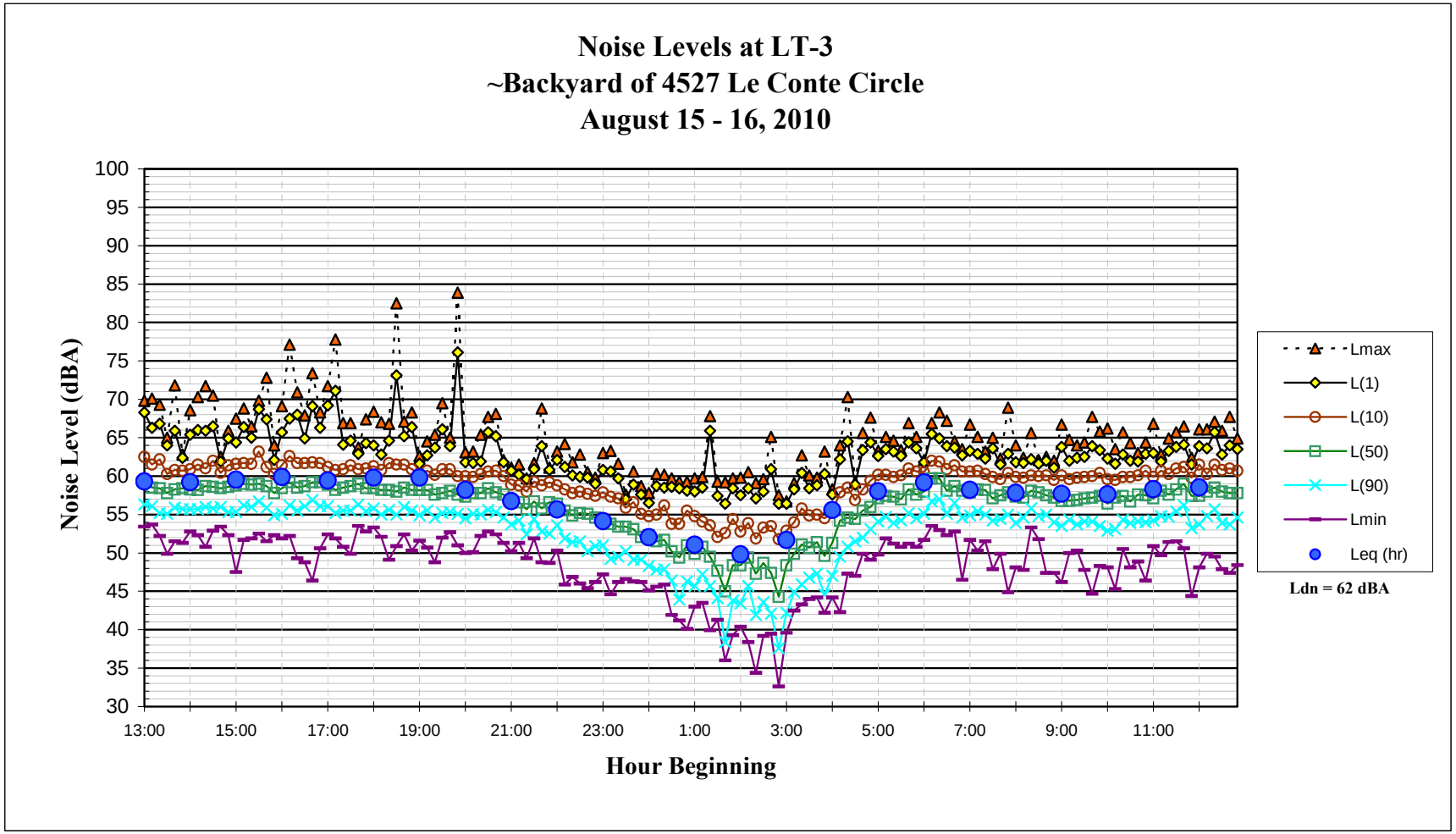


TABLE 4 Short Term Noise Measurements Results (dBA) – August 16,2010

Site	Location	Time	L_{eq}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	Estimated L_{dn}/CNEL*
ST-1	30 feet from center of Elm Lane.	12:00 to 12:10	55	61	58	54	49	59 L_{dn}
ST-2	First Family Church Parking Lot.	12:00 to 12:10	54	61	57	52	47	57 L_{dn}
ST-3	Backyard of 4935 Calle De Oro	12:30 to 12:40	60	64	62	59	56	66 L_{dn}
ST-4	Vacant lot at Madeira Ct. Cul-de-sac.	12:30 to 12:40	56	62	58	55	51	62 L_{dn}
ST-5	Backyard of 3035 Frandoras Circle.	14:00 to 14:10	50	55	52	49	47	56 L_{dn}
ST-6	Across Street from 3017 Frandoras Circle.	14:00 to 14:10	49	57	51	48	50	55 L_{dn}
ST-7	Adjacent to 4370 Neroly Road.	14:30 to 14:40	56	65	58	53	49	60 L_{dn}
ST-8	Residential lot under construction at Spire Street. and La Conte Circle.	15:10 to 15:20	59	64	61	59	56	61 CNEL
ST-9	Along Half Dome Street, 150 feet from center of Le Conte Circle.	15:10 to 15:20	51	60	54	49	47	52 CNEL

* Note - L_{dn} noise levels calculated for receivers in Oakley, CNEL noise levels calculated for receivers in Antioch.

Traffic noise levels were modeled with FHWA's Traffic Noise Model (TNM v. 2.5). The traffic noise model was calibrated to measured conditions documented during the noise monitoring survey and then used to calculate 2035 traffic noise levels with and without the proposed project. The results of the modeling are summarized in Table 5.

Applicable goals and policies contained in the City of Oakley General Plan and the City of Antioch General Plan are summarized in the Setting section of this report. City of Oakley General Plan Policy 9.1.5 states that noise levels resulting from transportation noise sources shall be maintained at or below 65 dBA L_{dn} at residential outdoor use areas. Similarly, noise levels at outdoor residential living areas adjacent to planned freeway expansions are acceptable at or below 65 dBA CNEL.

As shown on Table 5, 2035 noise levels with the proposed project are calculated to range from 61 to 62 dBA L_{dn} at receivers north of Oakley Road (west and east of SR 160) in Oakley and will remain below the allowable exterior noise level of 65 dBA L_{dn}.

In the vicinity of the interchange, 2035 with project noise levels are calculated to range from 66 to 68 dBA L_{dn} at unshielded receivers east of the proposed northbound connector ramp and SR 160. 2035 with project noise levels are calculated to range from 60 to 65 dBA L_{dn} at receivers located north of the SR 4 Bypass shielded by noise barriers. First-row receivers within the Monterra Subdivision in Antioch would be exposed to future with project noise levels up to 65 dBA CNEL. Traffic noise levels resulting from the implementation of the project are calculated to exceed the 65 dBA L_{dn}/CNEL acceptability thresholds at unshielded receivers located east of the proposed northbound connector ramp and SR 160 (Frandoras Circle, Madeira Court, and Calle Del Oro).

TABLE 5 Summary of Traffic Noise Modeling Results (dBA, L_{dn}/CNEL)

Receiver	Existing	2035 No-Project	2035 No-Project Noise Increase	2035 Plus Project	2035 Plus Project Noise Increase
ST-1	59	61	2	62	3
ST-2	57	59	2	61	4
ST-3	**66***	**68**	2	**68**	2
LT-1	60	61	1	63	3
ST-4	62	64	2	**66**	4
ST-5	56	59	3	61	5
LT-2	59	62	3	64	5
ST-6	55	58	3	60	5

TABLE 5 Summary of Traffic Noise Modeling Results (dBA, L_{dn}/CNEL)

Receiver	Existing	2035 No-Project	2035 No-Project Noise Increase	2035 Plus Project	2035 Plus Project Noise Increase
ST-7	60	64	4	65	5
ST-8	61	64	3	65	4
ST-9	52	55	3	56	4
LT-3	61	65	4	65	4

* Note – **Bold** font indicates an exceedance of the 65 dBA L_{dn}/CNEL threshold.

Federal regulations and State noise policies identify noise impacts where future peak-hour noise levels approach or exceed 67 dBA L_{eq}, or where a project results in a 12 dBA L_{eq} increase over existing conditions. Caltrans defines 66 dBA L_{eq} as approaching the noise abatement criteria.

Future peak-hour L_{eq} noise levels generated by the project would be approximately 0 to 2 dBA lower than calculated L_{dn}/CNEL noise levels presented in Table 5. Receivers represented by ST-3 would experience future peak-hour noise levels of approximately 68 dBA L_{eq} and receivers represented by ST-4 would experience future peak-hour noise levels of approximately 65 dBA L_{eq}. Receivers represented by ST-3 would be considered noise impacted and would qualify for consideration of noise abatement as future peak-hour noise levels with the project would approach or exceed 67 dBA L_{eq}. The project would not result in a noise increase of 12 dBA L_{eq} or greater above existing conditions.

Effect of Noise Barriers

Figure 11 shows the proposed location of the noise barrier.

Table 6 summarizes the noise reduction provided by noise barriers ranging from 8 to 14 feet in height. The construction of a minimum 14-foot noise barrier will provide at least 5 dBA of noise reduction reducing 2035 plus project traffic noise levels to below existing ambient conditions.

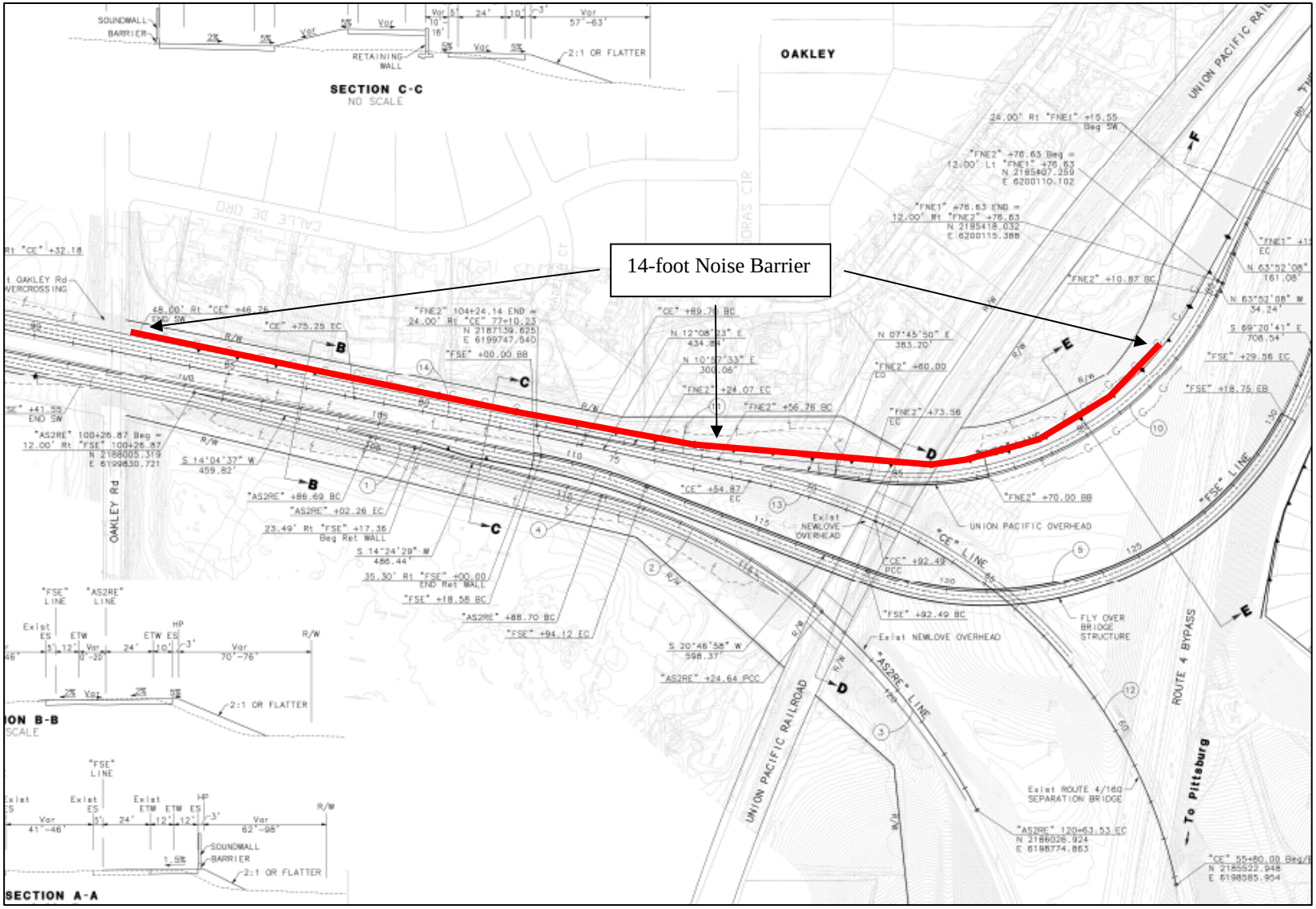
- Construct a 14-foot noise barrier along the northbound connector ramp between westbound SR 4 Bypass and northbound SR 160. The barrier top-of-wall height shall be relative to the final elevation of the roadway. The noise barrier shall connect to the existing noise barrier along the westbound side of the SR 4 Bypass (Westbound SR 4 Bypass Station 87+00) and run along the roadway edge-of-shoulder terminating at the Oakley Road overcrossing (Northbound SR 160 Station 87+50).

TABLE 6 Insertion Loss Provided by Noise Barrier (dBA, L_{dn}/CNEL)

Receiver	2035 Plus Project								
	No Barrier	8-foot Barrier		10-foot Barrier		12-foot Barrier		14-foot Barrier	
		Noise Level	I.L*	Noise Level	I.L	Noise Level	I.L	Noise Level	I.L
ST-3	**68**	**66**	2	**66**	2	65	3	62	6
LT-1	63	61	2	61	2	59	4	58	5
ST-4	**66**	64	2	64	2	62	4	61	5
ST-5	61	59	2	59	2	57	4	56	5
LT-2	64	63	1	63	1	63	1	63	1

* Note – I.L. = Insertion Loss, or noise reduction provided by noise barrier.

Figure 11 Approximate Noise Barrier Limits



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APPENDIX F
Traffic Operations Analysis Report

FEHR & PEERS
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TECHNICAL MEMORANDUM

Date: March 25, 2011

To: Mike Lohman, Mark Thomas & Co.

From: Julie Morgan, Sam Tabibnia and Mackenzie Watten, Fehr & Peers

Subject: ***SR 4 Bypass – SR 160 Connector Ramps Draft Traffic Operations Analysis***

WC10-2727

This memorandum documents the traffic operations analysis for the State Route (SR) 4 Bypass/ SR 160 Connector Ramps. The connector ramps have been evaluated under two scenarios: opening day (year 2015) and 20-year design life (2035). This analysis is intended to be used in support of the Project Report for the Connector Ramps.

STUDY AREA

Currently, there are no direct connectors between the SR 4 Bypass and SR 160. This analysis focuses on the effects of providing the SR 4 Bypass/SR 160 Connector Ramps as is now being proposed. The proposed Connector Ramps would allow travel from northbound SR 4 Bypass directly to NB SR 160, and from southbound SR 160 directly to southbound SR 4 Bypass. This analysis focuses on the freeway segments adjacent to the proposed new Connector Ramps, and the interchanges that allow access to those freeway segments, which includes the SR 4/Hillcrest Avenue, SR 4/Main Street, and SR 4 Bypass/Laurel Road interchanges. Figure 1 provides a map of the study area and shows the ramp terminal intersections at those three interchanges.

TRAFFIC OPERATIONS ANALYSIS METHODS

Freeway Mainline and Ramps

Mainline and ramp junctions were evaluated based on the 2000 *Highway Capacity Manual* (HCM) methods. Level of Service (LOS) is used to describe mainline, on-ramp, and off-ramp traffic operations based on speed, travel time, delay, and freedom to maneuver, with six levels, ranging from LOS A (i.e., the best operating conditions) to LOS F (i.e., the worst). LOS E represents "at capacity" operation. The level of service for a mainline section and ramp merges and diverges is based on density (passenger cars/lane/mile). Table 1 presents a summary of the relationship between density and level of service for mainline sections, and Table 2 presents a summary of the relationship between density and level of service for ramp junctions.

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TABLE 1
MAINLINE LOS CRITERIA

LOS	Description	Density[1]
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents a breakdown in flow.	> 45

1. Density in passenger cars per mile per lane.
Source: Highway Capacity Manual (Transportation Research Board, 2000).

TABLE 2
RAMP MERGE AND DIVERGE LOS CRITERIA

LOS	Description	Density[1]
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 43
F	Represents a breakdown in flow.	> 43

1. Density in passenger cars per mile per lane.
Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

Intersections

Level of service (LOS) is a description of the quality of an intersection's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing over-saturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Based on the City of Antioch's *General Plan* (2003) and the City of Oakley's *General Plan* (2002), both cities' policy is to comply with the LOS standards of the Contra Costa County Transportation Authority (CCTA) *East County Action Plan for Routes of Regional Significance* (2009). Hillcrest Avenue, Main Street, and Laurel Road are identified as routes of regional significance. The City of Oakley further requires a minimum of LOS D for intersections not located on routes of regional significance.

