

**PARTICIPATING SPECIAL ENTITY AGREEMENT**

**Between**

**THE EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY  
and the  
CONTRA COSTA TRANSPORTATION AUTHORITY**

**1.0 PARTIES**

This Agreement is made and entered into by the East Contra Costa County Habitat Conservancy (“Conservancy”) and Contra Costa Transportation Authority (“Participating Special Entity” or “PSE”) as of the Effective Date.

**2.0 RECITALS**

The Parties have entered into this Agreement in consideration of the following facts:

- 2.1** The East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (“HCP/NCCP,” or “Plan”) is intended to provide a comprehensive framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for certain projects that would cause impacts on endangered and threatened species. The primary policy priority of the Plan is to provide comprehensive species, wetlands, and ecosystem conservation and contribute to recovery of endangered and threatened species within East Contra Costa County while balancing open space, habitat, agriculture, and urban development. To that end, the Plan describes how to avoid, minimize, and mitigate, to the maximum extent practicable, impacts on Covered Species and their habitats while allowing for certain development and other activities in selected regions of the County and the Cities of Pittsburg, Clayton, Oakley, and Brentwood.
- 2.2** The Conservancy is a joint powers authority formed by its members, the County of Contra Costa (“County”), the City of Pittsburg (“Pittsburg”), the City of Clayton (“Clayton”), the City of Oakley (“Oakley”) and the City of Brentwood (“Brentwood”), to implement the HCP/NCCP.
- 2.3** The HCP/NCCP covers approximately one-third of the County, or 174,082 acres, all in East Contra Costa County, in which impacts from certain development and other activities are evaluated, and in which conservation will occur.
- 2.4** The area covered by the HCP/NCCP has been determined to provide, or potentially provide, habitat for twenty-eight (28) species that are listed as endangered or threatened, that could in the future be listed as endangered

or threatened, or that have some other special status under federal or state laws.

- 2.5 The Conservancy has received authorization from the United States Fish and Wildlife Service (“USFWS”) under incidental take permit TE 160958-0, and the California Department of Fish and Game (“CDFG”), under incidental take permit 2835-2007-01-03, for the Take of the twenty-eight (28) special-status species and certain other species, as take is defined respectively under federal and state law, while carrying out certain development and other activities.
- 2.6 The Conservancy may enter into agreements with participating special entities that allow certain activities of theirs to be covered by the Federal Permit and the State Permit, subject to the conditions in the Implementing Agreement (“IA”), the HCP/NCCP and the Permits.
- 2.7 PSE is responsible for the SR160/SR4 Bypass Phase 2 Connectors Project and seeks extension of the Conservancy’s permit coverage for the construction of the northbound and southbound connector ramps between the State Route 160 and State Route 4 Bypass, as further described in Exhibit 1.
- 2.8 The Conservancy has concluded, based on the terms of this Agreement and the application submitted by PSE (the “Application”), that PSE has provided adequate assurances that it will comply with all applicable terms and conditions of the IA, the HCP/NCCP, and the Permits. The Application is attached hereto as Exhibit 1 and is hereby incorporated into this Agreement by reference.

### **3.0 DEFINITIONS**

The following terms as used in this Agreement will have the meanings set forth below. Terms specifically defined in FESA, CESA or NCCPA or the regulations adopted by USFWS and CDFG under those statutes shall have the same meaning when used in this Agreement. Definitions used in this Agreement may elaborate on, but are not intended to conflict with, such statutory or regulatory definitions.

- 3.1 **“Application”** means the application submitted by the PSE in accordance with Chapter 8.4 of the HCP/NCCP, and which is attached hereto as Exhibit 1. The Application contains a cover sheet, the results of required planning surveys and the avoidance, minimization and mitigation measures that will be a condition of the PSE using Conservancy’s Permits.
- 3.2 **“Authorized Take”** means the extent of incidental Take of Covered Species authorized by the USFWS in the Federal Permit issued to the Conservancy pursuant to Section 10(a)(1)(B) of FESA, and the extent of Take of Covered Species authorized by CDFG in the State Permit issued to the Conservancy pursuant to California Fish and Game Code section 2835.

- 3.3** “**CDFG**” means the California Department of Fish and Game, a department of the California Resources Agency.
- 3.4** “**CESA**” means the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.
- 3.5** “**Changed Circumstances**” means changes in circumstances affecting a Covered Species or the geographic area covered by the HCP/NCCP that can reasonably be anticipated by the Parties and that can reasonably be planned for in the HCP/NCCP. Changed Circumstances and planned responses to Changed Circumstances are more particularly defined in Section 12.2 of the IA and Chapter 10.2.1 of the HCP/NCCP. Changed Circumstances do not include Unforeseen Circumstances.
- 3.6** “**Covered Activities**” means those land uses and conservation and other activities described in Chapter 2.3 of the HCP/NCCP to be carried out by the Conservancy or its agents that may result in Authorized Take of Covered Species during the term of the HCP/NCCP, and that are otherwise lawful.
- 3.7** “**Covered Species**” means the species, listed and non-listed, whose conservation and management are provided for by the HCP/NCCP and for which limited Take is authorized by the Wildlife Agencies pursuant to the Permits. The Take of Fully Protected Species is not allowed. The Take of extremely rare plants that are Covered Species is allowed only as described in Section 6.0 and the IA.
- 3.8** “**Effective Date**” means the date when this Agreement is fully executed.
- 3.9** “**Federal Listed Species**” means the Covered Species which are listed as threatened or endangered species under FESA as of the Effective Date, and the Covered Species which are listed as threatened or endangered pursuant to FESA during the term of the HCP/NCCP as of the date of such listing.
- 3.10** “**Federal Permit**” means the federal incidental Take permit issued by USFWS to the Conservancy and other local agencies pursuant to Section 10(a)(1)(B) of FESA (permit number TE 160958-0), as it may be amended from time to time.
- 3.11** “**FESA**” means the Federal Endangered Species Act of 1973, as amended (16 U.S.C § 1531 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.
- 3.12** “**Fully Protected Species**” means any species identified in California Fish and Game Code sections 3511, 4700, 4800, 5050 or 5515 that occur within the Plan Area.
- 3.13** “**HCP/NCCP**” or “**Plan**” means the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan.

- 3.14 “Implementing Agreement”** or **“IA”** means the “Implementing Agreement for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan,” dated January 22, 2007.
- 3.15 “Jurisdictional Wetlands and Waters”** means State and federally regulated wetlands and other water bodies that cannot be filled or altered without permits from either the U.S. Army Corps of Engineers under section 404 of the Clean Water Act or, from the State Water Resources Control Boards under either section 401 of the Clean Water Act or the Porter-Cologne Water Quality Act, or CDFG under section 1602 of the Fish and Game Code, as further explained in Chapter 1.3.5 of the HCP/NCCP.
- 3.16 “Listed Species”** means a species (including a subspecies, or a distinct population segment of a vertebrate species) that is listed as endangered or threatened under FESA or CESA.
- 3.17 “NCCPA”** means the Natural Community Conservation Planning Act (Fish & G. Code, § 2800 et seq.) and all rules, regulations and guidelines promulgated pursuant to that Act.
- 3.18 “Non-listed Species”** means a species (including a subspecies, or a distinct population segment of a vertebrate species) that is not listed as endangered or threatened under FESA or CESA.
- 3.19 “Party”** or **“Parties”** means any or all of the signatories to this Agreement.
- 3.20 “Permit Area”** means the area within the Plan Area where the Conservancy has received authorization from the Wildlife Agencies for the Authorized Take of Covered Species while carrying out Covered Activities.
- 3.21 “Permits”** means the Federal Permit and the State Permit.
- 3.22 “Plan Area”** means the geographic area analyzed in the HCP/NCCP, located in the eastern portion of Contra Costa County, as depicted in Figure 1-1 of the HCP/NCCP. The Plan Area is further described in detail in Chapter 1.2.1 of the HCP/NCCP. The Plan Area is also referred to as the “Inventory Area” in the HCP/NCCP.
- 3.23 “Preserve System”** means the land acquired and dedicated in perpetuity through either a fee interest or conservation easement intended to meet the preservation, conservation, enhancement and restoration objectives of the HCP/NCCP.
- 3.24 “Project”** means the SR160/SR4 Bypass Phase 2 Connectors Project, as described in Section 2.7.
- 3.25 “State Permit”** means the state Take permit issued to the Conservancy and other local agencies pursuant to Section 2835 of the California Fish and Game Code (permit number 2835-2007-01-03), as it may be amended from time to time.

- 3.26** “Take” has the same meaning provided by FESA and its implementing regulations with regard to activities subject to FESA, and also has the same meaning provided in the California Fish and Game Code with regard to activities subject to CESA and NCCPA.
- 3.27** “Unforeseen Circumstances” under the Federal Permit means changes in circumstances affecting a Covered Species or geographic area covered by the HCP/NCCP that could not reasonably have been anticipated by the Plan developers and USFWS at the time of the Plan’s negotiation and development, and that result in a substantial and adverse change in the status of a Covered Species. “Unforeseen Circumstances” under the State Permit means changes affecting one or more species, habitat, natural community, or the geographic area covered by the Plan that could not reasonably have been anticipated at the time of Plan development, and that result in a substantial adverse change in the status of one or more Covered Species.
- 3.28** “USFWS” means the United States Fish and Wildlife Service, an agency of the United States Department of Interior.
- 3.29** “Wildlife Agencies” means USFWS and CDFG.

#### **4.0** **PURPOSES**

This Agreement defines the Parties’ roles and responsibilities and provides a common understanding of actions that will be undertaken to avoid, minimize and mitigate the effects on the Covered Species caused by the Project, and to provide for the conservation of the Covered Species within the Plan Area. The purposes of this Agreement are to ensure implementation of each of the terms and conditions of this Agreement, and the relevant terms of the IA, the HCP/NCCP, and the Permits, and to describe remedies and recourse should either Party fail to perform its obligations as set forth in this Agreement.

#### **5.0** **AVOIDANCE, MINIMIZATION AND MITIGATION OF IMPACTS**

##### **5.1** **General Framework**

As required by FESA and NCCPA, the HCP/NCCP includes measures to avoid and minimize take of Covered Species and to conserve natural communities and Covered Species at the landscape-, habitat- and species-level. Chapter 6 of the HCP/NCCP provides further instructions to determine which avoidance and minimization measures are applicable to particular Covered Activities. PSE shall implement all applicable avoidance and minimization measures as required by the HCP/NCCP, including but not limited to those identified in Chapter 6, as described in the Application and this Agreement.

##### **5.2** **Surveys and Avoidance Measures**

Planning surveys are required prior to carrying out any Covered Activity for which a fee is collected or land in lieu of a fee is provided. PSE has submitted a planning survey

report for approval by the Conservancy in accordance with Chapter 6.2.1 of the HCP/NCCP. This planning survey report is contained within the Application, which describes the results of the planning survey and describes in detail the pre-construction surveys, construction monitoring, avoidance measures and mitigation measures that apply to the Project and shall be performed by PSE. Based on the Application, the Conservancy has determined that PSE will implement and comply with all applicable preconstruction surveys and construction monitoring requirements described in Chapters 6.2.2 and 6.2.3 of the HCP/NCCP.

### **5.3 No Take of Extremely Rare Plants or Fully Protected Species**

Nothing in this Agreement, the HCP/NCCP or the Permits shall be construed to allow the Take of extremely rare plant species listed in Table 6-5 of the HCP/NCCP (“No-Take Plant Population”) or any Fully Protected Species under California Fish and Game Code sections 3511, 4700, 4800, 5050 or 5515. PSE shall avoid Take of these species.

#### **5.3.1 Golden Eagle**

The Permits do not authorize Take of the golden eagle and PSE shall avoid Take of any golden eagle. The avoidance measures set forth in the HCP/PCCP, including but not limited to Conservation Measure 1.11, should be adequate to prevent Take of golden eagles, but the Conservancy shall notify PSE in writing of any additional or different conservation measures that are designed to avoid Take of these species and that apply to PSE. PSE shall implement all such avoidance measures to avoid Take of golden eagles.

### **5.4 Fees and Dedications**

As set forth in the Application, PSE agrees to pay the Conservancy a one-time payment of \$299,589.08, which amount includes all HCP/NCCP mitigation fees necessary for the Project. The overall payment amount is the sum of the following:

Development Fee: \$295,115.64

Temporary Impact Fee: \$4,473.44

The payment must be paid in full before any ground-disturbance associated with the Project occurs. Notwithstanding the above, the Parties acknowledge that the Conservancy adjusts its fee schedule annually on March 15 of each year in accordance with the fee adjustment provisions of Chapter 9.3.1 of the HCP/NCCP. If the PSE pays before March 15, 2014 and construction of the Project commences before March 15, 2014, the amount due will be as stated above. If PSE pays on or after March 15, 2014 or construction of the Project does not commence before March 15, 2014, the amount due will be subject to annual fee adjustments for all fees, and subject to annual adjustments of the Contribution to Recovery based on the formula set forth in Chapter 9.3.1 for the HCP/NCCP wetland mitigation fee. Based on these adjustments, if PSE pays before March 15 of any year, but construction does not commence before March 15 of that year, PSE will either be required to submit an additional payment for any increases or be entitled to a refund without interest for any decreases.

## **6.0 TAKE AUTHORIZATION**

### **6.1 Extension of Take Authorization to PSE**

As provided in Chapter 8.4 of the HCP/NCCP, after receipt of the Wildlife Agencies' written concurrence that the Proposed Activity complies with the HCP/NCCP, the Permits and the IA, and after execution of this Agreement, payment of, compliance with the California Environmental Quality Act (Public Resources Code section 21000, et seq.) ("CEQA"), the Conservancy shall issue a Certificate of Inclusion to PSE that specifically describes the Authorized Take and required conservation measures and extends Take authorization under the Permits to PSE. PSE is ultimately responsible for compliance with all applicable terms and conditions of this Agreement, the IA, the HCP/NCCP and the Permits.