At signalized intersections, the LOS rating is based on the weighted average control delay of all movements measured in seconds per vehicle. Peak hour traffic volumes, lane configurations, and signal timing plans are used as inputs in the LOS calculations. At side-street stop-controlled intersections, the LOS rating is based on the control delay for each minor movement. For all-way stop-controlled intersections, the LOS rating is based on the weighted average control delay of all movements. The traffic analysis software, Synchro 6.0, was used for the intersections in this study. Synchro is based on procedures outlined in the Transportation Research Board's 2000 *Highway Capacity Manual* (HCM). Table 3 summarizes the relationship between the average control delay per vehicle and LOS for signalized and unsignalized intersections.

TABLE 3
INTERSECTION LEVEL OF SERVICE THRESHOLDS

Level of Service	Signalized Intersection Control Delay (sec/veh)[1]	Unsignalized Intersection Control Delay (sec/veh)[1]	General Description
A	0 – 10.0	0 – 10.0	Little to no congestion or delays.
B	10.1 – 20.0	10.1 – 15.0	Limited congestion. Short delays.
C	20.1 – 35.0	15.1 – 25.0	Some congestion with average delays.
D	35.1 – 55.0	25.1 – 35.0	Significant congestion and delays.
E	55.1 – 80.0	35.1 – 50.0	Severe congestion and delays.
F	> 80.0	> 50.0	Total breakdown with extreme delays.

Notes:
[1] Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay.
Source: *Highway Capacity Manual*, Chapter 16 (Signalized Intersections) and Chapter 17 (Unsignalized Intersections), Transportation Research Board, 2000.

TRAFFIC FORECASTS

Traffic volume forecasts for the freeway segments, ramps, and intersections were developed for the years 2015 and 2035 and documented in the technical memorandum, *SR 4 Bypass – SR 160 Connector Ramps Evaluation, Traffic Forecasts*, dated September 15, 2010. The traffic forecasts were approved by Caltrans on November 18, 2010.

It should be noted there is a concurrent project regarding the design of SR 4/Hillcrest Avenue interchange improvements. In the intervening time between the submittal of the September 15 traffic forecasts technical memorandum described above and the preparation of this traffic operations analysis memo, members of the interchange project team have been working to refine the interchange design using supplemental traffic analysis. As part of the interchange project refinement, adjustments have been made to the year 2035 traffic forecasts at the intersections related to the SR 4/Hillcrest Avenue interchange. The adjusted traffic forecasts at the SR 4/Hillcrest Avenue interchange were approved by Caltrans on December 14, 2010. In order to achieve consistency with this very recent work, we have incorporated the newly-approved adjusted forecasts into the analysis presented here. This change only affects the ramps, ramp terminal intersections, and adjacent freeway segments directly associated with the SR 4/Hillcrest interchange.

TRAFFIC OPERATIONS ANALYSIS RESULTS

Freeway Mainline and Ramps

Existing Conditions

Figure 2 presents the existing AM and PM peak hour mainline and ramp volumes. This information is based on weekday peak period traffic counts on the SR 4 Bypass south of Laurel Road from November 2008, and mainline counts on SR 4 and SR 160 from Caltrans' November 2008 Performance Measurement System (PeMS) data. Table 4 summarizes the freeway section and ramp junction operation results for existing conditions. All of the freeway segments and ramp junctions currently operate at LOS D or better. Attachment A provides the detailed LOS calculations.

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TABLE 4
EXISTING CONDITIONS
MAINLINE AND RAMP JUNCTION ANALYSIS

Location	Number of Lanes	Section Type	AM		PM	
			Density[1]	LOS	Density[1]	LOS
Eastbound SR 4 to Northbound SR 160						
SR 4, On-Ramp from Hillcrest Avenue	1	Merge	18.8	B	28.7	D
SR 4, Between Hillcrest and SR 4 Bypass	3	Basic	11.2	B	17.5	B
SR 4, Off-Ramp to NB SR 160	2	Diverge	8.5	A	13.3	B
SR 160, Between SR 4 and Main Street	2	Basic	5.9	A	7.6	A
SR 160, Off-Ramp to Main Street	1	Diverge	9.9	A	12.0	B
Southbound SR 160 to Westbound SR 4						
SR 160, On-Ramp from Main Street	1	Merge	6.8	A	7.6	A
SR 160, Between Main Street and SR 4	2	Basic	5.5	A	6.3	A
SR 4, On-Ramp from SB SR 160	1	Merge	21.2	~~B~~C	21.2	C
SR 4, Between SR 4 Bypass and Hillcrest	2	Basic	19.0	C	19.3	C
SR 4, Off-Ramp to Hillcrest Avenue	1	Diverge	25.5	C	25.9	C
Northbound SR 4 Bypass						
SR 4 Bypass, North of Laurel Road[2]	3	Basic	9.0	A	8.7	A
Southbound SR 4 Bypass						
SR 4 Bypass, North of Laurel Road	3	Basic	7.2	A	12.4	B
SR 4 Bypass, Off-Ramp to Laurel Road	2	Diverge	5.5	A	9.5	A

Note: **Bold** denotes LOS E or F operations.
1. Density is in passenger cars per mile per lane.
2. The on-ramp from Laurel Road to northbound SR 4 Bypass adds a lane to the freeway, so it does not meet the definition of a merge segment in the HCM. Instead, it is analyzed as a basic freeway segment just north of where the lane is added.

Source: Fehr & Peers, 2010.

2015 Conditions

Figures 3 and 4 present the approved forecasts of AM and PM peak hour mainline and ramp volumes under 2015 Without Ramps and 2015 With Ramps conditions, respectively. Table 5 summarizes the freeway section and ramp junction operation results. Attachment A provides the detailed LOS calculations.

All study freeway sections and ramp junctions would operate at acceptable levels in 2015. All of the study segments are found to operate at LOS B or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a very small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario, indicating that the addition of the connector ramps would not adversely affect the operations of the adjacent freeway segments.

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TABLE 5
2015 CONDITIONS
MAINLINE AND RAMP JUNCTION ANALYSIS

Location	Number of Lanes	Section Type	2015 Without Ramps				2015 With Ramps			
			AM		PM		AM		PM	
			Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Eastbound SR 4 to Northbound SR 160										
SR 4, On-Ramp from Hillcrest Avenue	1	Merge	11.4	B	16.9	B	10.8	B	16.1	B
SR 4, Between Hillcrest and SR 4 Bypass	4	Basic	9.6	A	15.4	B	9.3	A	15.0	B
SR 4, Off-Ramp to NB SR 160	2	Diverge	7.4	A	11.7	B	7.1	A	11.4	B
SR 160, Between SR 4 and Main Street	2	Basic	6.7	A	7.8	A	9.0	A	9.9	A
SR 160, Off-Ramp to Main Street	1	Diverge	10.9	B	12.2	B	13.7	B	14.7	B
Southbound SR 160 to Westbound SR 4										
SR 160, On-Ramp from Main Street	1	Merge	7.0	A	8.2	A	8.6	A	11.0	B
SR 160, Between Main Street and SR 4	2	Basic	5.7	A	6.9	A	7.2	A	9.6	A
SR 160, Off-Ramp to SB SR 4 Bypass	1	Diverge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	11.4	B	14.3	B
SR 4, On-Ramp from SB SR 160	2	Merge	13.9	B	13.0	B	13.4	B	12.4	B
SR 4, Between SR 4 Bypass and Hillcrest	4	Basic	12.2	B	11.5	B	11.9	B	11.1	B
SR 4, Off-Ramp to Hillcrest Avenue	2	Diverge	9.3	A	8.8	A	9.1	A	8.5	A
Northbound SR 4 Bypass										
SR 4 Bypass, North of Laurel Road	3	Basic	12.5	B	10.7	A	14.0	B	12.1	B
SR 4 Bypass, Off-Ramp to NB SR 160	1	Diverge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	10.7	B	9.2	A

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TABLE 5
2015 CONDITIONS
MAINLINE AND RAMP JUNCTION ANALYSIS

Location	Number of Lanes	Section Type	2015 Without Ramps				2015 With Ramps			
			AM		PM		AM		PM	
			Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
SR 160, On-Ramp from NB SR 4 Bypass	1	Merge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	8.9	A	9.8	A
Southbound SR 4 Bypass										
SR 4 Bypass, On-Ramp from SB SR 160	1	Merge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	9.1	A	17.3	B
SR 4 Bypass, North of Laurel Road	3	Basic	8.4	A	15.3	B	9.4	A	17.1	B
SR 4 Bypass, Off-Ramp to Laurel Road	2	Diverge	6.4	A	11.7	B	7.1	A	13.1	B

Note: **Bold** denotes LOS E or F operations.
1. Density is in passenger cars per mile per lane.
2. Facility does not exist under this scenario.

Source: Fehr & Peers, 2010.

2035 Conditions

Figures 5 and 6 present the approved forecasts of AM and PM peak hour mainline and ramp volumes under 2035 Without Ramps and 2035 With Ramps conditions, respectively. Table 6 summarizes the 2035 freeway section and ramp junction operation results. Attachment A provides the detailed LOS calculations.

All study freeway sections and ramp junctions would continue to operate reasonably well in 2035. The analysis finds that all of the study segments operate at LOS D or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a relatively small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario. The largest effect is on the SR 4 Bypass segment north of the Laurel Road interchange, but even on that segment the change in density is approximately three or four vehicles per lane per mile, and it does not cause a change in LOS. These results indicate that the addition of the connector ramps would not adversely affect the operations of the adjacent freeway segments.

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TABLE 6
2035 CONDITIONS
MAINLINE AND RAMP JUNCTION ANALYSIS

Location	Number of Lanes	Section Type	2035 Without Ramps				2035 With Ramps			
			AM		PM		AM		PM	
			Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Eastbound SR 4 to Northbound SR 160										
SR 4, On-Ramp from Hillcrest Avenue	1	Merge	16.6	B	25.5	C	15.7	B	24.2	C
SR 4, Between Hillcrest and SR 4 Bypass	4	Basic	14.7	B	25.0	C	14.3	B	24.2	C
SR 4, Off-Ramp to NB SR 160	2	Diverge	11.3	B	18.7	B	10.9	B	18.2	B
SR 160, Between SR 4 and Main Street	2	Basic	11.3	B	10.3	A	14.7	B	13.5	B
SR 160, Off-Ramp to Main Street	1	Diverge	16.4	B	15.2	B	20.6	C	19.0	B
Southbound SR 160 to Westbound SR 4										
SR 160, On-Ramp from Main Street	1	Merge	9.1	A	13.0	B	11.0	B	17.2	B
SR 160, Between Main Street and SR 4	2	Basic	7.7	A	11.3	B	9.5	A	15.4	B
SR 160, Off-Ramp to SB SR 4 Bypass	1	Diverge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	6.7	A	13.7	B
SR 4, On-Ramp from SB SR 160	2	Merge	28.5	D	23.7	C	27.8	C	22.7	C
SR 4, Between SR 4 Bypass and Hillcrest	4	Basic	23.6	C	18.8	C	23.1	C	18.2	C
SR 4, Off-Ramp to Hillcrest Avenue	2	Diverge	17.8	B	14.4	B	17.5	B	13.9	B
Northbound SR 4 Bypass										
SR 4 Bypass, North of Laurel Road	3	Basic	27.0	D	17.5	B	30.4	D	19.7	C
SR 4 Bypass, Off-Ramp to NB SR 160	1	Diverge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	21.6	C	15.0	B

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TABLE 6
2035 CONDITIONS
MAINLINE AND RAMP JUNCTION ANALYSIS

Location	Number of Lanes	Section Type	2035 Without Ramps				2035 With Ramps			
			AM		PM		AM		PM	
			Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
SR 160, On-Ramp from NB SR 4 Bypass	1	Merge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	15.0	B	13.6	B
Southbound SR 4 Bypass										
SR 4 Bypass, On-Ramp from SB SR 160	1	Merge	N/A[2]	N/A[2]	N/A[2]	N/A[2]	13.2	B	29.3	D
SR 4 Bypass, North of Laurel Road	3	Basic	12.1	B	26.7	D	13.3	B	30.9	D
SR 4 Bypass, Off-Ramp to Laurel Road	2	Diverge	9.2	A	19.7	B	10.2	B	21.8	C

Note: **Bold** denotes LOS E or F operations.
1. Density is in passenger cars per mile per lane.
2. Facility does not exist under this scenario.

Source: Fehr & Peers, 2010.

Intersections

Existing Conditions

Figure 7 presents the existing AM and PM peak hour volumes at the ramp terminal intersections addressed in this study. This information is based on turning movement counts conducted during April and June 2010, while local schools were in session. Fehr & Peers also conducted a field reconnaissance of the study area to document lane configurations, turning movement pocket lengths, and speed limits. Signal timings and coordination plans were obtained from Caltrans and local agencies and were confirmed in the field. Table 7 summarizes the operations analysis results under existing conditions. All of the intersections operate at LOS D or better, with the exception of the two intersections on the north side of the SR 4/Hillcrest Avenue interchange, one of which operates at LOS E in the AM peak, and the other at LOS E in the PM peak. Attachment A provides the detailed intersection LOS calculations.

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TABLE 7
EXISTING CONDITIONS
INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	Control[1]	Peak Hour	Delay[2] (seconds)	LOS[3]
1. Hillcrest Avenue/Sunset Drive	Signal	AM	**60.5**	**E**
		PM	23.3	C
2. SR 4 WB Ramps/Hillcrest Avenue	Signal	AM	44.7	D
		PM	**62.3**	**E**
22. SR 4 WB Ramps/Slatten Ranch Road	Signal	AM	N/A	N/A
		PM	N/A	N/A
3. SR 4 EB Ramps/Hillcrest Avenue	Signal	AM	27.8	C
		PM	32.3	C
4. Hillcrest Avenue/Larkspur Drive	Signal	AM	22.7	C
		PM	21.0	C
5. SR 160 SB Ramps/Main Street	Signal	AM	9.8	A
		PM	11.2	B
6. SR 160 NB Ramps/Main Street	Signal	AM	12.5	B
		PM	19.6	B
7. SR 4 Bypass SB Ramps/Laurel Road	Signal	AM	N/A	N/A
		PM	N/A	N/A
8. SR 4 Bypass NB Ramps/Laurel Road	Signal	AM	6.6	A
		PM	9.9	A

Bold indicated intersection operating below LOS D.

1. Signal = Signalized intersection, , AWSC = All-way stop-controlled intersection.
2. Signalized and All-Way Stop intersection level of service based on average intersection control delay according to the Highway Capacity Manual (Transportation Research Board, 2000).
3. LOS = Level of Service

Source: Fehr & Peers, 2010.

2015 Conditions

Figure 8 presents the intersection lane configurations and controls assumed in 2015. Figures 9 and 10 present the approved forecasts of AM and PM peak hour intersection volumes under 2015 Without Ramps and 2015 With Ramps conditions, respectively. Table 8 summarizes the operations analysis results in 2015 under both Without Ramps and With Ramps conditions. Attachment A provides the detailed intersection LOS calculations.

All study intersections would operate at LOS C or better under both the Without Ramps and the With Ramps scenarios. The differences in vehicle delay between the With Ramps and Without Ramps scenarios are quite small, and generally not of sufficient magnitude to cause a change in LOS. These results indicate that the addition of the Connector Ramps would not have a substantial effect on the operations of the intersections studied here under 2015 conditions.

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TABLE 8
2015 CONDITIONS
INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	Control[1]	Peak Hour	2015 Without Ramps		2015 With Ramps	
			Delay[2] (seconds)	LOS[3]	Delay[2] (seconds)	LOS[3]
1. Hillcrest Avenue/Sunset Drive	Signal	AM	22.5	C	23.9	C
		PM	30.9	C	31.0	C
2. SR 4 WB Ramps/Hillcrest Avenue	Signal	AM	N/A	N/A	N/A	N/A
		PM	N/A	N/A	N/A	N/A
22. SR 4 WB Ramps/Slatten Ranch Road	Signal	AM	9.1	A	8.9	A
		PM	9.9	A	9.8	A
3. SR 4 EB Ramps/Hillcrest Avenue	Signal	AM	17.6	B	16.0	B
		PM	25.0	C	25.3	C
4. Hillcrest Avenue/Larkspur Drive	Signal	AM	19.6	B	20.8	C
		PM	18.7	B	19.1	B
5. SR 160 SB Ramps/Main Street	Signal	AM	10.2	B	9.4	A
		PM	12.6	B	12.1	B
6. SR 160 NB Ramps/Main Street	Signal	AM	8.1	A	11.5	B
		PM	13.3	B	14.7	B
7. SR 4 Bypass SB Ramps/ Laurel Road	Signal	AM	14.1	B	16.5	B
		PM	21.0	C	24.2	C
8. SR 4 Bypass NB Ramps/ Laurel Road	Signal	AM	13.5	B	14.0	B
		PM	15.2	B	19.6	B

Bold indicates intersection operating below LOS D.

1. Signal = Signalized intersection, AWSC = All-way stop-controlled intersection.
2. Signalized and All-Way Stop intersection level of service based on average intersection control delay according to the Highway Capacity Manual (Transportation Research Board, 2000).
3. LOS = Level of Service

Source: Fehr & Peers, 2010.

2035 Conditions

Figure 11 presents the intersection lane configurations and controls assumed in 2035. Figures 12 and 13 present the approved forecasts of AM and PM peak hour intersection volumes under 2035 Without Ramps and 2035 With Ramps conditions, respectively. Table 9 summarizes the operations analysis results in 2035 under both Without Ramps and With Ramps conditions. Attachment A provides the detailed intersection LOS calculations.