#### **6.1.1 Compliance with the California Environmental Quality Act**

The Conservancy's issuance of a Certificate of Inclusion to the PSE is a public agency action that must comply with CEQA. As further described below, the SR160/SR4 Bypass Phase II Connectors project was analyzed in a certified CEQA document; minor changes to the project have been reviewed and addressed in CEQA Addenda.

For purposes of the Project, the PSE is the CEQA lead agency. The predecessor agency (the State Route 4 Bypass Authority) certified an EIR for the entire SR 4 Bypass Project in 1994 (State Clearinghouse Number 89032824). This EIR included the SR160/SR4 Bypass Phase II Connectors Project that is the subject of this Agreement. Subsequent to certification of the EIR, the State Route 4 Bypass Authority and the Contra Costa Transportation Authority have adopted a CEQA Addendum (Addendum #9), finding that minor changes to the project would not result in any new or worsened conditions. In consultation and coordination with Caltrans, Contra Costa Transportation Authority is as of March 2013 preparing another CEQA Addendum (known as a CEQA Revalidation). The minor refinements that are the subject of this 2013 Revalidation are encompassed in the accompanying Application. The PSE anticipates completion of the Revalidation by May 2013. The Conservancy is a CEQA responsible agency for purposes of the Project and, as such, will rely on the previous environmental documents cited above prepared by the State Route 4 Bypass Authority and the Contra Costa Transportation Authority for purposes of fulfilling its responsibilities under CEQA.

### **6.2 Duration of Take Authorization**

Once the Take authorization has been extended to the Project, it shall remain in effect for a period of fifteen (15) years, unless and until the Permits are revoked by USFWS or CDFG, in which case the Take authorization may also be suspended or terminated.

### **6.3 Section 7 Consultations with USFWS**

Nothing in this Agreement is intended to alter the obligation of a federal agency to consult with USFWS pursuant to Section 7 of FESA (16 U.S.C. §1536(a)). The PSE acknowledges that, if the Proposed Activities are authorized, funded, or carried out by a federal agency, the federal agency and the Proposed Activities must also comply with

Section 7. As provided in Section 16.1 of the IA, USFWS has made a commitment that, unless otherwise required by law or regulation, it will not require any measures under Section 7 that are inconsistent with or exceed the requirements of the HCP/NCCP and the Permits for activities covered by the HCP/NCCP and the Permits.

Portions of the Project overlap with the previously constructed Segment 1 of the State Route 4 Bypass Project and effects of the action on special status species was addressed in a 2004 Biological Opinion issued by the USFWS for that project. In compliance with certain mitigation requirements of the 2004 Biological Opinion, the State Route 4 Bypass Authority made a payment of \$1,140,000 to the County for habitat acquisition through the HCP/NCCP once approved. This amount was based on an estimated impact acreage of 88.8 acres. Following significant research by the Conservancy, CCTA and USFWS, it was not possible to determine the precise location of the 88.8 acres of impact associated with the Segment 1 State Route 4 Bypass Project. Accordingly, the Conservancy and CCTA relied upon visual evidence of construction disturbance on the site to estimate which areas were disturbed and presumably mitigated for by Segment 1 of the State Route 4 Bypass Project. Areas that did not appear to be disturbed were determined to be subject to HCP/NCCP mitigation fees.

The Project is not otherwise authorized, funded, or carried out by a federal agency and therefore the PSE is not required to comply with Section 7 of FESA with regard to the Project.

## **7.0 RIGHTS AND OBLIGATIONS OF PSE**

### **7.1 Rights**

Upon the Conservancy's issuance of a Certificate of Inclusion to PSE, PSE may Take the Covered Species while carrying out the Project in the Permit Area, as further authorized by and subject to the conditions of this Agreement, the IA, the HCP/NCCP, and the Permits. The authority issued to PSE applies to all of its elected officials, officers, directors, employees, agents, subsidiaries, contractors, and subcontractors, and their officers, directors, employees and agents to the extent that they participate in the implementation of the Project. PSE shall periodically conduct an educational program to fully inform all such persons and entities of the terms and conditions of the Permits, and PSE shall be responsible for supervising their compliance with those terms and conditions. All contracts between PSE and such persons and entities shall require their compliance with the Permits.

### **7.2 General Obligations**

The PSE will fully and faithfully perform all obligations assigned to it under this Agreement, the IA, the HCP/NCCP, the Permits, including but not limited to the obligations assigned in the following chapters of the HCP/NCCP: Chapter 6.0 (Conditions on Covered Activities), Chapter 8.4 (Participating Special Entities), and Chapter 9.0 (Funding). PSE shall implement all measures and adhere to all standards included in the Application, and PSE shall reserve funding sufficient to fulfill its obligations under this Agreement, the IA, the HCP/NCCP and the Permits throughout the

term of this Agreement. PSE will promptly notify the Conservancy of any material change in its financial ability to fulfill its obligations under this Agreement.

### **7.3 Obligations In The Event of Suspension or Revocation**

In the event that USFWS and/or CDFG suspend or revoke the Permits pursuant to Sections 19.0 and 21.0 of the IA, PSE will remain obligated to fulfill its mitigation, enforcement, management, and monitoring obligations, and its other HCP/NCCP obligations, in accordance with this Agreement and applicable statutory and regulatory requirements for all impacts resulting from implementation of the Project prior to the suspension or revocation.

### **7.4 Interim Obligations upon a Finding of Unforeseen Circumstances**

If the Wildlife Agencies make a finding of Unforeseen Circumstances with regard to a Federal Listed Covered Species, during the period necessary to determine the nature and location of additional or modified mitigation, PSE will avoid contributing to an appreciable reduction in the likelihood of the survival and recovery of the affected species. As described in Section 15.2.2 and Section 15.3.2 of the IA, the Wildlife Agencies shall be responsible for implementing such additional measures or modifications, unless PSE consents to do so.

### **7.5 Obligations In The Event Of Changed Circumstances**

Changed Circumstances, as described in 50 Code of Federal Regulations section 17.22(b)(5)(i), are adequately addressed in Chapter 7 and Chapter 10 of the HCP/NCCP, and PSE shall implement any measures for such circumstances as called for in the HCP/NCCP, as described in Section 12.2 of the IA.

### **7.6 Obligation to Compensate Conservancy for Administrative Costs**

PSE shall compensate the Conservancy for its direct costs associated with this Agreement, including but not limited to, staff, consultant and legal costs incurred as a result of the review of the Application, drafting and negotiating this Agreement, monitoring and enforcement of this Agreement, and meetings and communications with PSE (collectively, Conservancy's "Administrative Costs"). Conservancy's Administrative Costs shall not exceed \$20,000 in the aggregate. Conservancy shall provide PSE with invoices detailing its Administrative Costs monthly or quarterly, at Conservancy's discretion. PSE shall remit payment of each invoice within thirty (30) days of receiving it.