Under these 2035 conditions, the addition of the Connector Ramps produces a small improvement in delay at the intersections around the Hillcrest interchange. For the intersections at the Main Street interchange, the addition of the Connector Ramps has a very small effect on delay. For the intersections at the Laurel Road interchange, the addition of the Connector Ramps produces a substantial improvement in delay, particularly in the northbound direction, by allowing vehicles destined for SR 160 to remain on the freeway.

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TABLE 9
2035 CONDITIONS
INTERSECTION LEVEL OF SERVICE SUMMARY

Intersection	Control[1]	Peak Hour	2035 Without Ramps		2035 With Ramps	
			Delay[2] (seconds)	LOS[3]	Delay[2] (seconds)	LOS[3]
1. Hillcrest Avenue/Sunset Drive	Signal	AM	23.9	C	23.0	C
		PM	37.3	D	28.7	C
2. SR 4 WB Ramps/Hillcrest Avenue	Signal	AM	N/A	N/A	N/A	N/A
		PM	N/A	N/A	N/A	N/A
22. SR 4 WB Ramps/Slatten Ranch Road	Signal	AM	22.5	C	20.2	C
		PM	31.9	C	28.9	C
3. SR 4 EB Ramps/Hillcrest Avenue	Signal	AM	31.1	C	28.5	C
		PM	25.1	C	23.0	C
4. Hillcrest Avenue/Larkspur Drive	Signal	AM	26.2	C	26.3	C
		PM	19.2	B	18.1	B
5. SR 160 SB Ramps/Main Street	Signal	AM	11.4	B	10.1	B
		PM	15.4	B	17.2	B
6. SR 160 NB Ramps/Main Street	Signal	AM	8.9	A	10.3	B
		PM	18.3	B	19.5	B
7. SR 4 Bypass SB Ramps/ Laurel Road	Signal	AM	16.6	B	18.6	B
		PM	23.6	C	21.1	C
8. SR 4 Bypass NB Ramps/ Laurel Road	Signal	AM	**86.1**	**F**	49.0	D
		PM	53.8	D	20.0	B

Bold indicates intersection operating below LOS D.

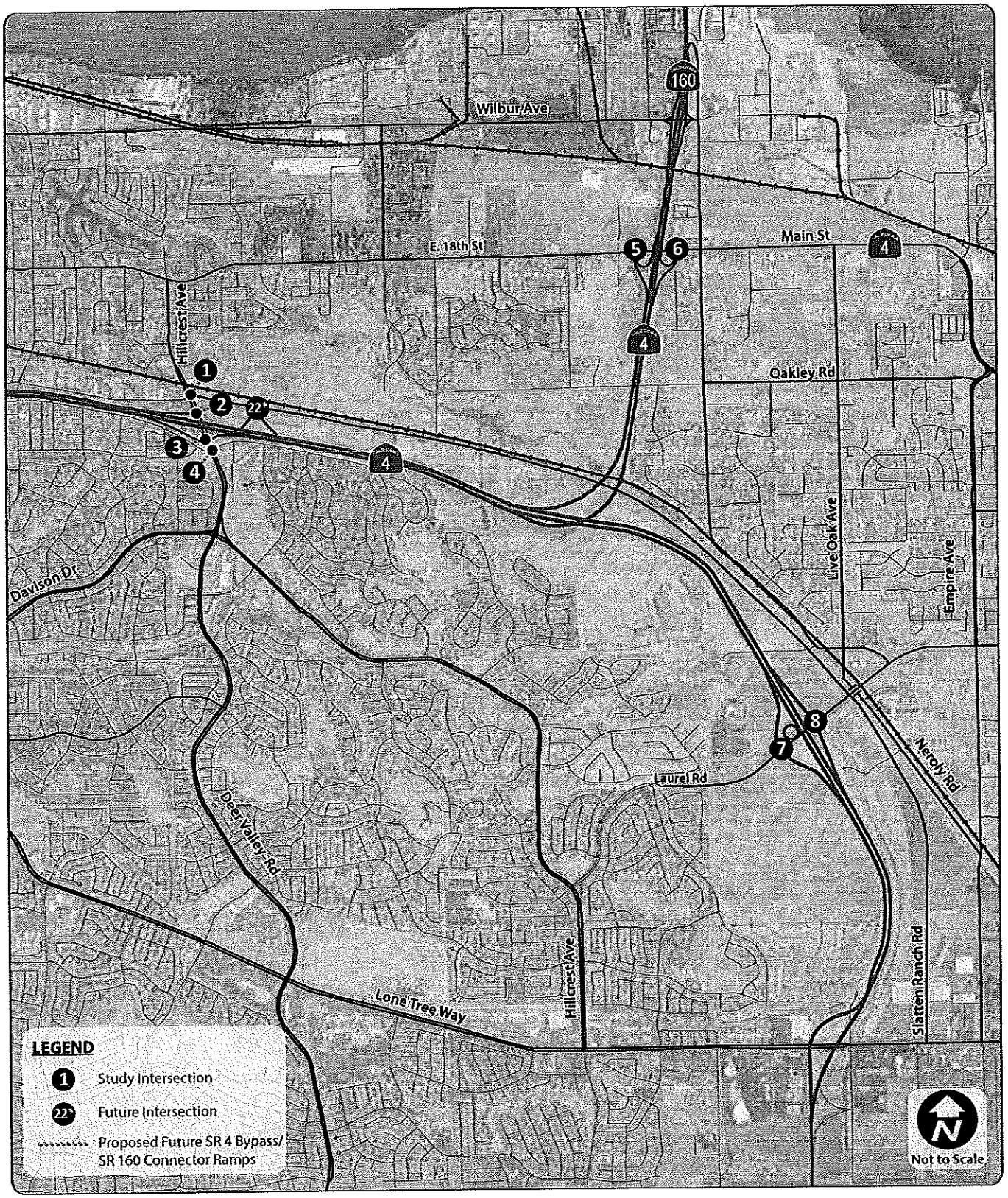
1. Signal = Signalized intersection, AWSC = All-way stop-controlled intersection.
2. Signalized and All-Way Stop intersection level of service based on average intersection control delay according to the Highway Capacity Manual (Transportation Research Board, 2000).
3. LOS = Level of Service

Source: Fehr & Peers, 2010.

Old analysis went to 2025 not
ABAG Projections '98 or 2000

Please contact us with any questions.

Oakley hadn't done their own General Plan



SR 4 / SR 160 Connector Ramp Evaluation

FEHR & PEERS
TRANSPORTATION CONSULTANTS

March 2011
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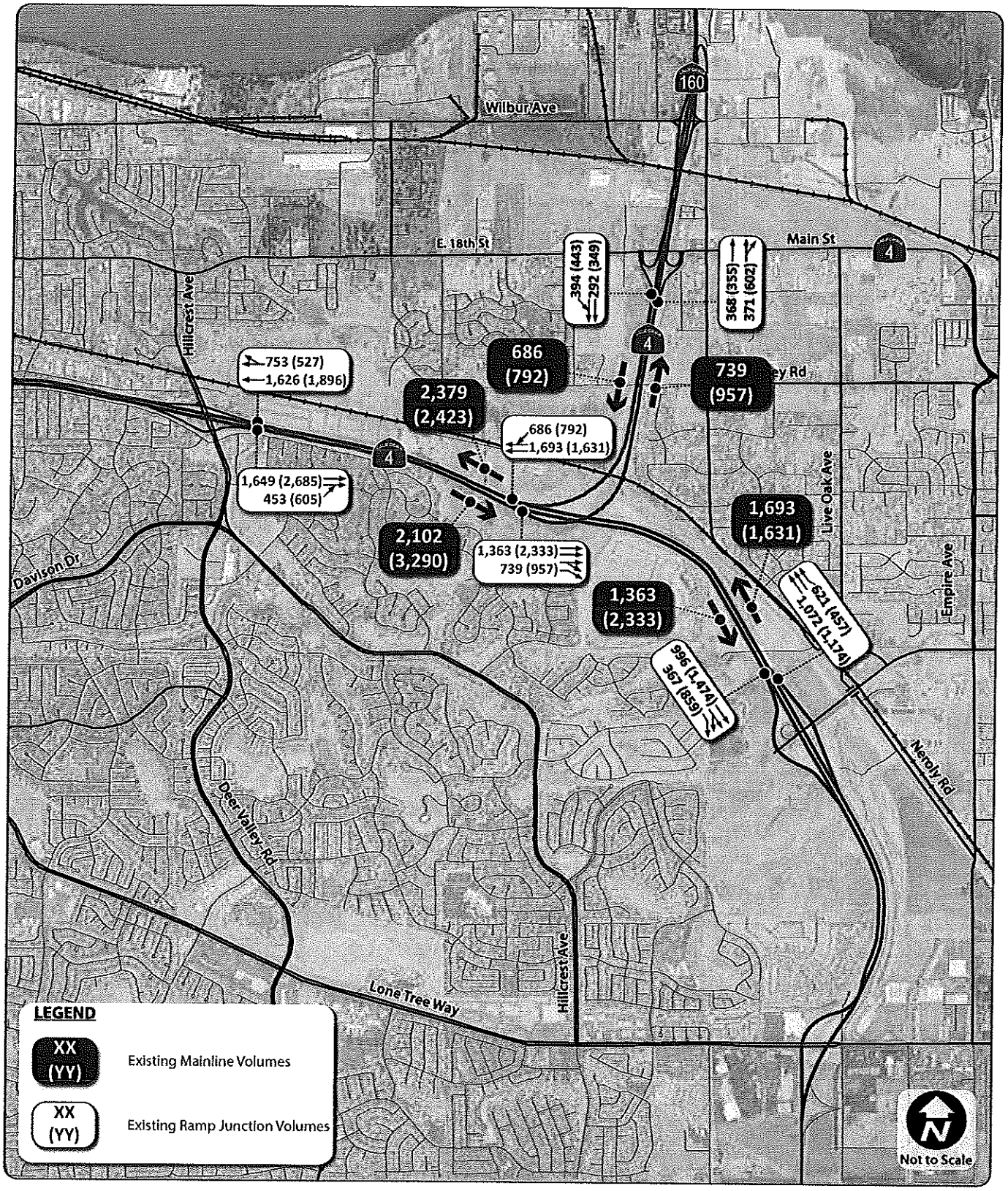
STUDY INTERSECTION LOCATIONS
FIGURE 1



SR 4 Bypass / SR 160 Connector Ramp Evaluation

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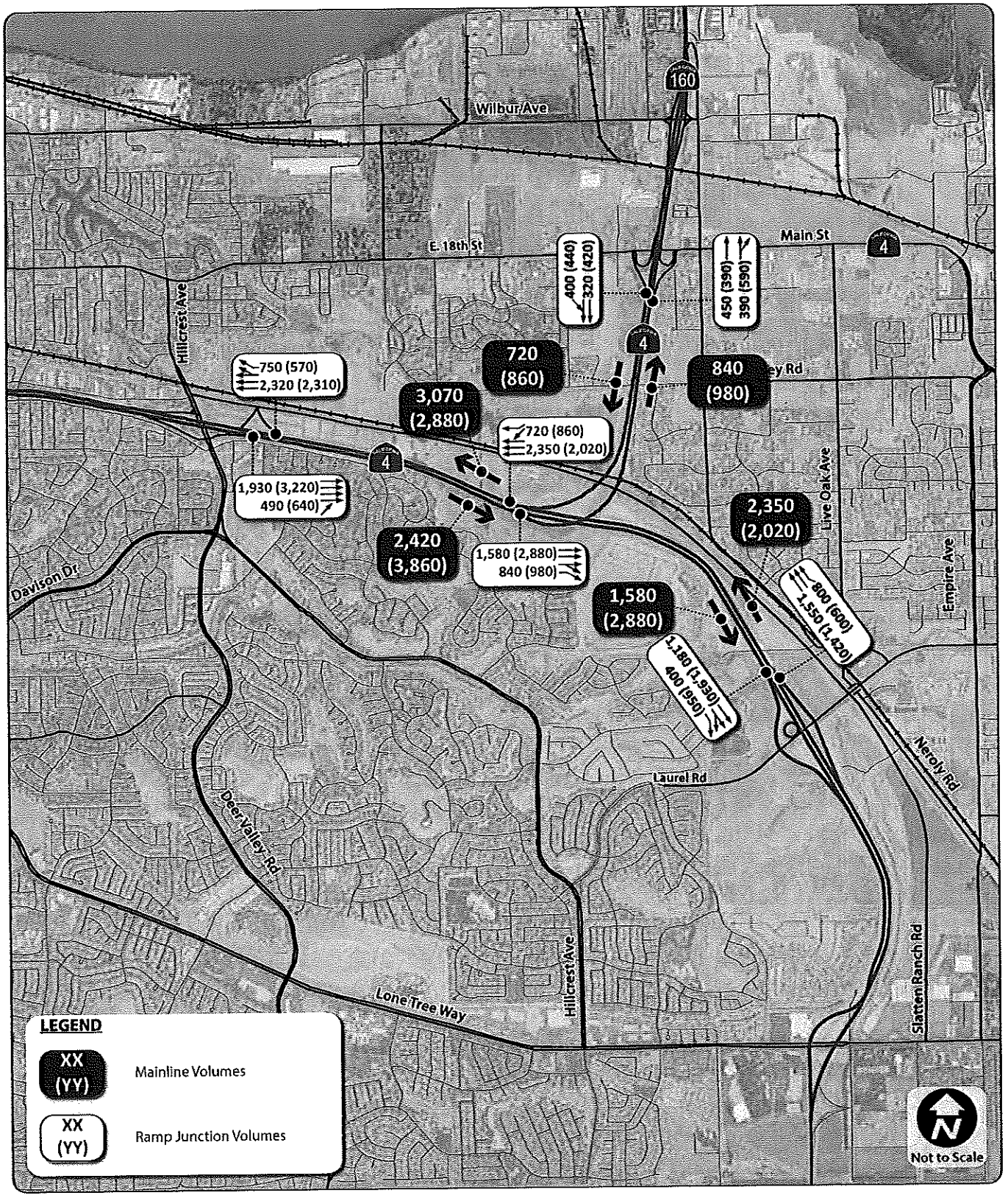
EXISTING WEEKDAY PEAK HOUR MAINLINE AND RAMP VOLUMES

FIGURE 2



SR 4 / SR 160 Connector Ramp Evaluation

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TRANSPORTATION CONSULTANTS

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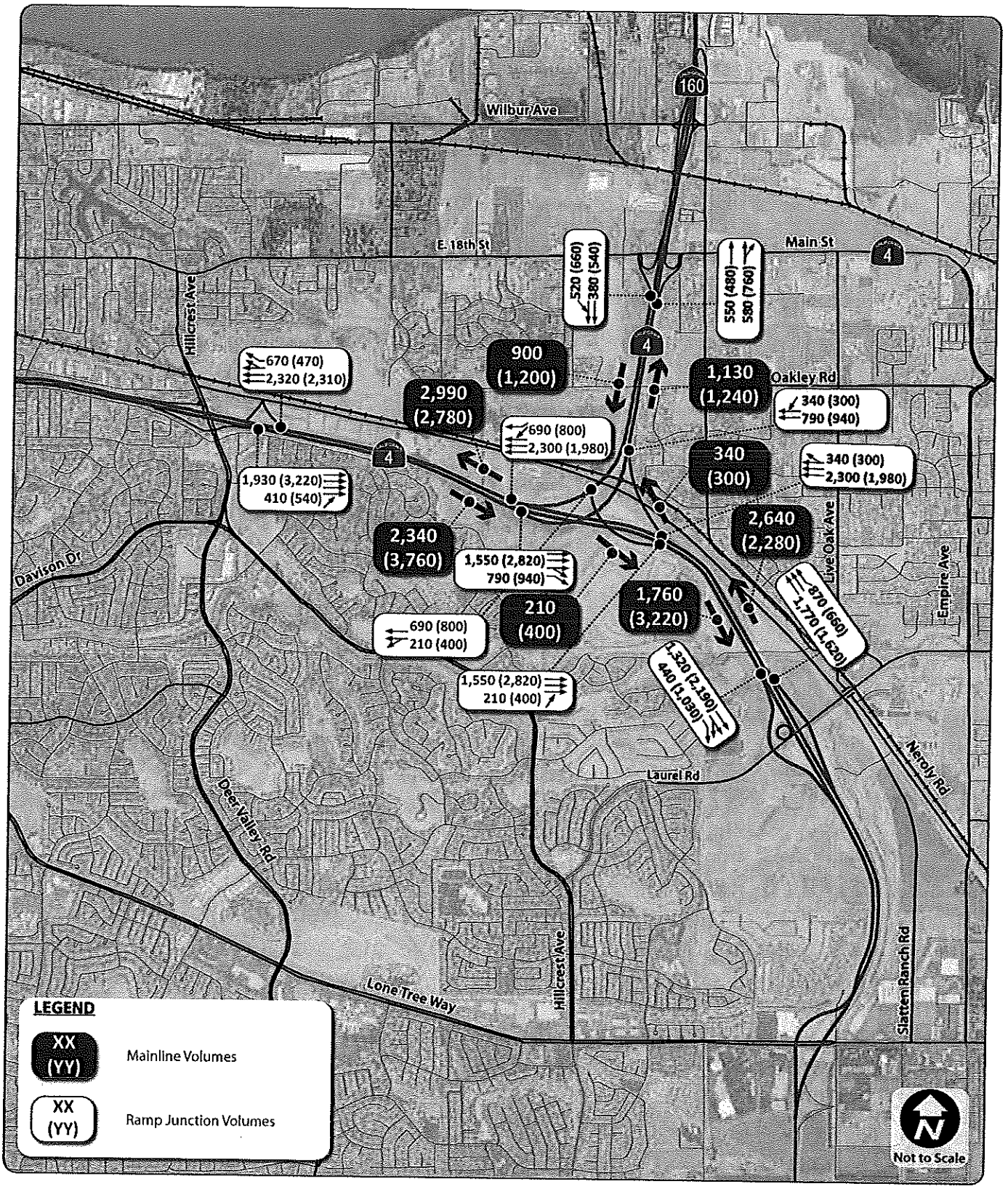
2015 WITHOUT RAMPS
WEEKDAY PEAK HOUR MAINLINE AND RAMP VOLUMES