This provision is not intended to, and shall not be construed to, limit PSE's duty to indemnify the Conservancy as provided in Section 7.7 of this Agreement.

### **7.7 Indemnification**

PSE agrees to defend, indemnify, and hold harmless the Conservancy and its board members, officers, contractors, consultants, attorneys, employees and agents from any and all claim(s), action(s), or proceeding(s) (collectively referred to as "Proceedings") brought against Conservancy or its board members, officers, contractors, consultants, attorneys, employees, or agents arising out of or resulting from any of the following.

- Decisions or actions of the Conservancy related to the Project, this PSE Agreement, or compliance with the California Environmental Quality Act of 1970, as amended (“CEQA”) with regard to the Project; and
- The negligence, recklessness, or intentional misconduct of any representative, employee, or agent of PSE.

Notwithstanding the above, (i) PSE shall have no duty to defend, indemnify, or hold harmless the Conservancy to the extent damages are sought in a tort claim arising out of or resulting from the individual negligence, recklessness, or intentional misconduct of any representative, employee, or agent of the Conservancy and (ii) the indemnification obligations set forth above shall in no way limit the rights and remedies of PSE with respect to any breach of the terms and conditions of this PSE Agreement by the Conservancy.

PSE’s duty to indemnify the Conservancy includes, but is not limited to, damages, fees and/or costs awarded against or incurred by Conservancy, if any, and costs of suit, claim or litigation, including without limitation attorneys’ fees and other costs, liabilities and expenses incurred in connection with any Proceedings.

#### **7.7.1 Enforcement of Indemnification Provision**

PSE agrees to indemnify Conservancy for all of Conservancy’s costs, fees, and damages incurred in enforcing the indemnification provisions of this Agreement.

#### **7.7.2 Compliance Costs**

PSE agrees to defend, indemnify and hold harmless Conservancy, its officers, contractors, consultants, attorneys, employees and agents from and for all costs and fees incurred in additional investigation or study of, or for supplementing, redrafting, revising, or amending, any document (such as this Agreement or any document required for purposes of compliance with CEQA) if made necessary by any Proceedings.

#### **7.7.3 Obligations in the Event of Litigation**

In the event that PSE is required to defend Conservancy in connection with any Proceedings, Conservancy shall have and retain the right to approve, which approval shall not be withheld unreasonably:

- the counsel to so defend Conservancy;
- all significant decisions concerning the manner in which the defense is conducted; and
- any and all settlements.

Conservancy shall also have and retain the right to decline to participate in the defense, except that Conservancy agrees to reasonably cooperate with PSE in the defense of the Proceedings. If Conservancy participates in the defense, all Conservancy fees and costs shall be paid by PSE.

PSE’s defense and indemnification of Conservancy set forth herein shall remain in full force and effect throughout all stages of litigation including any and all appeals of any lower court judgments rendered in the Proceedings.

## **8.0 REMEDIES AND ENFORCEMENT**

If PSE fails to comply with the terms of this Agreement, the IA, the HCP/NCCP, or the Permits, the Conservancy may withdraw the Certificate of Inclusion and terminate any Take authorization extended to PSE. The Conservancy shall also have all of the remedies available in equity (including specific performance and injunctive relief) and at law to enforce the terms of this Agreement, the IA, the HCP/NCCP and the Permits, and to seek redress and compensation for any breach or violation thereof. The Parties acknowledge that the Covered Species are unique and that their loss as species would be irreparable

and that therefore injunctive and temporary relief may be appropriate in certain instances involving a breach of this Agreement.

## **9.0 FORCE MAJEURE**

In the event that a Party is wholly or partially prevented from performing obligations under this Agreement because of unforeseeable causes beyond the reasonable control of and without the fault or negligence of Party (“Force Majeure”), including, but not limited to, acts of God, labor disputes, sudden actions of the elements not identified as Changed Circumstances, or actions of non-participating federal or state agencies or local jurisdictions, the Party shall be excused from whatever performance is affected by such unforeseeable cause to the extent so affected, and such failure to perform shall not be considered a material violation or breach, provided that nothing in this section shall be deemed to authorize either Party to violate FESA, CESA or NCCPA, and provided further that:

- The suspension of performance is of no greater scope and no longer duration than is required by the Force Majeure;
- Within seven (7) days after the occurrence of the Force Majeure, the Party invoking this section shall give the other Party written notice describing the particulars of the occurrence;
- The Party shall use best efforts to remedy its inability to perform (however, this paragraph shall not require the settlement of any strike, walk-out, lock-out or other labor dispute on terms which in the sole judgment of the Party is contrary to its interest); and
- When the Party is able to resume performance of their obligations, it shall give the other Party written notice to that effect.

## **10.0 MISCELLANEOUS PROVISIONS**

### **10.1 Calendar Days**

Throughout this Agreement and the HCP/NCCP, the use of the term “day” or “days” means calendar days, unless otherwise specified.

## **10.2 Notices**

Any notice permitted or required by this Agreement shall be in writing, and delivered personally, by overnight mail, or by United States mail, certified and postage prepaid, return receipt requested. Notices may be delivered by facsimile or electronic mail, provided they are also delivered by one of the means listed above. Delivery shall be to the name and address of the individual responsible for each of the Parties, as follows:

John Kopchik  
East Contra Costa County Habitat Conservancy  
c/o Contra Costa County Department of Conservation and Development  
30 Muir Road  
Martinez, CA 94553  
Phone: (925) 674-7819  
Email: john.kopchik@dcd.cccounty.us

Ross A. Chittenden  
Deputy Executive Director, Projects  
Contra Costa Transportation Authority  
2999 Oak Road, Suite 100  
Walnut Creek, CA 94597  
Phone: (925) 256-4735  
Email: rchittenden@ccta.net

Notices shall be transmitted so that they are received within the specified deadlines. Notices delivered personally shall be deemed received on the date they are delivered. Notices delivered via overnight delivery shall be deemed received on the next business day after deposit with the overnight mail delivery service. Notice delivered via certified mail, return receipt requested, shall be deemed received as of the date on the return receipt or five (5) days after deposit in the United States mail, whichever is sooner. Notices delivered by facsimile or other electronic means shall be deemed received on the date they are received.

## **10.3 Entire Agreement**

This Agreement, together with the IA, the HCP/NCCP and the Permits, constitutes the entire agreement among the Parties. This Agreement supersedes any and all other agreements, either oral or in writing, between the Parties with respect to the subject matter hereof and contains all of the covenants and agreements among them with respect to said matters, and each Party acknowledges that no representation, inducement, promise of agreement, oral or otherwise, has been made by any other Party or anyone acting on behalf of any other Party that is not embodied herein.

#### **10.4 Amendment**

This Agreement may only be amended with the written consent of both Parties.