FIGURE 3



SR 4 / SR 160 Connector Ramp Evaluation

FEHR & PEERS
TRANSPORTATION CONSULTANTS

March 2011
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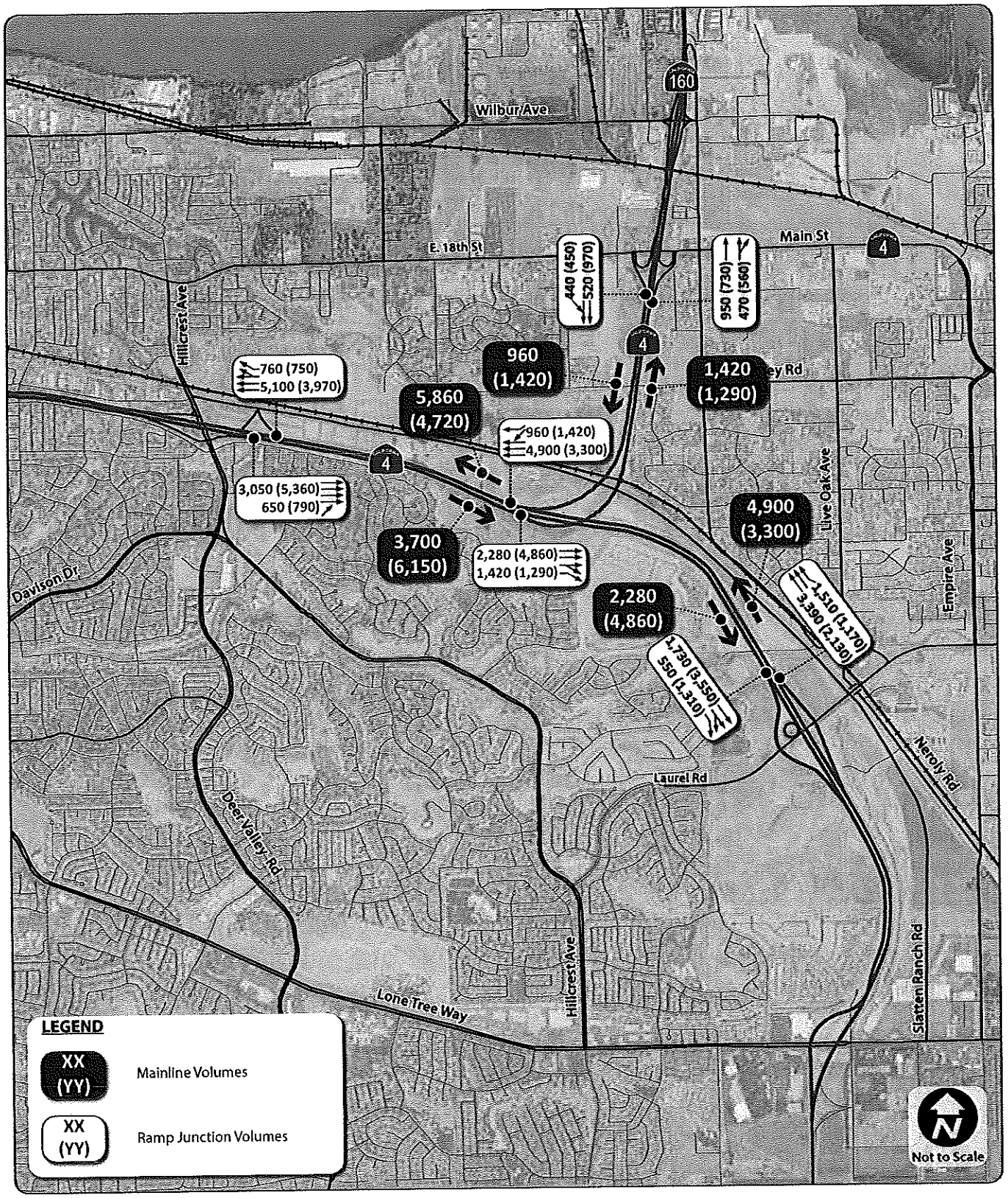
2015 WITH RAMPS
WEEKDAY PEAK HOUR MAINLINE AND RAMP VOLUMES
FIGURE 4



SR 4 / SR 160 Connector Ramp Evaluation

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TRANSPORTATION CONSULTANTS

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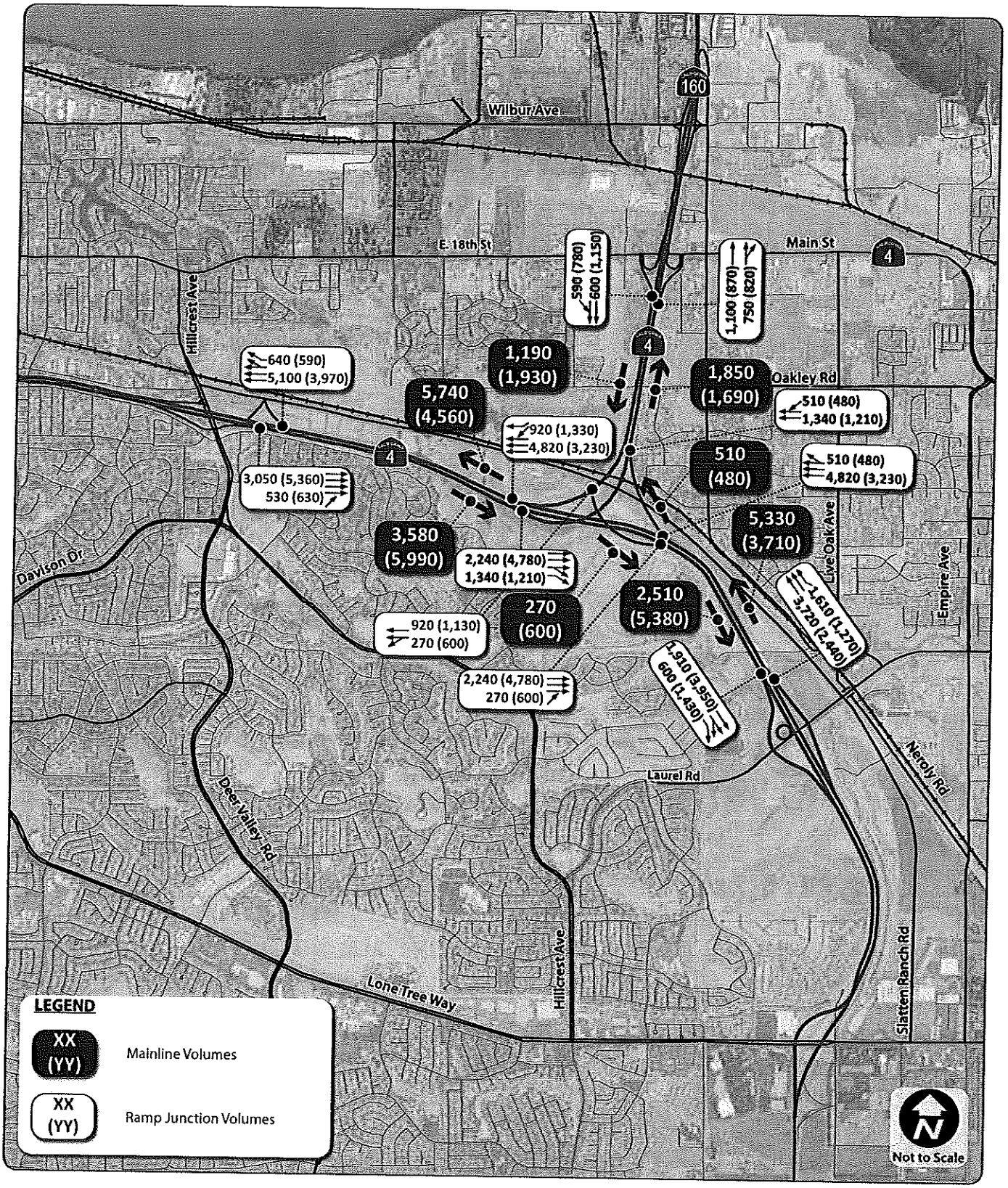
2035 WITHOUT RAMPS
WEEKDAY PEAK HOUR MAINLINE AND RAMP VOLUMES

FIGURE 5



SR 4 / SR 160 Connector Ramp Evaluation

FEHR & PEERS
TRANSPORTATION CONSULTANTS

March 2011
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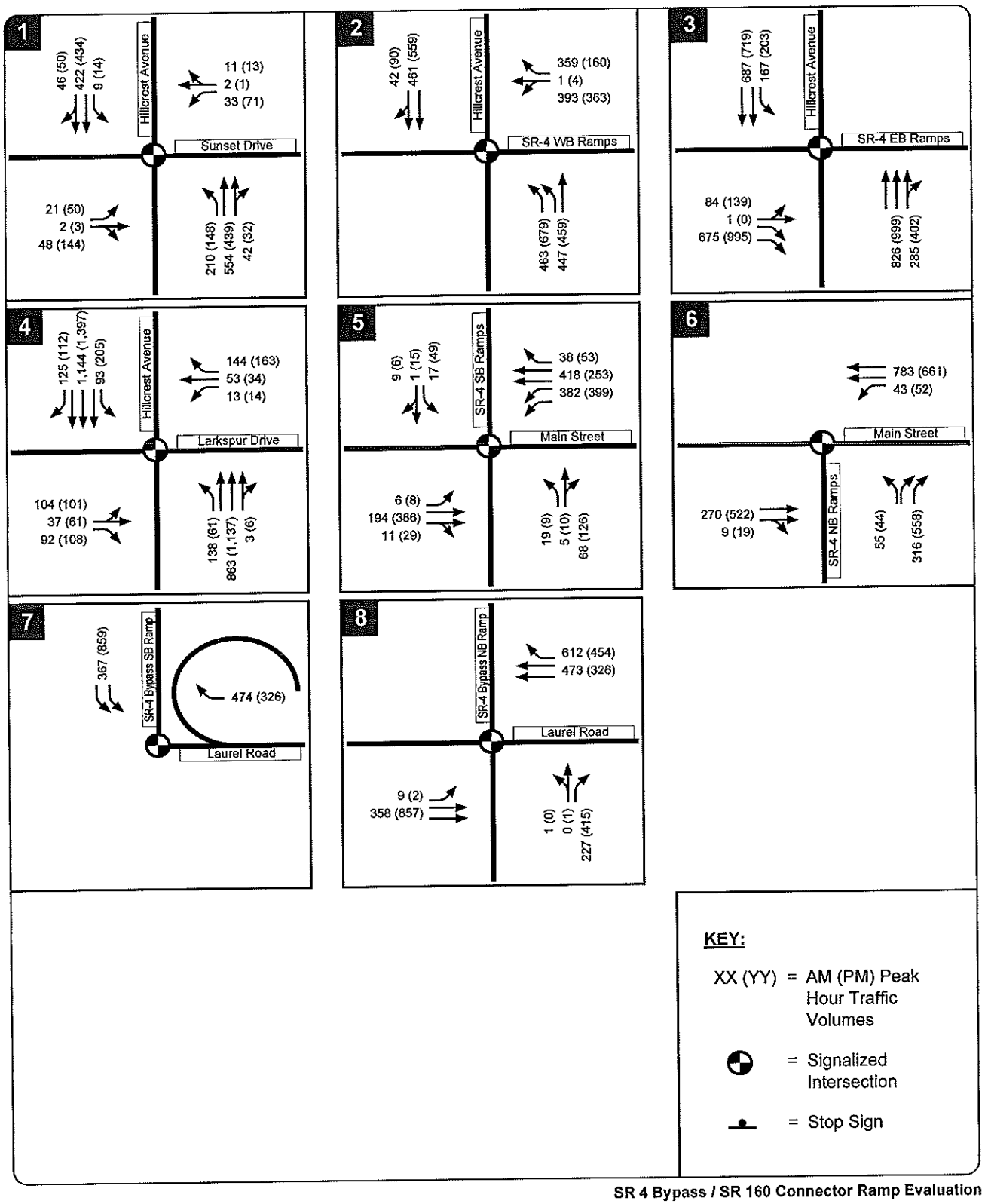
2035 WITH RAMPS
WEEKDAY PEAK HOUR MAINLINE AND RAMP VOLUMES

FIGURE 6



SR 4 Bypass / SR 160 Connector Ramp Evaluation

FEHR & PEERS
TRANSPORTATION CONSULTANTS

March 2011
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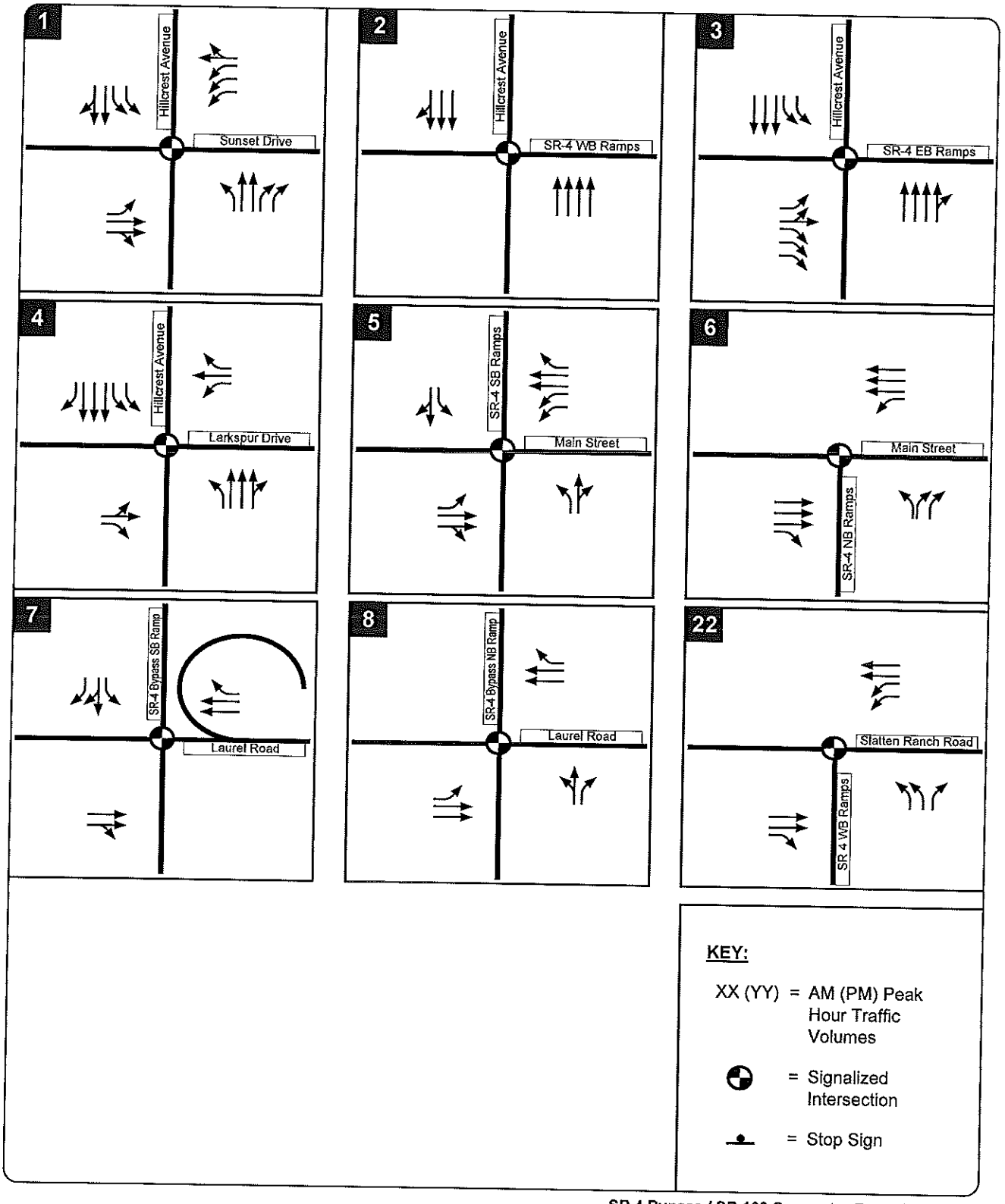
EXISTING CONDITIONS PEAK HOUR INTERSECTION VOLUMES, TRAFFIC CONTROL AND LANE CONFIGURATIONS

FIGURE 7



SR 4 Bypass / SR 160 Connector Ramp Evaluation

FEHR & PEERS
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March 2011
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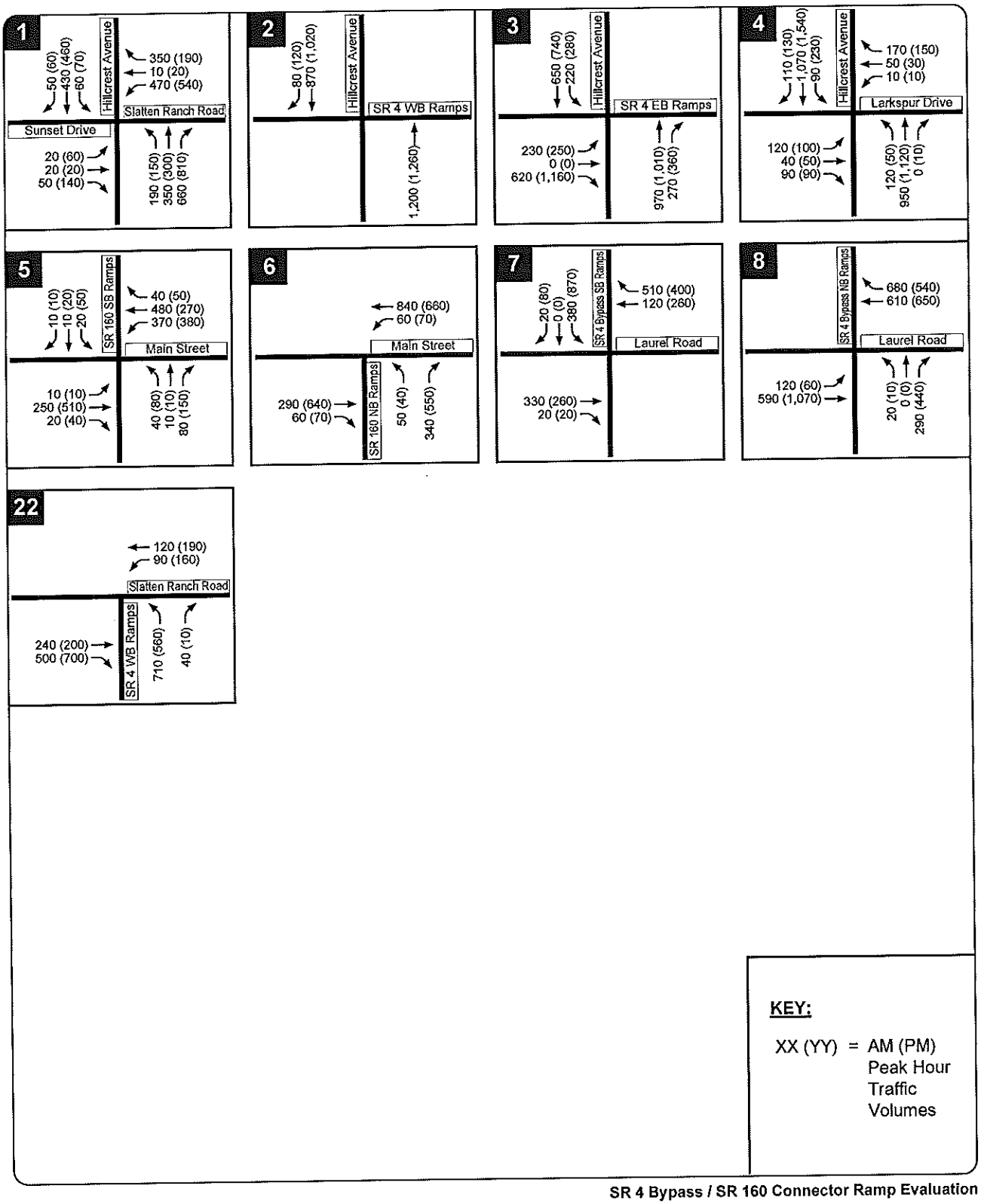
YEAR 2015
TRAFFIC CONTROL AND LANE CONFIGURATIONS
FIGURE 8



SR 4 Bypass / SR 160 Connector Ramp Evaluation

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March 2011
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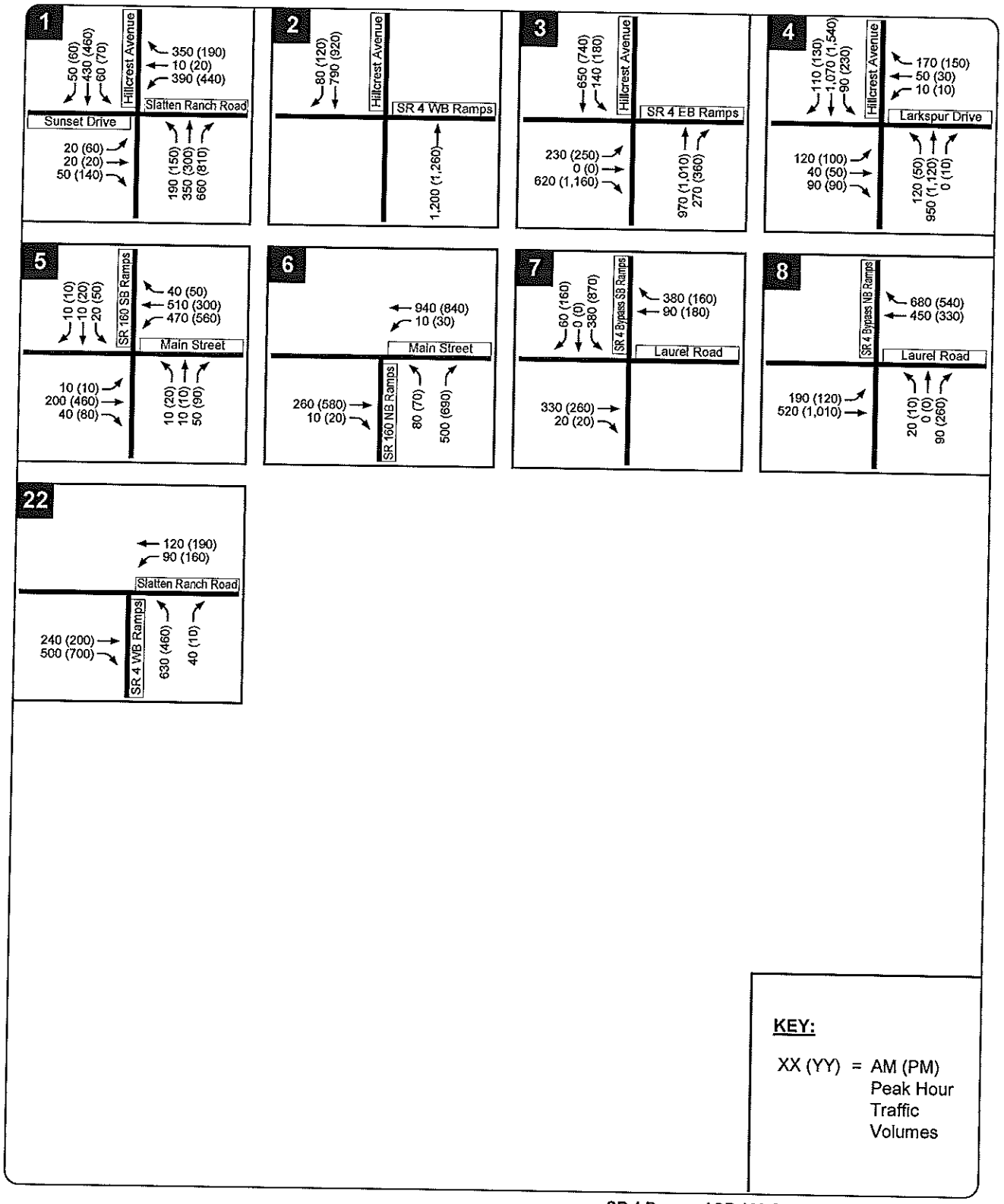
2015 WITHOUT RAMPS
PEAK HOUR INTERSECTION VOLUMES

FIGURE 9



SR 4 Bypass / SR 160 Connector Ramp Evaluation

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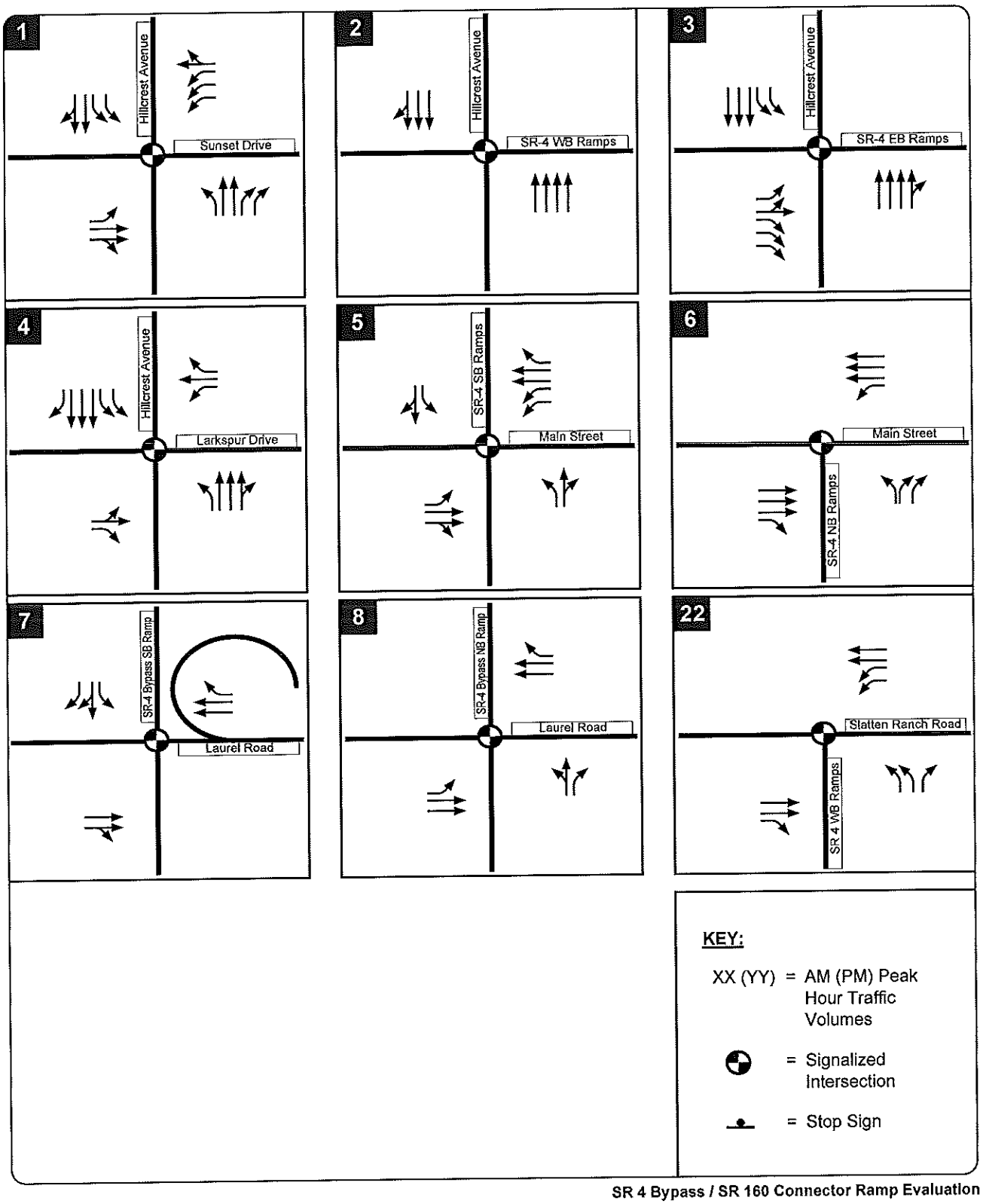
2015 WITH RAMPS
PEAK HOUR INTERSECTION VOLUMES

FIGURE 10



SR 4 Bypass / SR 160 Connector Ramp Evaluation

FEHR & PEERS
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March 2011
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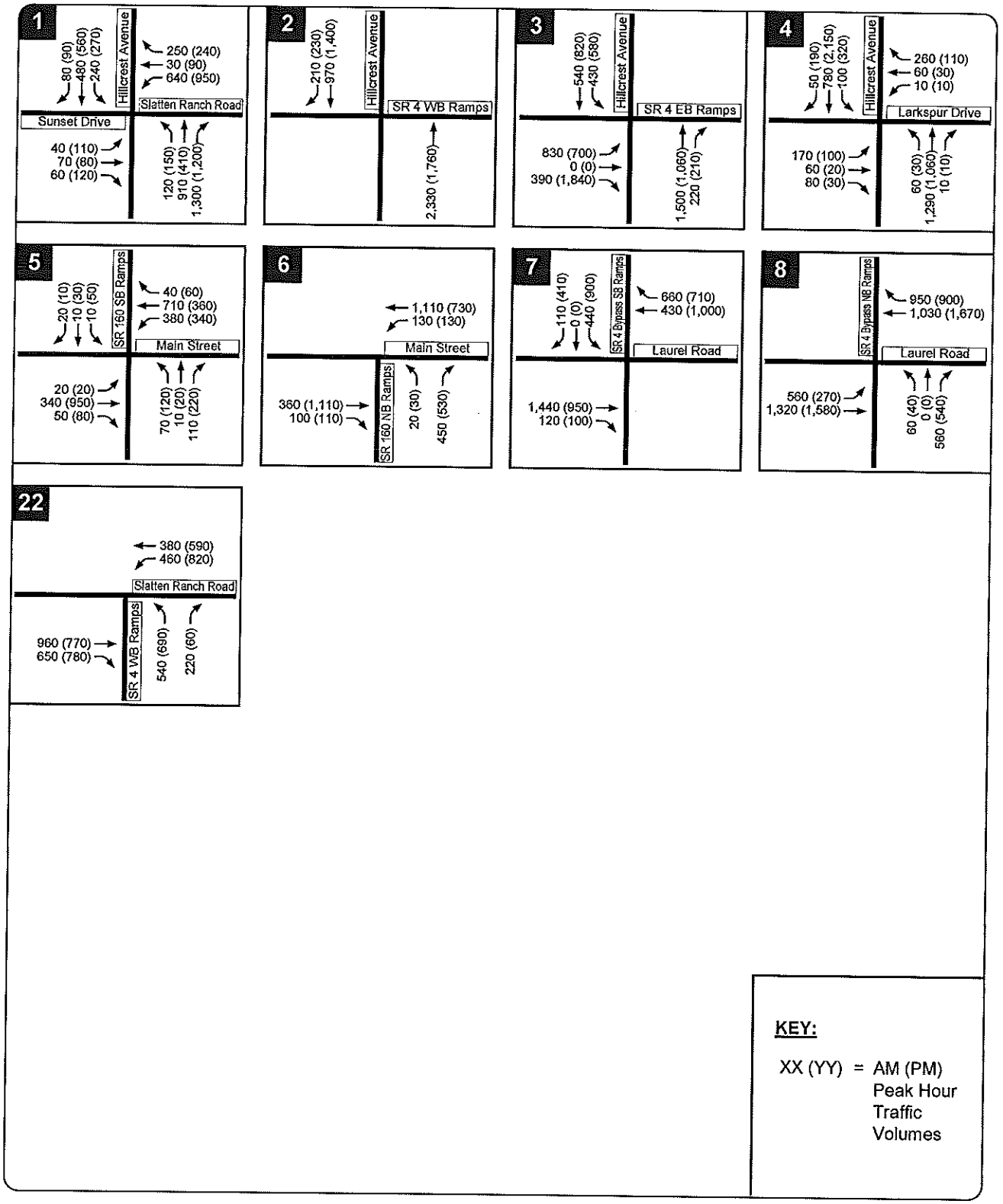
YEAR 2035
TRAFFIC CONTROL AND LANE CONFIGURATIONS
FIGURE 11