#### **10.5 Attorneys' Fees**

If any action at law or equity, including any action for declaratory relief is brought to enforce or interpret the provisions of this Agreement, the prevailing Party shall be able to recover its attorneys' fees and costs.

#### **10.6 Governing Law**

This Agreement shall be governed by and construed in accordance with the laws of the United States and the State of California, as applicable.

#### **10.7 Duplicate Originals**

This Agreement may be executed in any number of duplicate originals. A complete original of this Agreement shall be maintained in the official records of each of the Parties hereto.

#### **10.8 Relationship to the FESA, CESA, NCCPA and Other Authorities**

The terms of this Agreement are consistent with and shall be governed by and construed in accordance with FESA, CESA, NCCPA and other applicable state and federal law.

#### **10.9 No Third Party Beneficiaries**

Without limiting the applicability of rights granted to the public pursuant to FESA, CESA, NCCPA or other applicable law, this Agreement shall not create any right or interest in the public, or any member thereof, as a third party beneficiary thereof, nor shall it authorize anyone not a Party to this Agreement to maintain a suit for personal injuries or property damages under the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third party beneficiaries shall remain as imposed under existing state and federal law.

#### **10.10 References to Regulations**

Any reference in this Agreement, the IA, the HCP/NCCP, or the Permits to any regulation or rule of the Wildlife Agencies shall be deemed to be a reference to such regulation or rule in existence at the time an action is taken.

#### **10.11 Applicable Laws**

All activities undertaken pursuant to this Agreement, the IA, the HCP/NCCP, or the Permits must be in compliance with all applicable local, state and federal laws and regulations.

#### **10.12 Severability**

In the event one or more of the provisions contained in this Agreement is held invalid, illegal or unenforceable by any court of competent jurisdiction, such portion shall be deemed severed from this Agreement and the remaining parts of this Agreement shall remain in full force and effect as though such invalid, illegal, or unenforceable portion had never been a part of this Agreement.

**10.13 Due Authorization**

Each Party represents and warrants that (1) the execution and delivery of this Agreement has been duly authorized and approved by all requisite action, (2) no other authorization or approval, whether of governmental bodies or otherwise, will be necessary in order to enable it to enter into and comply with the terms of this Agreement, and (3) the person executing this Agreement on behalf of each Party has the authority to bind that Party.

**10.14 No Assignment**

The Parties shall not assign their rights or obligations under this Agreement, the Permits, or the HCP/NCCP to any other individual or entity.

**10.15 Headings**

Headings are using in this Agreement for convenience only and do not affect or define the Agreement's terms and conditions.

**IN WITNESS WHEREOF, THE PARTIES HERETO** have executed this Implementing Agreement to be in effect as of the date last signed below.

**EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY**

By: \_\_\_\_\_ DATE: \_\_\_\_\_  
**CATHERINE KUTSURIS, Secretary**

By: \_\_\_\_\_ DATE: \_\_\_\_\_  
**JOHN KOPCHIK, Executive Director**

**CONTRA COSTA TRANSPORTATION AUTHORITY**

By: \_\_\_\_\_ DATE: \_\_\_\_\_  
**JANET ABELSON, Chair**

Attest:

\_\_\_\_\_ DATE: \_\_\_\_\_  
**RANDELL H. IWASAKI, Executive Director**



East Contra Costa County  
Habitat Conservation Plan  
Natural Community  
Conservation Plan

City of Brentwood  
City of Clayton  
City of Oakley  
City of Pittsburg  
Contra Costa County  
ECCC Habitat Conservancy

Template prepared by the  
ECCC Habitat Conservancy

651 Pine Street, North Wing, 4th Floor  
Martinez, CA 94533-0095  
Phone: 925/335-1290  
Fax: 925/335-1299  
www.cocohcp.org

City/County of Contra Costa  
Application Form and Planning Survey Report  
to Comply with and Receive Permit Coverage under  
the East Contra Costa County  
Habitat Conservation Plan and Natural Community  
Conservation Plan

**Project Applicant Information:**

Project Name: SR 160/SR 4 Bypass Phase 2 Connectors  
Project Applicant's Company/Organization: Contra Costa Transportation Authority  
Contact's Name: Jack Hall P.E., Associate Engineer  
Contact's Phone: Phone: 925-256-4743 Fax:  
Contact's Email: jhall@ccta.net  
Mailing Address: 2999 Oak Road #100  
Walnut Creek, CA 94597

**Project Description:**

Lead Planner: Krystal Hinojosa, ECCC Habitat Conservancy (925-674-7818)  
Project Location: Intersection of SR 160 & SR 4 Bypass Road  
Project APN(s) #: N/A (State ROW)  
Number of Parcels/Units: N/A  
Size of Parcel(s): 30.68 acres  
Project Description/Purpose (Brief): Construct NB & SB Connectors between SR 160 and SR4 Bypass Road.

**Biologist Information:**

Biological/Environmental Firm: RCL Ecology  
Lead Contact: Randall Long  
Contact's Phone: 925-672-0563 Fax: 925-672-2559  
Contact's Email: rcliml@comcast.net  
Mailing Address: 329 Mt. Palomar Place Clayton, CA 94517

# East Contra Costa County HCP/NCCP Planning Survey Report for SR 160/SR 4 Bypass Phase 2 Connectors Contra Costa Transportation Authority

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## I. Project Overview

**Project proponent:** Contra Costa Transportation Authority

**Project Name:** SR 160/SR 4 Bypass Phase 2 Connectors Project

**Application Submittal Date:** Submitted March 15, 2013 and Updated on March 27, 2013

**Jurisdiction:**  Contra Costa County  Participating Special Entity<sup>1</sup>  
 City of Oakley  
 City of Pittsburg  
 City of Clayton  
 City of Brentwood

**Check appropriate Development Fee Zone(s):**  Zone I  Zone IV  
 Zone II  
 Zone III

See Figure 9-1 of the Final HCP/NCCP for a generalized development fee zone map. Detailed development fee zone maps by jurisdiction are available from the jurisdiction or at [www.cocohcp.org](http://www.cocohcp.org).

**Total Parcel Acreage:** 30.68 acres (including 9.94 acres of existing pavement)

**Acreage of land to be permanently disturbed<sup>2</sup>:** 18.01 acres

**Acreage of land to be temporarily disturbed<sup>3</sup>:** 2.73 acres (in median of highway)

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<sup>1</sup> *Participating Special Entities* are organizations not subject to the authority of a local jurisdiction. Such organizations may include school districts, water districts, irrigation districts, transportation agencies, local park districts, geologic hazard abatement districts, or other utilities or special districts that own land or provide public services.