SR 4 Bypass / SR 160 Connector Ramp Evaluation

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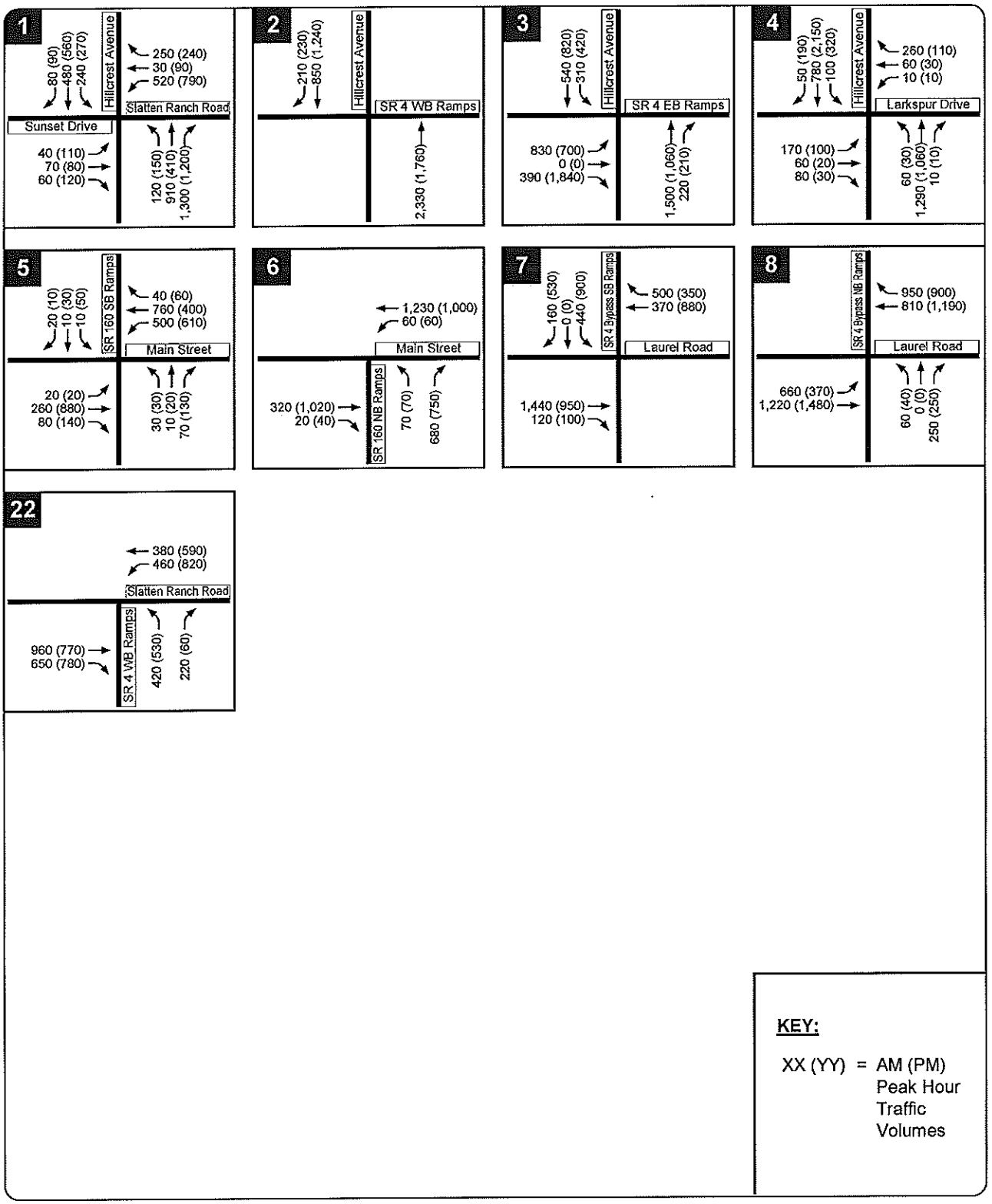
2035 WITHOUT RAMPS
PEAK HOUR INTERSECTION VOLUMES

FIGURE 12



SR 4 Bypass / SR 160 Connector Ramp Evaluation

FEHR & PEERS
TRANSPORTATION CONSULTANTS

March 2011
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2035 WITH RAMPS
PEAK HOUR INTERSECTION VOLUMES

FIGURE 13

Addenda No. 9

Addendum to the Environmental Impact Report for the State Route 4 Bypass Project

Addendum #9: Specific to the SR 4 / SR 160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors

Prepared by Staff to the
State Route 4 Bypass Authority
255 Glacier Drive
Martinez, CA 94553

June 2011

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SECTION 1 – INTRODUCTION

A. Reasons for this Addendum

This document is an Addendum to the Final Environmental Impact Report (FEIR) certified in December 1994 for the State Route 4 Bypass Project (Bypass Project) located in the cities of Oakley, Antioch and Brentwood and unincorporated areas of eastern Contra Costa County. This Addendum was prepared in conformance with the California Environmental Quality Act (CEQA) and CEQA Guidelines §15164.

The FEIR examined two phases for implementing the Bypass Project:

- Phase 1 would involve construction of a two-lane limited access expressway from the existing State Route (SR 4) freeway to Walnut Boulevard, with a partial interchange provided at the SR 4 freeway.
- Phase 2 would expand the Project to Phase II would expand the Project to a four-lane expressway from the SR 4 freeway to Balfour Road, including the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors, which are the subject of this Addendum.

The SR4 Bypass Authority is now moving forward with the implementation of the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors. As part of this effort, additional preliminary engineering has been completed and it has been determined that auxiliary lanes between the SR160/East 18th/Main Street interchange and the SR4/SR160 Interchange will be required as part of the SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors.

B. CEQA Basis for this Addendum

State CEQA Guidelines §15164(a) requires that the lead agency or responsible agency prepare an Addendum to a previously certified EIR "if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred". An Addendum need not be circulated for public review per CEQA Guidelines §15164(c) but can be included or attached to the FEIR or adopted negative declaration.

As analyzed in Section 3 of this document, the changes being proposed for this Project would not result in any new significant environmental effects or substantial increases in the severity of previously identified significant impacts. Consequently, major revisions to the previous FEIR are not required, and none of the conditions listed in §15162(a) have occurred. Therefore, the appropriate level of analysis for the proposed Project revision is an Addendum to the FEIR. This conclusion is based on the analysis provided in this document and information in the FEIR.

C. Intended Uses of this Addendum

An Addendum to an EIR is an informational document used in the planning and decision-making process. The intent of this Addendum to the FEIR is to provide the State Route 4 Bypass Authority (Authority) with additional information regarding the Project's potential environmental impacts that was not available at the time of the certification of the FEIR.

SECTION 2 – PROJECT DESCRIPTION

This section provides a description of the Project evaluated in the FEIR and the modifications proposed by the Authority.

A. Purpose and Need (as presented in the 1994 FEIR)

Eastern Contra Costa County has been experiencing significant residential growth due to the availability of land, proximity to job centers, and the need for affordable housing. This growth has been acknowledged in the Contra Costa County General Plan, and the General Plans of each of the cities in eastern Contra Costa County, each of which was approved following full CEQA review. The result of this projected growth will be increasing traffic demands on State Route 4 and the local roadway network.

State Route 4 was designed as a regional route connecting the San Francisco Bay Area with California's Central Valley. The existing SR4 between the proposed connection points of the Bypass traverses downtown areas of Brentwood and Oakley. The existing SR4 through these communities is an at-grade, limited capacity highway located adjacent to schools, shopping and residences with direct access to the highway. Due to the current alignment and the proximity of the many residences and businesses it is impractical and not economically feasible to widen the existing SR4 roadway to provide adequate safety and capacity for the local and regional traffic demand.

The primary purpose of the Bypass, as described in the FEIR, is to relocate the existing SR4 as a regional route outside of urban areas such as Brentwood and Antioch. The construction of a limited access Bypass with improved east-west connections to SR4 will improve regional circulation through eastern Contra Costa County and provide a more balanced distribution of current and future traffic over the local road network in this area.

The Bypass consists of right of way protection and acquisition for a minimum 250 foot wide transportation corridor as well as the phased construction of a limited access highway. **Figure 1** shows the general location of the Bypass.

B. Previous Environmental Analysis

The Authority has served as the CEQA lead agency for the SR4 Bypass Project. In October 1993, the Authority released for public review the State Route 4 Bypass Project DEIR. A 60-day public review period began on November 2, 1993, and closed on January 3, 1994. A Final EIR was prepared in November 1994 and included responses to comments received on the DEIR. On November 21 and December 8, 1994, the Authority held public hearings on the Bypass Project and supporting environmental documents. The Authority approved the Project and certified the EIR on December 13, 1994. Since that time eight Addenda and one supplemental EIR have been prepared and adopted by the Authority, as discussed below.

- December 13, 1994 - An Addendum was prepared to address a proposed modification to the connection from Marsh Creek Road to existing SR4.
- November, 1997 - A second Addendum was prepared to consider the effects of a variety of long-range area planning projects on the preferred alternative alignment for Segment 3. This Addendum was certified by the Authority in November 1997.
- December, 1998 - A third Addendum was prepared to address the modified construction phasing plan which involved construction of Segment 2 as a first phase.
- January, 2003 - A fourth Addendum was prepared to address modifications to the Lone Tree Way Interchange.
- November, 2003 - A fifth Addendum was prepared to address modifications to Segment 1 of the Bypass.
- October 2004 - A Supplemental EIR was prepared to evaluate proposed refinements to the alignment of Segment 3.
- May 2006 - A sixth Addendum was prepared to evaluate proposed relocations of an existing Chevron pipeline.
- November 2007 - A seventh Addendum was prepared to evaluate the Sand Creek Road Interchange.
- April 2009 – An eighth Addendum was prepared to evaluate the Mokelumne Trail Bicycle / Pedestrian Overcrossing

The four-volume 1993 Draft EIR for the Bypass Project, together with the 1994 EIR volume, the eight Addenda, and the Supplemental EIR now comprise the approved EIR and environmental record for the SR4 Bypass Project. Once completed, this Addendum will be added to the environmental record.

C. Project Description Modifications

The Authority plans to move forward with the design and construction of the SR 4 / SR 160 Interchange SR4/SR160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors which, as depicted in the FEIR, will construct a freeway to freeway connector in each direction between the SR 4 Bypass and SR 160, which is the approach to the Antioch Bridge. The project will be constructed within the existing right of way. **Figure 2** illustrates the location of the project and **Figure 3** illustrates the proposed improvements described below.

The FEIR analyzed the construction of connector ramps between the SR 4 Bypass and SR 160 that would merge onto SR 160 in the vicinity of Madeira Court (northbound) and Frandoras Circle (southbound), with the geometry allowing for the connector ramps to merge directly into the SR4 E and SR160 connectors, without requiring auxiliary lanes between the SR 160/E. 18th Street/Main Street Interchange and the SR4/SR160 Interchange.

Subsequent operations analysis has indicated that as part of the construction of the connector ramps, a single, 12-foot wide auxiliary lane extending further north to the SR 160/E. 18th Street/Main Street Interchange will need to be constructed. An addendum has been prepared to address the increased project footprint for these 12 foot auxiliary lanes (between the SR 160/E. 18th Street/Main Street Interchange and the SR4/SR160 Interchange) and to assess whether the project would result in new environmental impacts that were not analyzed in the FEIR.

Northbound Connector

The northbound connector ramp will exit from west bound SR 4 Bypass using standard freeway to freeway connector geometry, widening to two lanes for approximately 1,200 feet, and crossing over the UPRR right of way. The second lane will be dropped before connecting to the existing northbound SR 160 connector. The single lane connector transitions into a new lane alongside the SR 160 connector from SR4, and continues as an auxiliary lane (12-foot outside widening) for approximately 3,000 feet to the SR160/East 18th/Main Street Interchange. The existing sound wall on the east side of the SR 4 Bypass will be extended to Oakley Road. The north bound connector will not be metered.

Southbound Connector

In a similar manner to the Northbound SR160 Connector, an auxiliary lane for the Southbound SR 160 will also be required (12-foot outside widening), which will start at the SR 160/E. 18th/Main Street Interchange and extend 1,400 feet under the Oakley Road Overcrossing. The southbound SR 160 to SR 4 Bypass connector will utilize a standard freeway to freeway connector diverge geometry to connect to west bound SR 4.

The mainline—SR 160 to east bound SR 4 Bypass—will be widened to two lanes immediately after the west bound SR 4 exit. The two lanes will rise up and cross over several features (the UPRR right of way, the east bound SR 4 to north bound SR 160 connector, and the SR 4 Bypass). This new two-lane overcrossing will extend approximately 3,300 feet before dropping a lane at the ramp metering limit line and merging into the east bound SR 4 Bypass.

SECTION 3 – IMPACT ANALYSIS

A. Summary of Project Impacts Addressed in the FEIR

The environmental impacts of building the SR 4 / SR 160 Interchange ramps are comparable, if not the same, as the impacts of the Bypass Project evaluated in the 1994 FEIR. The level of significance of impacts resulting from this modification would not result in any new impacts that were not previously disclosed, nor has the environmental baseline in the project area changed since the 1994 EIR, such that new impacts would be created.

The following environmental categories were specifically examined in the context of the new project description:

- Biological Resources
- Cultural Resources
- Hazardous Materials
- Noise
- Transportation and Circulation

For these categories, additional analysis has been conducted and the results are presented below. All other environmental categories examined in the FEIR have been assessed and found not to have any material change from what has already been presented in the Draft and Final EIR. The mitigation measures adopted in the 1994 FEIR continue to remain in effect, except where they have been refined pursuant to the adopted Contra Costa County Habitat Conservation Plan (HCP). The HCP lists specific actions that the United States Fish and Wildlife Service (USFWS) and the member cities and county have adopted for all development affecting covered species. The refined mitigation monitoring and reporting program (MMRP) that incorporates the HCP actions is on file at the Bypass Authority offices and is included as Appendix A.

B. Biological Resources

1. *Prior Analysis*

The 1994 FEIR identified possible effects of the Bypass Project on habitats, wetlands, and species of concern, and the potential for direct effects on these species relative to harm or harassment resulting from construction activities. The FEIR included 14 significant, unavoidable effects that would potentially occur despite implementation of the proposed mitigation measures.

Construction of the Bypass Project was found to adversely impact riparian corridors, such as Sand Creek. Sand Creek runs perpendicularly under the Bypass just north of Sand Creek Road. The potential loss or degradation of the riparian habitats would be significant because of their local and regional scarcity, possible classification as jurisdictional waters, continuing depletion, and increased threats to dependent species of concern. The increasing amount of roadways within the vicinity of streams and riparian corridors would impact the volume of water and thus degrade the area and potentially alter the functions of the waterways. To mitigate these impacts, the DEIR called for the establishment of a Streambed Alteration Agreement to allow alternation of bridging of creeks under current corridor plans.

Following the certification of the FEIR in 1994, a biological assessment was prepared in 1999 by Environmental Science Associates (ESA) to support a Biological Opinion (BO) from the U.S. Fish and Wildlife Service for construction of a 2-lane expressway through the Segment 2 limits.

A complete wetland delineation was prepared by ESA in 1998 for the entire Bypass Project, and was subsequently verified by the U.S. Army Corps of Engineers (USACE) in 1999. The wetland delineation verification is valid for a period of five years, and expired on April 27, 2004.

No new plants or wildlife have been recorded in the Bypass Project area since the 1999 study. However, one species, the California tiger salamander, was upgraded to a federal listing of threatened in 2004.

A Habitat Conservation Plan for East Contra Costa County (HCP) was developed in consultation with the U.S. Fish and Wildlife Service and adopted by Contra Costa County and all East County cities, with the exception of the City of Antioch, in July 2007. The Supplemental EIR prepared in 2004 for Segment 3 of the Bypass included revisions to the MMRP to reflect the HCP's new mitigation language for biological resources.

2. *Updated Analysis Prepared in 2010*

A Biological Resources Review (Biology Review) was prepared by RCL Ecology in August 2010. The Biology Review is based on field surveys conducted on August 3 and August 9, 2010, intended to determine any changes to previous biological surveys. The Biology Review is included in **Appendix B**.

The field surveys determined that land cover in the project area consists of ruderal and non-native annual grassland and urban cover types consisting of the existing concrete roadways and bridges connecting SR 4 to east bound SR 4 Bypass, and SR 4 to north bound SR 160. No wetlands or waters of the United States are present in this area, nor is there habitat for special-status plants.

The field surveys found that breeding habitat occurs for the western burrowing owl, and that potential breeding habitat exists for the San Joaquin kit fox and the white-tailed kite. A freshly killed California vole was seen at the entrance to a burrow south of the railroad tracks between east bound and west bound SR4 indicating the presence of burrowing owls. **Figure 4** shows the location of the burrow. To address potential impacts to burrowing owl, San Joaquin kit fox and white-tailed kite habitat, preconstruction surveys will be required pursuant to the standard conservation measures included in the HCP, as outlined below.

Western Burrowing Owl

Preconstruction Surveys

Prior to initiating covered activities, conduct surveys for burrowing owl as described below. This measure incorporates avoidance and minimization guidelines from CDFG's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995). A USFWS/CDFG–approved biologist will identify potential burrowing owl breeding habitat (Section 6.3.1, Planning Surveys). If the Project does not fully avoid impacts to suitable breeding habitat, preconstruction surveys will be required.

Prior to the start of the breeding season (February 1), a USFWS/CDFG-approved biologist will conduct preconstruction surveys of the project area to determine the presence of burrowing owls.

Avoidance and Minimization Measures

If present, the birds will be evicted from the site using passive relocation techniques. The site will then be continuously monitored until the start of construction in order to ensure that owls do not reoccupy the area. All surveys and passive relocation will be carried out in accordance with CDFG survey guidelines (California Department of Fish and Game 1993). Passive relocation procedures include installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area should be monitored daily for 1 week to confirm that the owl has abandoned the burrow. Whenever possible, burrows will be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Game 1995). Plastic tubing or a similar structure will be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

San Joaquin Kit Fox

Preconstruction Surveys

Prior to any ground disturbance related to covered activities, a USFWS/CDFG-approved biologist will conduct a preconstruction survey of the project area. The surveys will establish the presence or absence of San Joaquin kit foxes and/or suitable dens and evaluate use by kit foxes in accordance with USFWS survey guidelines (U.S. Fish and Wildlife Service 1999). Preconstruction surveys will be conducted within 30 days of ground disturbance. Within the ROW for the proposed project, the biologist will survey the proposed disturbance footprint and a 250-foot radius from the perimeter of the proposed footprint to identify San Joaquin kit foxes and/or suitable dens. The status of all dens will be determined and mapped. Written results of preconstruction surveys will be submitted to USFWS within 5 working days after survey completion and before the start of ground disturbance. If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the avoidance and minimization measures described in the section below will be implemented.

Avoidance and Minimization Measures

If a San Joaquin kit fox is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFG-approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used. Unoccupied dens will be destroyed immediately to prevent subsequent use. If a natal den or pupping den is found, USFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG. If kit fox activity is observed at the den during the initial monitoring period, the den will be monitored for an additional 5 consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternately, if the animal is still present after 5 or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant (i.e. during the animals' normal foraging activities).

Construction Monitoring

If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No covered activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion

zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by kit fox.

White-tailed Kite

Preconstruction Surveys

If project construction begins during the breeding season (February 1- August 31), preconstruction surveys should be conducted within the project area and a 300-foot buffer, by a qualified biologist no more than two weeks prior to equipment or material staging, or surface-disturbing activities. If no active nests are found within the project footprint and a 300-foot buffer, no further mitigation is necessary.

Avoidance and Minimization Measures

If active nests (i.e. nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the project footprint, non-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and duration of potential disturbance. No work should occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with the California Department of Fish and Game and the U. S. Fish and Wildlife Service. If buffers are established and it is determined that project activities are resulting in nest disturbance, work should cease immediately and the California Department of Fish and Game and the U.S. Fish and Wildlife Service should be contacted for further guidance.

C. Cultural Resources

1. Prior FEIR Analysis

Archeological Resources

In July 1992, an archaeological resources survey was performed for the entire Bypass Project study area. **Figure 1** illustrates the Bypass Project area. The 1994 FEIR concluded that no archaeological surface or subsurface cultural resources of significance exist within the Bypass Project right-of-way.

Historic Resources

A historic resources survey was conducted in February 1993. The FEIR identified a potentially historic archaeological site (an abandoned farmstead) in Oakley near Neroly Road, to the east of the SR 4 Bypass and SR 160 connector ramps project area.

2. *Updated Analysis Prepared in 2010*

William Self Associates, Inc. (WSA) performed an archaeological survey and cultural resources assessment in November 2010. The survey was conducted to evaluate the potential occurrence of cultural and archaeological resources within the project area. A records search of the project vicinity was conducted by the California Historical Resources Information System, Northwest Information Center at Sonoma State University on behalf of WSA. WSA also conducted an archaeological field survey to evaluate for the presence of historic or prehistoric site indicators. The survey is provided as **Appendix C**. The results of the record search and the field survey indicated that the likelihood of encountering significant cultural resources within the area of the SR 4/SR 160 Interchange Westbound to Northbound and Southbound to Eastbound Connectors (Connectors) is low.

Results from the records search show that the project area has been included in 24 previous archaeological studies. The records search conducted for this project indicates that there is one previously recorded archaeological site within the project area (P-07-813) and one previously recorded archaeological site within 1/4-mile of the project area (P-07-2923). Site P-07-813 is a segment of the Union Pacific Railroad, which passes through the middle portion of the project area. According to a previous cultural resources study conducted in 2007, this segment is not eligible for the National Register. Site P-07-2923 is an industrial building known as the Newlove Oil Pumping Station, located within 1/4-mile west of the project area along the UPRR rail line. According to a previous cultural resources survey conducted in 2008, the building does not appear to be eligible for the National Register. No evaluated bridges on the Caltrans Bridge Inventory appear in the project area or its vicinity. Furthermore, no listings appear within the project area or the records search area in the Revised Preliminary Historic Resources Inventory Contra Costa County California (1989), the California Inventory of Historic Resources (March 1976), or the Historic Property Data File provided by the Office of Historic Preservation.

The field survey area comprised land on both the east and west sides of SR 160 bounded by the beginning of the SR 160/E. 18th Street/Main Street exit to the north, and ending approximately 130 meters south of the Union Pacific Railroad and south of SR 4 and the SR 4 Bypass. Because parts of the project area have been intensively surveyed previously, only those segments that had not been previously surveyed were selected to be surveyed for this project. No artifacts, cultural soils, or other archaeological cultural resources were observed or collected within the survey area besides the previously recorded segment of the Union Pacific Railroad.

As stated above, the likelihood of encountering significant cultural resources within the project area is low. However, previously undiscovered historic or prehistoric resources could be found during construction. In the event that previously undiscovered historic or prehistoric resources are discovered, the following mitigation measures from the 1994 Final EIR should be followed.

- **MITIGATION MEASURE III.K.1(a)**: Retain the services of a qualified archaeological consultant to serve as an on-site archaeological monitor to provide appropriate consulting services throughout the course of grading and other topographic modification associated with the proposed Project. The principal task of the designated archaeological consultant would be to insure that no significant cultural resources of either prehistoric/protohistoric or historic period age or character would suffer adverse impacts as a consequence of planned construction within the Project right-of-way.

- **MITIGATION MEASURE III.K.1(h)**: If prehistoric and/or historic cultural resources are discovered during construction work, avoid damaging identified archaeological sites to the extent feasible. Examples of such methods include:

    - avoiding identified archaeological sites;

    - "capping" or covering identified archaeological sites with a layer of soil before building any homes, roadways, or other structures (capping may be used where the soils to be covered will not suffer serious compaction, the covering materials are not chemically active, the site is one in which the natural processes of deterioration have been effectively arrested, and the site has been recorded); or,

    - deeding identified archaeological sites into permanent conservation easements.

- **MITIGATION MEASURE III.K.1(c)**: If archaeological resources are discovered during development, suspend all work in the immediate vicinity (within approximately 250 feet) and avoid altering the materials and their context pending site investigation by qualified professionals. Use a qualified archaeologist or cultural resources consultant to assess the materials, determine their significance, and establish the area to be preserved. If the qualified professional determines that the site will yield new information or important verification of previous findings, the sites should not be destroyed. Construction work should not commence again until the qualified professional has been given an opportunity to examine the findings, assess their significance, and offer proposals for any additional exploratory measures deemed necessary for the further evaluation of and/or mitigation of adverse impacts to any significant (or potentially significant) cultural resources which have been encountered.

- **MITIGATION MEASURE III.K.1(d)**: If avoidance of a discovered important archaeological resource would not be feasible, require an excavation plan. An excavation plan would consist of the methodical excavation of those portions of the site(s) that would be adversely affected. The work should be accomplished within the context of a detailed research design and in accordance with current professional standards. The plan should

result in the extraction of sufficient volumes of non-redundant archaeological data so as to address important regional research consideration, should be performed by qualified professionals, and should result in detailed technical reports.

- **MITIGATION MEASURE III.K.1(e)**: Allow only a qualified archaeologist or cultural resources consultant to collect any cultural resources discovered in the Project right-of-way.

- **MITIGATION MEASURE III.K.1(f)**: Prohibit project personnel from collecting any cultural resources discovered during development of the Project. Prehistoric resources include chert or obsidian flakes, projectile points, mortars, and pestles; and dark friable soil containing shell and bone dietary debris, heat affected rock, or human burials. Historic resources include stone or adobe foundations or walls, structures and remains with square nails; and refuse deposits, often in old wells and privies.

- **MITIGATION MEASURE III.K.1(g)**: If prehistoric archaeological deposits that include human remains are discovered, notify the County Coroner immediately. If the remains are found to be Native American, the Native American Heritage Commission must be notified within 24 hours. The most likely descendant of the deceased Native American will be notified and given the chance to make recommendations for the remains. If no recommendations are made within 24 hours, remains may be reinterred elsewhere on the property. If recommendations are made and not accepted, the Native American Heritage Commission will mediate the problem.

D. Hazardous Materials

1. Prior FEIR Analysis

The 1994 FEIR analyzed potential locations in the project area that could contain hazardous wastes left by former property users. At the time, the zoning along the project right of way (ROW) allowed agricultural uses and well-head activities associated with a small oil field in the Sand Creek Area. The FEIR concluded that there were six locations where hazardous wastes could be present. These included a shooting range, two debris yards, a series of oil wells, a crude oil storage facility, and an electrical transformer site. The FEIR included mitigation measures requiring a comprehensive investigation of soil quality at the sites to be conducted by the County Department of Public Works. The mitigation measures reduced the potential impacts to less-than-significant levels.

2. Updated Analysis Prepared in 2010

An Initial Site Assessment (ISA) was performed by GEOCON Consultants, Inc., in October 2010. The ISA was conducted to evaluate the presence of potential contaminated properties within

the project area that may impact selection of project build alternatives, temporary construction easements, and construction of the proposed improvements. A reconnaissance survey of the existing SR 4 corridor, SR 4 / SR 160 interchanges and connectors, and Caltrans ROW at the project site was conducted. In addition, visual observations of properties adjacent to the project site were conducted from public thoroughfares to attempt to identify visual indicators of potential contaminated properties/impacts. The ISA is included in **Appendix D**.

The ISA concluded that there are 17 known and potential contaminated properties within the project area. However, based on the project location and proposed construction activities, potential impacts at 13 of the identified and potentially contaminated facilities within the project area represent a low risk to the design and construction of the planned project. There are potential environmental constraints in four locations within the SR 4 / SR 160 right of way. The ISA recommends that prior to final design for the project, preliminary site investigations should be performed to further evaluate potential and documented environmental impairments within the project boundaries. The following discussion provides recommendations to address potential impacts in accordance with general guidance provided in the mitigation included in the 1994 Final EIR.

Aerially Deposited Lead

Concentrations of aerially deposited lead (ADL) at levels exceeding hazardous waste criteria may be present in shallow soil within the unpaved shoulders and median of the existing SR 4 and SR 160 right of way. Additionally, an approximate 100-foot by 200-foot area of buried ADL-containing soil is located between the existing west bound SR 4 and east bound SR 4 connectors to SR 160. According to the as-built plans, a small portion of the buried area of ADL soil is located adjacent to the "Future SR-160 to SR-4 Connector Ramp (southbound to eastbound)." **Figure 4** shows the location of the buried ADL-containing soil.

Mitigation II.O.1 in the 1994 Final EIR provided guidance regarding how soil and groundwater sampling should be undertaken for a variety of contaminants. The following guidance provides direction for the sampling and possible remediation of ADL within the project area, following the protocol established by the 1994 EIR, including oversight by the appropriate regulatory agencies.

An ADL investigation shall be performed along the SR-4 and SR-160 corridors to evaluate lead concentrations in planned excavation areas and associated soil material management and disposal requirements. The investigation shall be done after alignment surveying has been completed but prior to any construction or excavation work in the alignment that would encroach across the identified site.

The results of such an investigation, together with all available soil reports and chemical analyses shall be reviewed by a Registered Environmental Assessor (REA) to determine if

elevated levels of contaminants are present. Through use of California Applied Action Levels (AALs) or an equivalent site-specific risk analysis method, an evaluation of potential hazard for construction workers shall be made[1]. The need for additional soil testing and/or potential remediation or plan redesign shall be determined through environmental review of precise developmental plans. If actions are taken to ensure that, in the opinion of the REA, no non-cancer health effects would be anticipated, and exposures to carcinogens and reproductive toxins would fall below levels requiring warnings under Proposition 65, then this potential impact would be considered mitigated to a non-significant level.

Should contaminated soils be found in excess of federal and state thresholds they will be required to be removed from the site and remediated as required by law. Contaminated soils are defined in 40 CPR Part 261 of federal regulations, and Title 22, Chapter 11 of the California Code of Regulations.

Implementation Procedure

The Bypass Authority shall collect shallow soil samples from up to 30 locations on the identified sites. Sampling locations shall be selected through two different methods. Up to twenty locations at each site shall be selected on the basis of a statistical grid over the entire Project site, these samples are intended to provide (without bias) information as to the general conditions at the site. Up to ten additional sampling locations shall be selected on the basis of professional judgment --allowing specific sampling of areas of concern.

The Bypass Authority shall prepare a soil sampling plan for each identified site prior to initiation of excavation or construction. Each site specific sampling plan shall be submitted to the Contra Costa County Department of Environmental Health for approval before sampling begins. The sampling plan shall contain all proposed sampling locations, sample collection procedures, name of the certified laboratory doing the chemical analysis, sample handling procedures, test methodology in conformance with the following analysis protocol, chain of custody requirements, site safety plan, and quality assurance plan to verify the laboratory results. The sampling plan shall also include the reporting format for all laboratory analysis sheets, field logs, Chain of Custody forms and laboratory quality control information.

Each sampling plan shall specify that all soil and groundwater chemical analyses shall be performed by a California-certified laboratory, using standard EPA and California chemical testing methods.

[1] AALs are exposure criteria set through procedures specified by Department of Toxic Substance Control in its California Site Mitigation Decision Tree Manual. AALs delineate concentrations of toxic substances that, when exceeded, place an exposed person or group at risk. Mitigation criteria are determined by this process on a case by case basis to keep the exposure below the AAL. (California Department of Health Services, 1986)

Remedial Action Plan

Using the information generated from the sampling and analysis program, a remedial action plan shall be prepared identifying areas that are RCRA hazardous wastes, California designated wastes, and non-hazardous soil. The remedial Action Plan shall identify procedures to remove the two types of contaminated soils (if both are present) including further testing for disposal characterization. The remedial action plan shall also identify the disposal or treatment alternatives to be employed.

Monitoring and Reporting Actions

The Bypass Authority shall perform, or have performed by a qualified consultant, all mitigation measures identified. The Bypass Authority shall have the Contra Costa County Department of Public Health Services, Environmental Division, or a qualified Registered Environmental Assessor, under Section 25570.3 of the California Health and Safety Code, review the mitigation measure for all sites and prepare a letter of concurrence with the initial investigation and results. The Bypass Authority shall submit the soil sampling plan, test results, site remediation plan and all supporting documentation to the Contra Costa County Department of Public Health Services, Environmental Division.

Asbestos and Lead Containing Materials

Suspect asbestos-containing materials and possible lead containing paint may be present in the project area and UPRR bridge overcrossing structure materials. Yellow thermoplastic and paint striping, potentially containing lead chromate, was observed on roadway surfaces at the site. Yellow thermoplastic and paint striping that is removed during planned roadway improvements may require special handling and disposal requirements unless combined with sufficient asphalt grindings per Caltrans Special Provisions. Asbestos containing pipe and treated-wood may also be encountered during planned demolition and construction of new highway improvements. Any encountered asbestos-containing pipe or treated-wood shall be handled and disposed of in accordance with regulatory requirements.

UPRR Tracks

The Union Pacific Railroad (UPRR) tracks cross the central portion of the project site. Potential accidental releases or impacts from railroad construction and historical operations (e.g., railroad ballast and herbicide weed control) may have impacted adjacent Caltrans ROW at the site. Soil sampling should be conducted within the SR 160 ROW adjacent to the UPRR ROW to evaluate potential impacts.

E. Noise

1. *Prior FEIR Analysis*

The 1994 FEIR concluded that development of the Bypass Project would result in significant impacts related to noise. Specifically, the FEIR concluded that construction activities would temporarily increase ambient noise levels in the area, and that development of the Bypass Project would create operational noise levels exceeding compatibility guidelines for residential uses. Following the certification of the FEIR, residential development projects were required to construct their own sound barriers sufficient to mitigate potential noise impacts to a less-than-significant level. The cities of Antioch and Brentwood have diligently implemented this requirement for all of the residential subdivisions being proposed along the Bypass Project.

Mitigation measures outlined in the FEIR include open space buffers, sound barriers, and installation of noise insulation for existing residences. The FEIR did not provide any guidance as to the proposed location or height of the recommended noise barriers.

2. *Updated Analysis Prepared in 2010*

Existing Noise Levels

An environmental noise assessment was prepared by Illingworth & Rodkin, Inc. in September 2010. Existing noise levels were quantified at representative receiver locations throughout the study area between Friday, August 13, 2010, and Monday, August 16, 2010. **Figure 4** shows the noise measurement locations. The noise assessment is included as **Appendix E**.

Noise sensitive land uses in the project vicinity include single-family residences located northeast of the SR 4 / SR 160 interchange, a church located west of SR 160 just north of Oakley Road, and a new residential subdivision (Monterra) located southwest of the interchange. Existing noise levels were monitored at three locations for a period of at least 36-hours and at ten additional locations for a period of ten minutes each. The noise assessment determined that existing noise levels at all but one receiver are within the 65 dBA L_{dn}/CNEL threshold identified in the General Plans for the City of Oakley and the City of Antioch. The only exception is at Calle De Oro in Oakley, about 230 feet from the nearest lane of SR 160, where noise levels currently exceed the 65 dBA L_{dn}/CNEL threshold.

City of Oakley General Plan Policy 9.1.5 states that noise levels resulting from transportation noise sources shall be maintained at or below 65 dBA L_{dn} at residential outdoor use areas. Similarly, noise levels at outdoor residential living areas adjacent to planned freeway expansions are acceptable at or below 65 dBA CNEL.

Future Noise Levels

With the addition of project traffic, in the year 2035, noise levels are calculated to range from 66 to 68 dBA L_{dn} at the Calle de Oro, Frandoras Circle, Madeira Court locations (ST-3), assuming these receivers remain unshielded. This would exceed the 65 dBA CNEL level established by the City of Oakley General Plan Policy 9.1.5.

All other locations were found to remain within acceptable levels (at or below 65 dBA L_{dn}), as shown in **Table 1**:

- At receivers north of Oakley Road, future (2035) traffic noise levels would range from 61 to 62 dBA L_{dn}, well below the allowable exterior noise level of 65 dBA Ldn.
- For receivers located north of the SR 4 Bypass that are currently shielded by noise barriers, Future (2035) noise levels in 2035 with the project are calculated to range from 60 to 65 dBA L_{dn}.
- First-row receivers within the Monterra Subdivision in Antioch would be exposed to future (2035) noise levels up to 65 dBA CNEL.