<sup>2</sup> *Acreage of land permanently disturbed* is broadly defined in the HCP/NCCP to include all areas removed from an undeveloped or habitat-providing state and includes land in the same parcel or project that is not developed, graded, physically altered, or directly affected in any way but is isolated from natural areas by the covered activity. Unless such undeveloped land is dedicated to the Preserve System or is a deed-restricted creek setback, the development fee will apply. The development fees were calculated with the assumption that all undeveloped areas within a parcel (e.g., fragments of undisturbed open space within a residential development) would be charged a fee; the fee per acre would have been higher had this assumption not been made. See Chapter 9 of the HCP/NCCP for details.

<sup>3</sup> *Acreage of land temporarily disturbed* is broadly defined in the HCP/NCCP as any impact on vegetation or habitat that does not result in permanent habitat removal (i.e. vegetation can eventually recover).

# Project Description

**Concisely and completely describe the project and location.** Reference and attach a project vicinity map (Figure 1) and the project site plans (Figure 2a-g) for the proposed project. Include all activities proposed for site, including those disturbing ground (roads, bridges, outfalls, runoff treatment facilities, parks, trails, etc.) to ensure the entire project is covered by the HCP/NCCP permit. Also include proposed construction dates. Reference a City/County application number for the project where additional project details can be found.

**City/County Application Number:**

|     |
|-----|
| N/A |
|-----|

**Anticipated Construction Date:** September 2013

**Project Description:**

Beginning in the 1960s, Caltrans and Contra Costa County identified the general alignment of the State Route 4 Bypass. Originally proposed as the Delta Expressway, the State Route 4 Bypass Authority (Bypass Authority) began work in the 1980s in cooperation with Caltrans on alignment studies and an environmental impact report (EIR). The Bypass Authority certified an EIR for the SR 4 Bypass Project in 1994. Subsequent to the certification of the EIR, CCTA completed several addenda addressing minor project refinements of various subcomponents of the SR 4 Bypass project.

Caltrans approved a Project Study Report for the project in 1997. This report described interim (Phase I) and ultimate (Phase II) improvements to the SR 4/SR 160 interchange. Construction of Phase I of the SR 4 Bypass project was completed in 2008 and included Phase I of connectors - from southbound SR 160 to westbound SR 4 and from eastbound SR 4 to northbound SR 160. Phase II contemplated completion of the interchange – specifically, connectors linking 1) westbound SR 4 to northbound SR 160 and 2) southbound SR 160 to eastbound SR 4. CCTA and Caltrans are now proposing to construct the Phase II connectors.

Primary components of the Phase II connectors project (project) include construction of the additional lanes, widening of existing roadway to accommodate auxiliary lanes, construction of a new bridge over the SR 4 Bypass, a new bridge over the existing SR 4-SR 160 connector, and a new bridge over the Union Pacific Railroad (UPRR) right of way. Additional components consist of installation of bioswales in the median, removal of a portion of the existing sound wall to accommodate construction along the east side of the SR 4 Bypass and then replacing that portion and extending the wall north along SR 160 to Oakley Road, and installation of retaining walls at the edge of the Oakley Road Bridge in order to accommodate construction of auxiliary lanes (see **Figure 2a-g**). The project will involve permanent impacts for placement of new roadway as well as temporary impacts for grading of grassy side slopes and median. Further discussion of these components follows below.

**Westbound SR 4 to Northbound SR 160 Connector**

The north bound connector ramp would exit 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 before connecting to the existing north bound SR 160 connector. Along the SR 160 connector, a new lane will be created by widening to the outside, and the lane will extend north approximately 3,000 feet before conforming at the exit for the SR 160/E. 18<sup>th</sup>/Main Street interchange. The sound wall extension will only be required on the east side of SR 160 as no residential homes exist on the west side of SF 160 within the project area.

## Southbound SR 160 to Eastbound SR4 Connector

South bound SR 160 will be widened to the outside to provide one new lane starting at the SR 160/E.18<sup>th</sup>/Main Street Interchange and extending 1400 feet under the Oakley Road Overcrossing. The south bound SR 160 connector will use 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 SR4 exit. The two lanes will rise up and cross over the UPRR right of way, the east bound SR 4 to north bound SR 160 connector, and the SR 4 Bypass, extending approximately 3300 feet before dropping a lane at the ramp metering limit line and then merging into the east bound SR 4 Bypass. Bioswales will be constructed in the median to detain and filter runoff that will enter East Antioch Creek through existing drop structure outfalls. The staging area will be located at the previously disturbed site just SE of the project boundary within segment 1 of the Bypass Road.

## Land Cover Types

In completing the checklist in Table 1, click in the appropriate fields and type the relevant information. Please calculate acres of terrestrial land cover types to nearest tenth of an acre. Calculate the areas of all jurisdictional wetlands and waters land cover types to the nearest hundredth of an acre. If the field is not applicable, please enter N/A. The sum of the acreages in the *Acreage of land to be "permanently disturbed" and "temporarily disturbed" by project* column should equal the total impact acreage listed above.

Land cover types and habitat elements identified with an <sup>(a)</sup> in Table 1 require identification and mapping of habitat elements for selected covered wildlife species. In Table 2a and 2b below, check the land cover types and habitat elements found in the project area and describe the results. Insert a map of all land cover types present on-site and other relevant features overlaid on an aerial photo below as Figure 3.

Table 1. Land Cover Types on the Project Site as Determined in the Field and Shown in Figure 3.

| Land Cover Type (acres, except where noted)             | Acreage of Land to be "Permanently Disturbed" by Project <sup>b</sup> | Acreage of Land to be "Temporarily Disturbed" by Project <sup>b</sup> | Acreage of Land Proposed for HCP/NCCP Dedication on the Parcel <sup>c</sup> |                            |
|---|---|---|---|----------------------------|
|   |   |   | Stream Setback  | Preserve System Dedication |
| <b>Grassland<sup>a</sup></b>                            |   |   |   |                            |
| <input checked="" type="checkbox"/> Annual grassland    | 12.5  |   |   |                            |
| <input type="checkbox"/> Alkali grassland               |   |   |   |                            |
| <input checked="" type="checkbox"/> Ruderal             | 5.51  | 2.73  |   |                            |
| <input type="checkbox"/> Chaparral and scrub            |   |   |   |                            |
| <input type="checkbox"/> Oak savanna <sup>a</sup>       |   |   |   |                            |
| <input type="checkbox"/> Oak woodland                   |   |   |   |                            |
| <b>Jurisdictional wetlands and waters</b>               |   |   |   |                            |
| <input type="checkbox"/> Riparian woodland/scrub        |   |   |   |                            |
| <input type="checkbox"/> Permanent wetland <sup>a</sup> |   |   |   |                            |
| <input type="checkbox"/> Seasonal wetland               |   |   |   |                            |
| <input type="checkbox"/> Alkali wetland <sup>a</sup>    |   |   |   |                            |

| Land Cover Type (acres, except where noted)                                  | Acreage of Land to be "Permanently Disturbed" by Project <sup>b</sup> | Acreage of Land to be "Temporarily Disturbed" by Project <sup>b</sup> | Acreage of Land Proposed for HCP/NCCP Dedication on the Parcel <sup>c</sup> |                            |
|--|---|---|---|----------------------------|
|  |   |   | Stream Setback  | Preserve System Dedication |
| <input type="checkbox"/> Aquatic (Reservoir/Open Water) <sup>a</sup>         |   |   |   |                            |
| <input type="checkbox"/> Slough/Channel <sup>a</sup>                         |   |   |   |                            |
| <input type="checkbox"/> Pond <sup>a</sup>                                   |   |   |   |                            |
| <input type="checkbox"/> Stream (acres) <sup>a, d</sup>                      |   |   |   |                            |
| <input type="checkbox"/> Total stream length (feet) <sup>a, d</sup>          |   |   |   |                            |
| Stream length by width category  |   |   |   |                            |
| <input type="checkbox"/> ≤ 25 feet wide                                      |   |   |   |                            |
| <input type="checkbox"/> > 25 feet wide                                      |   |   |   |                            |
| Stream length by type and order <sup>e</sup>                                 |   |   |   |                            |
| <input type="checkbox"/> Perennial   |   |   |   |                            |
| <input type="checkbox"/> Intermittent  |   |   |   |                            |
| <input type="checkbox"/> Ephemeral, 3 <sup>rd</sup> or higher order          |   |   |   |                            |
| <input type="checkbox"/> Ephemeral, 1 <sup>st</sup> or 2 <sup>nd</sup> order |   |   |   |                            |
| <b>Irrigated agriculture<sup>a</sup></b>                                     |   |   |   |                            |
| <input type="checkbox"/> Cropland  |   |   |   |                            |
| <input type="checkbox"/> Pasture   |   |   |   |                            |
| <input type="checkbox"/> Orchard   |   |   |   |                            |
| <input type="checkbox"/> Vineyard  |   |   |   |                            |
| <b>Other</b>   |   |   |   |                            |
| <input type="checkbox"/> Nonnative woodland                                  |   |   |   |                            |
| <input type="checkbox"/> Wind turbines                                       |   |   |   |                            |
| <b>Developed</b>   |   |   |   |                            |
| <input checked="" type="checkbox"/> Urban (Existing 9.94)                    |   |   |   |                            |
| <input type="checkbox"/> Aqueduct  |   |   |   |                            |
| <input type="checkbox"/> Turf  |   |   |   |                            |
| <input type="checkbox"/> Landfill  |   |   |   |                            |
| <b>Uncommon Vegetation Types (subtypes of above land cover types)</b>        |   |   |   |                            |
| <input type="checkbox"/> Purple needlegrass grassland                        |   |   |   |                            |
| <input type="checkbox"/> Wildrye grassland                                   |   |   |   |                            |
| <input type="checkbox"/> Wildflower fields                                   |   |   |   |                            |
| <input type="checkbox"/> Squirreltail grassland                              |   |   |   |                            |

| Land Cover Type (acres, except where noted)   | Acreage of Land to be "Permanently Disturbed" by Project <sup>b</sup> | Acreage of Land to be "Temporarily Disturbed" by Project <sup>b</sup> | Acreage of Land Proposed for HCP/NCCP Dedication on the Parcel <sup>c</sup> |                            |
|---|---|---|---|----------------------------|
|   |   |   | Stream Setback  | Preserve System Dedication |
| <input type="checkbox"/> One-sided bluegrass grassland                                  |   |   |   |                            |
| <input type="checkbox"/> Serpentine grassland   |   |   |   |                            |
| <input type="checkbox"/> Saltgrass grassland (= alkali grassland)                       |   |   |   |                            |
| <input type="checkbox"/> Alkali sacaton bunchgrass grassland                            |   |   |   |                            |
| <input type="checkbox"/> Other uncommon vegetation types (please describe)              |   |   |   |                            |
| <b>Uncommon Landscape Features or Habitat Elements</b>                                  |   |   |   |                            |
| <input type="checkbox"/> Rock outcrop   |   |   |   |                            |
| <input type="checkbox"/> Cave <sup>a</sup>  |   |   |   |                            |
| <input type="checkbox"/> Springs/seeps  |   |   |   |                            |
| <input type="checkbox"/> Scalds   |   |   |   |                            |
| <input type="checkbox"/> Sand deposits  |   |   |   |                            |
| <input type="checkbox"/> Mines <sup>a</sup>   | —   | —   |   | —                          |
| <input type="checkbox"/> Buildings (bat roosts) <sup>a</sup>                            | —   | —   |   | —                          |
| <input checked="" type="checkbox"/> Potential nest sites (trees or cliffs) <sup>a</sup> | —   | —   |   | —                          |
| <b>Total Permanently Disturbed Acres</b>  | <b>18.01</b>  |   | <b>NA</b>   | <b>NA</b>                  |
| <b>Total Temporarily Disturbed Acres</b>  |   | <b>2.73</b>   |   |                            |

<sup>a</sup> Designates habitat elements that may trigger specific survey requirements and/or best management practices for key covered wildlife species. See Chapter 6 in the HCP/NCCP for details.

<sup>b</sup> See Section 9.3.1 of the HCP/NCCP for a definition of "permanently disturbed" and "temporarily disturbed." In nearly all cases, all land in the subject parcel is considered permanently disturbed.

<sup>c</sup> Dedication of land in lieu of fees must be approved by the local agency and the Implementing Entity before they can be credited toward HCP/NCCP fees. See Section 8.6.7 on page 8-32 of the Plan for details on this provision. Stream setback requirements are described in Conservation Measure 1.7 in Section 6.4.1 and in Table 6-2.

<sup>d</sup> Specific requirements on streams are discussed in detail in the HCP/NCCP. Stream setback requirements pertaining to stream type and order can be found in Table 6-2. Impact fees and boundary determination methods pertaining to stream width can be found in Table 9-5. Restoration/creation requirements in lieu of fees depend on stream type and can be found in Tables 5-16 and 5-17.

<sup>e</sup> See glossary (Appendix A) for definition of stream type and order.

# Field-Verified Land Cover Map

**Insert field-verified land cover map.** The map should contain all land cover types present on-site. The map should be representative of an aerial photo. Identify all pages of the field-verified land cover map. **See Figure 3.**

**The following figures demonstrate land cover types and impacts of the proposed project:**

**Figure 3:** shows the existing grasslands, ruderal, and urban land cover types within the project area.

**Figure 3a:** shows the permanent and temporary land cover impacts within the project area.

**Figure 3b:** shows the proposed new alignment from the project.

**Figure 3c:** depicts existing images in various locations within the project area.

## Project Area by Landcover Type Table

| Type                         | Existing Acres | To be Permanently Disturbed (Acres) | To be Temporarily Disturbed (Acres) |
|------------------------------|----------------|-------------------------------------|-------------------------------------|
| Annual Grassland             | 12.5           | 12.5                                |                                     |
| Ruderal                      | 8.24           | 5.51                                | 2.73                                |
| Urban                        | 9.94           |                                     |                                     |
| Mitigated under Segment 1 BO | 22.37          |                                     |                                     |
| <b>Total</b>                 | <b>53.05</b>   | <b>18.01</b>                        | <b>2.73</b>                         |

# Jurisdictional Wetlands and Waters

Jurisdictional wetlands and waters are defined on pages 1-18 and 1-19 of the Final HCP/NCCP as the following land cover types: permanent wetland, seasonal wetland, alkali wetland, aquatic, pond, slough/channel, and stream. (It should be noted that definitions of these features differ for state and federal jurisdictions.) If you have identified any of these land cover types to be present on the project site in Table 1, complete the section below.