Table 1. Noise Reduction Provided by Noise Barrier (dBA, L_{dn}/CNEL)

Receiver	2035 Plus Project								
	Future Sound Level without a Noise Barrier	8-foot Barrier		10-foot Barrier		12-foot Barrier		14-foot Barrier	
		Noise Level	I.L*	Noise Level	I.L	Noise Level	I.L	Noise Level	I.L
ST-3	**68**	**66**	2	**66**	2	65	3	62	6
LT-1	63	61	2	61	2	59	4	58	5
ST-4	**66**	64	2	64	2	62	4	61	5
ST-5	61	59	2	59	2	57	4	56	5
LT-2	64	63	1	63	1	63	1	63	1

* I.L. = Insertion Loss, or noise reduction provided by noise barrier.
Numbers in bold text (**66**) indicate sound levels that exceed the 65 dBA CNEL level established by the City of Oakley General Plan Policy 9.1.5.

Implementation of Adopted Mitigation from 1994 FEIR

Mitigation measures outlined in the FEIR include open space buffers, sound barriers, and installation of noise insulation for existing residences. The FEIR did not provide any guidance as to the proposed location or height of the recommended sound barriers.

To determine the location or height of the recommended noise barrier for the Calle de Oro, Frandoras Circle, Madeira Court locations, the Bypass Authority evaluated the proposed sound level associated with construction and operation, as discussed below.

The overall duration of construction would extend approximately two construction seasons. The northbound connector would be completed within approximately one year and the southbound connector would require approximately one and one-half years to complete. Ambient noise levels in the project vicinity will be substantially increased over a temporary period of time resulting in a significant impact. Therefore, measures to reduce noise at the construction site will be required as outlined below.

Noise Barriers

A 14-foot noise barrier shall be constructed along the northbound connector ramp between westbound SR 4 Bypass and northbound SR 160. The barrier top-of-wall height shall be relative to the final elevation of the roadway. The noise barrier shall connect to the existing noise barrier along the westbound side of the SR 4 Bypass (Westbound SR 4 Bypass Station 87+00) and run along the roadway edge-of-shoulder terminating at the Oakley Road overcrossing (Northbound SR 160 Station 87+50). **Figure 3** shows the proposed location of the noise barrier. Table 1 summarizes the noise reduction provided by noise barriers ranging from 8 to 14 feet in height. The construction of a minimum 14-foot noise barrier will provide at least 5 dBA of noise reduction reducing 2035 plus project traffic noise levels to below existing ambient conditions.

Construction Noise

The 1994 FEIR included several mitigation measures designed to reduce impacts related to construction noise. These construction-period noise mitigation measures were updated in 2003 as part of a Supplemental EIR prepared by the Bypass Authority for Segment 3. These updated measures remain in effect for all Bypass construction work. No additional mitigation is required.

F. Traffic

1. Prior FEIR Analysis

The 1994 FEIR analyzed potential impacts of the SR 4 Bypass project on traffic and transportation in the project area. The FEIR concluded that the general impact of the project was beneficial to traffic levels of service on roadways in the project area. There were several locations where levels of service would worsen as a result of the project. However, these locations are not in the area of the proposed project. The FEIR included three significant, unavoidable effects that would potentially occur despite implementation of the proposed mitigation measures.

2. *Updated Analysis Prepared in 2011*

A traffic operations analysis (analysis) for the SR 4 / SR 160 Interchange ramps project was prepared by Fehr & Peers in March 2011. The analysis forecasts traffic volumes for the freeway segments and ramps for the years 2015 and 2035. The analysis focuses on the freeway mainline and ramp merge/diverge sections that would be affected by the new SR 4 / SR 160 Interchange project. The traffic operations analysis is provided as **Appendix F**.

Existing Conditions

The existing traffic volumes and current operations of the freeway in the study area were documented in the technical memorandum, *SR 4 Bypass – SR 160 Connector Ramps Evaluation, Existing Conditions*, dated August 13, 2010. As described in that memo, all of the freeway mainline and ramp junctions that are part of the traffic operations analysis currently operate at LOS D or better.

2015 Conditions

The traffic operations analysis forecasts AM and PM peak hour mainline and ramp volumes under 2015 Without Ramps and 2015 With Ramps conditions, respectively. The analysis concludes that all study freeway sections and ramp junctions will operate at acceptable levels in 2015. All the study segments are found to operate at LOS B or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a very small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario, indicating that the addition of the connector ramps will not adversely affect the operations of the adjacent freeway segments.

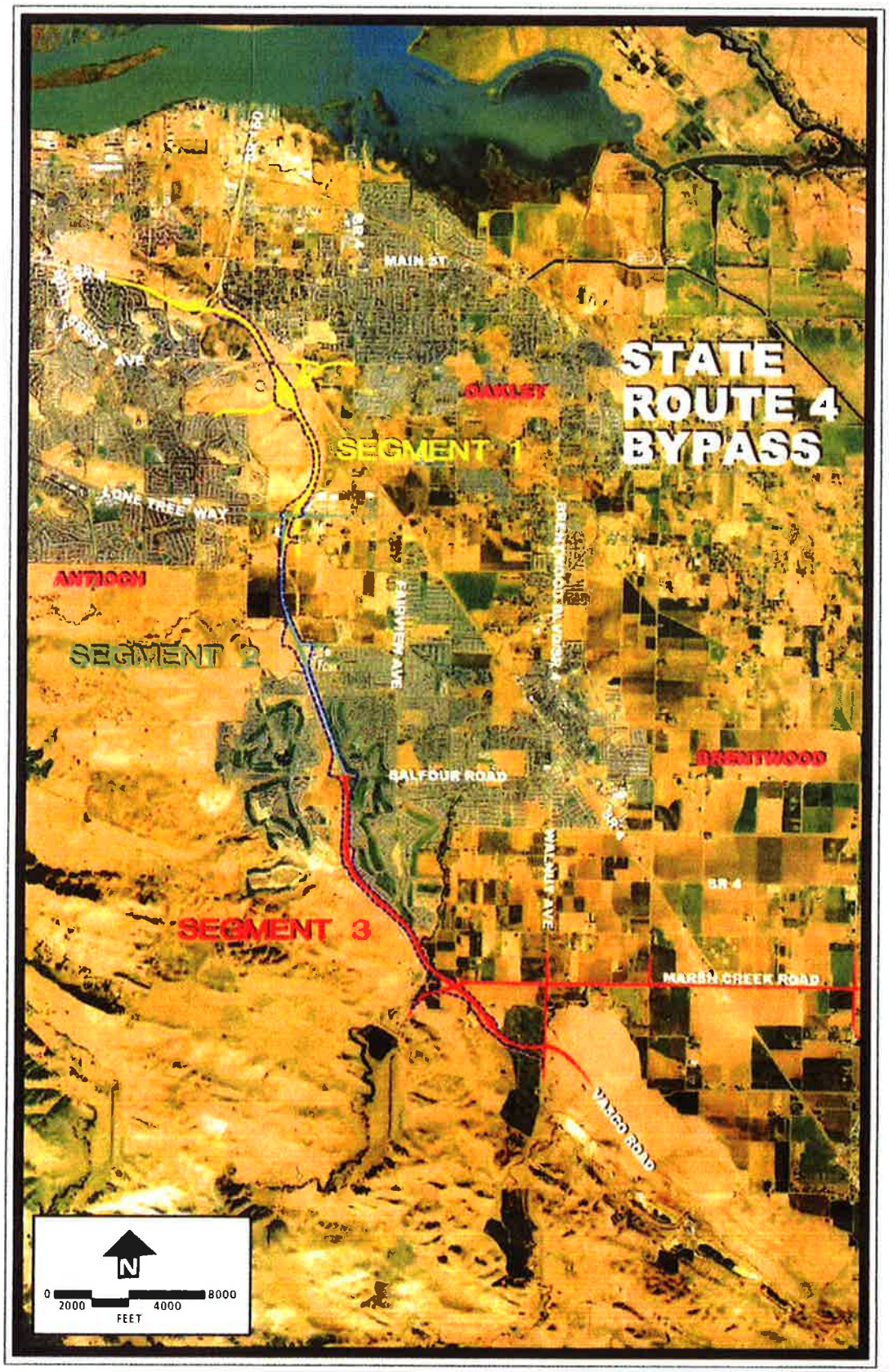
2035 Conditions

The traffic operations analysis forecasts AM and PM peak hour mainline and ramp volumes under 2035 Without Ramps and 2035 With Ramps conditions, respectively. The analysis concludes that all the study segments will operate at LOS D or better, under both the With Ramps and Without Ramps scenarios. The addition of the connector ramps produces a relatively small increase in estimated vehicle density on some study segments as compared to the Without Ramps scenario. The largest effect is on the SR 4 Bypass segment north of the Laurel Road interchange, but even on that segment the change in density is approximately three or four vehicles per lane per mile, and it does not cause a change in LOS. These results indicate that the addition of the connector ramps will not adversely affect the operations of the adjacent freeway segments.

G. Conclusion

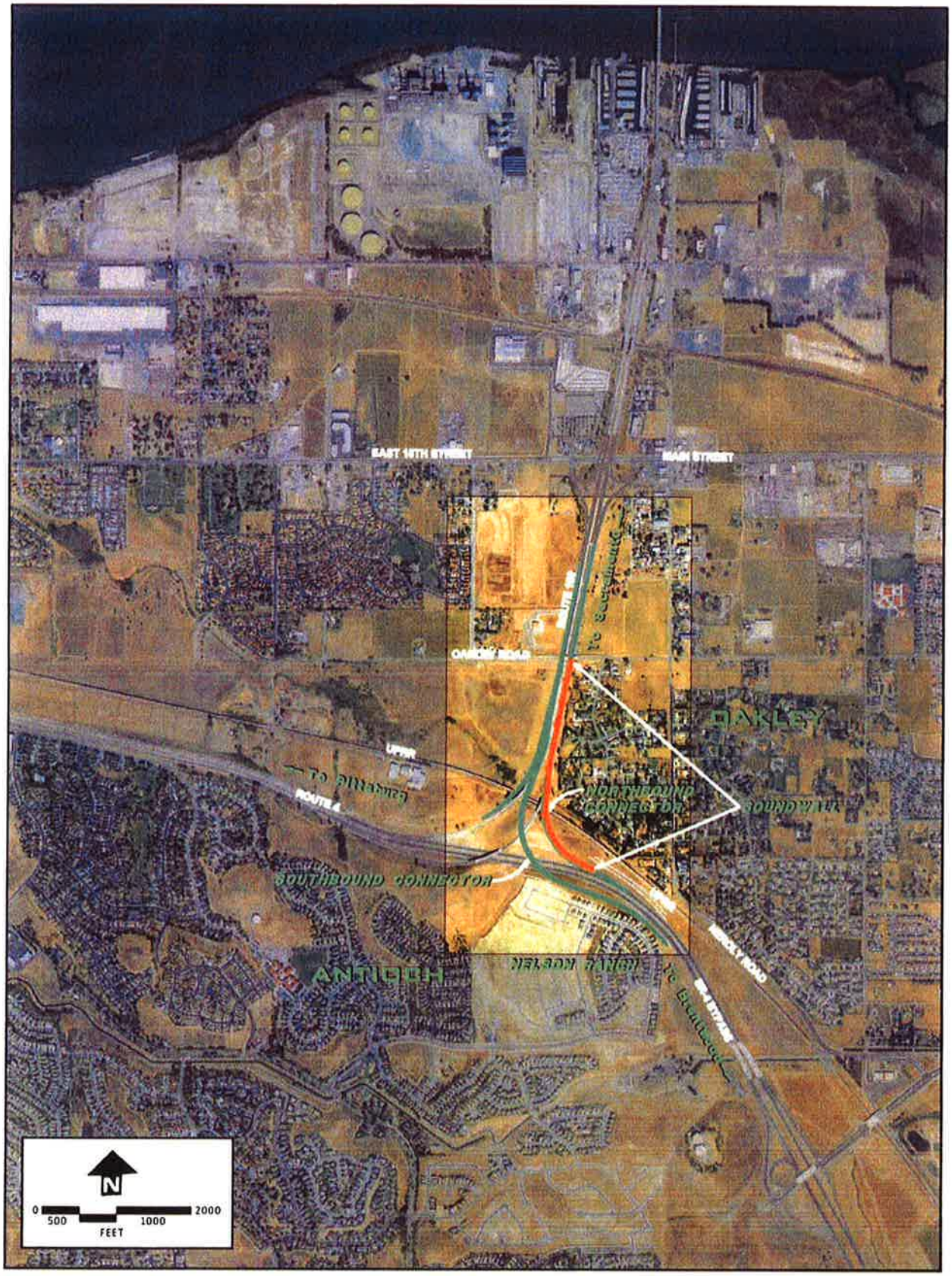
Construction of the SR 4 / SR 160 Interchange ramps project would not result in any new significant environmental effects or substantially increase any previously identified significant effects.

None of the conditions described in §15162 of the State CEQA Guidelines requiring for the preparation of a subsequent EIR have occurred. Therefore, this Addendum to the EIR is an appropriate level of environmental review for the construction of the SR 4 / SR 160 connector ramps, as identified in §15164 of the State CEQA Guidelines.



State Route 4 Bypass Project Figure 1

Source: Mark Thomas & Company, Inc., 2004,

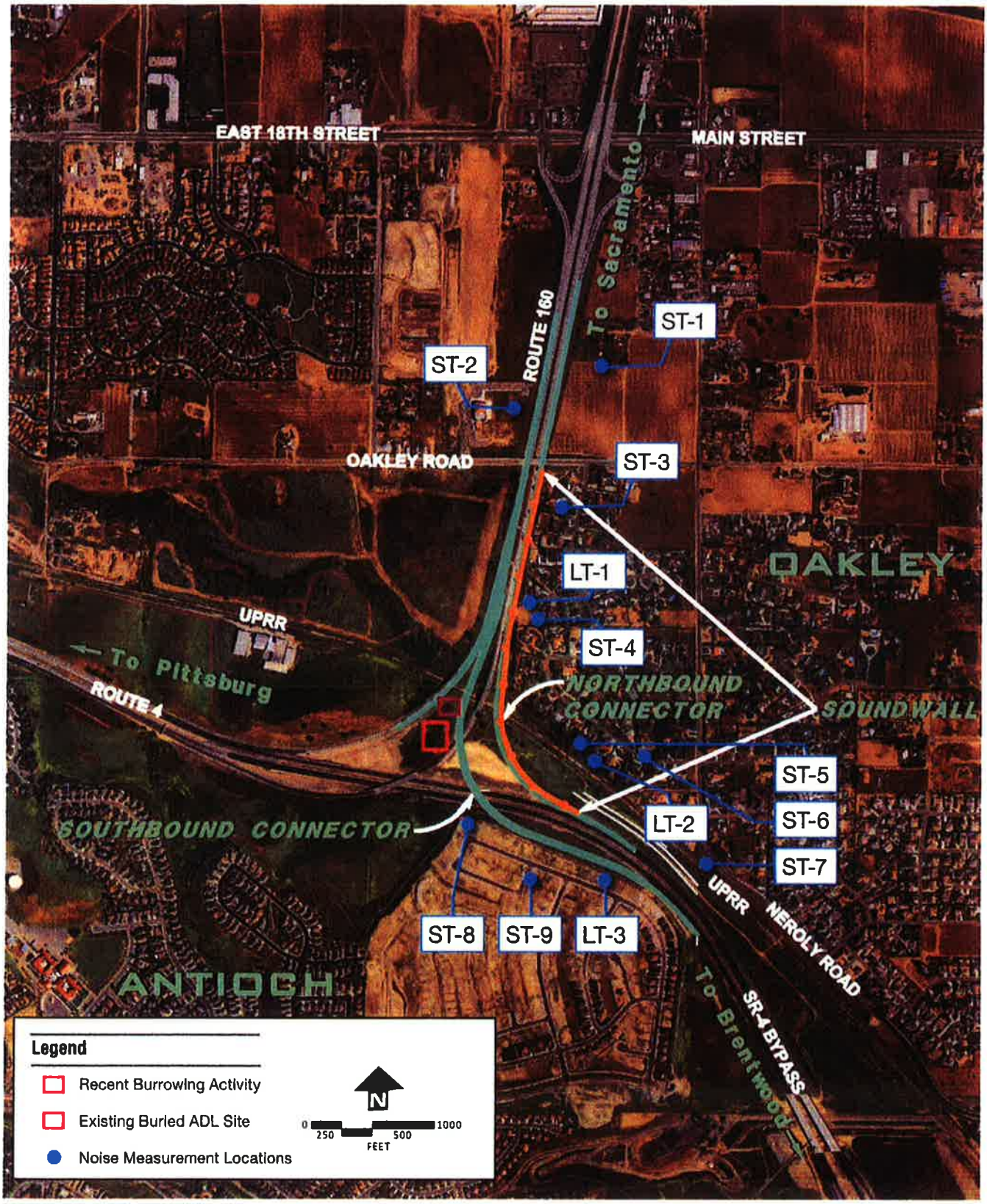


Location Map Figure 2

Source: Mark Thomas & Company, Inc., 2010.

Project Plan Figure 3

Source: Mark Thomas & Company, Inc., 2010.



Biological Resources, Noise, Hazardous Materials Figure 4

Source: Mark Thomas & Company, Inc., 2010.