Indicate agency that certified the wetland delineation:

USACE,  RWQCB, or  the ECCC Habitat Conservancy. (NA)

Wetland delineation is attached (Jurisdictional Determination) (N/A)

**Provide any additional information on Impacts to Jurisdictional Wetland and Waters below.**

East Antioch Creek is the only jurisdictional water within the project area. As it is piped completely across the project area there will be no effect on jurisdictional waters.

## Species-Specific Planning Survey Requirements

Based on the land cover types found on-site and identified in Table 1, check the applicable boxes in Table 2a then provide the results of the planning surveys below. In Table 3 check corresponding preconstruction survey or notification requirements that are triggered by the presence of particular land cover types or species habitat elements as identified in Table 2a. The species-specific planning survey requirements are described in more detail in Section 6.4.3 of the HCP/NCCP.

**Table 2a. Species-Specific Planning Survey Requirements Triggered by Land Cover Types and Habitat Elements in the project area based on Chapter 6 of the Final HCP/NCCP.**

| Land Cover Type in the project area?   | Species                  | Habitat Element in the project area?                                       | Planning Survey Requirement   |
|--|--------------------------|--|---|
| <input checked="" type="checkbox"/> Grasslands, oak savanna, agriculture, ruderal        | San Joaquin kit fox      | Assumed if within modeled range of species                                 | Identify and map potential breeding and denning habitat and potential dens if within modeled range of species (see Appendix D of HCP/NCCP). |
|  | Western burrowing owl    | Assumed  | Identify and map potential breeding habitat.  |
| <input type="checkbox"/> Aquatic (ponds, wetlands, streams, slough, channels, & marshes) | Giant garter snake<br>NA | <input type="checkbox"/> Aquatic habitat accessible from San Joaquin River | Identify and map potential habitat.   |

| Land Cover Type in the project area?       | Species                           | Habitat Element in the project area?  | Planning Survey Requirement  |
|--|-----------------------------------|---|--|
| <input type="checkbox"/>                   | California tiger salamander<br>NA | <input type="checkbox"/> Ponds and wetlands in grassland, oak savanna, oak woodland<br><input type="checkbox"/> Vernal pools<br><input type="checkbox"/> Reservoirs<br><input type="checkbox"/> Small lakes | Identify and map potential breeding habitat.<br>Document habitat quality and features.<br>Provide Implementing Entity with photo-documentation and report. |
| <input type="checkbox"/>                   | California red-legged frog<br>NA  | <input type="checkbox"/> Slow-moving streams, ponds, and wetlands   | Identify and map potential breeding habitat.<br>Document habitat quality and features.<br>Provide Implementing Entity with photo-documentation and report. |
| <input type="checkbox"/> Seasonal wetlands | Covered shrimp<br>NA              | <input type="checkbox"/> Vernal pools<br><input type="checkbox"/> Sandstone rock outcrops<br><input type="checkbox"/> Sandstone depressions   | Identify and map potential breeding habitat.   |
| Any  | Townsend's big-eared bat<br>NA    | <input type="checkbox"/> Rock formations with caves<br><input type="checkbox"/> Mines<br><input type="checkbox"/> Abandoned buildings outside urban areas   | Map and document potential breeding or roosting habitat.   |
|  | Swainson's hawk                   | <input checked="" type="checkbox"/> Potential nest sites (trees within species' range usually below 200')   | Inspect large trees for presence of nest sites.  |
|  | Golden eagle                      | <input checked="" type="checkbox"/> Potential nest sites (secluded cliffs with overhanging ledges; large trees)   | Document and map potential nests.  |

<sup>a</sup> Vernal pool fairy shrimp, vernal pool tadpole shrimp, longhorn fairy shrimp, and midvalley fairy shrimp.

## Results of Species-Specific Planning Surveys Required in Table 2a

**1. Describe the results of the planning survey conducted as required in Table 2a.** Planning surveys will assess the location, quantity, and quality of suitable habitat for specified covered wildlife species on the project site. Covered species are assumed to occupy suitable habitat in impact areas and mitigation is based on assumption of take.

**2. Reference and attach the Planning Survey Species Habitat Maps as required in Table 2a (Figure 4).**

**Planning Survey Results - Overview**

RCL Ecology performed reconnaissance planning surveys of the project area on August 3 and August 9, 2010, May 7 and 11, 2012 and on February 6 and 26, 2013. Surveys were conducted by walking meandering transects within the right-of way (ROW) using binoculars to observe the area ahead and inspecting all burrows for sign of San Joaquin kit fox and western burrowing owls as well as trees for tree-nesting species. 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.

**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. Drainage from the project area flows to East Antioch Creek and then on to the San Joaquin River. The Creek is piped for the width of the ROW beneath the bridged portion of the project area. While not a migration route, 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 as 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.

**Covered and ‘no take’ species analysis**

HCP habitat models were compared for occurrence of habitat for covered and ‘no take’ species with the results of the adjacent Hillcrest Area Specific Plan (HASP) EIR and the onsite Planning Surveys. Exhibit 1 shows the actual presence or absence of habitat based on the results of these on-the-ground surveys.

**Exhibit 1**

**Modeled and actual presence of covered and ‘no take’ wildlife species habitat in the project area.**

| <b>SPECIES</b>              | <b>MODELED HABITAT</b>        | <b>ACTUAL HABITAT OCCURRENCE</b>             |
|-----------------------------|-------------------------------|--|
| California red-legged frog  | Adjacent East Antioch Creek   | No habitat present.                          |
| California tiger salamander | Not modeled                   | No habitat present.                          |
| Foothill yellow-legged frog | Same as above                 | No habitat present.                          |
| Golden eagle                | Foraging & nesting habitat    | Suitable nesting habitat present.            |
| San Joaquin kit fox         | Denning habitat               | Denning habitat present.                     |
| Silvery legless lizard      | Habitat present               | No habitat present.                          |
| Swainson’s hawk             | Not modeled for project site  | Nest site approx.¼-mile west of project area |
| Tri-colored blackbird       | Modeled for E. Antioch Creek  | No habitat present.                          |
| Western burrowing owl       | Modeled for burrowing habitat | Habitat present                              |
| Western pond turtle         | Modeled for E. Antioch Creek  | No habitat present.                          |

The Planning Survey Species Habitat map is included as **Figure 4**. It shows all CNDDDB records of ‘covered’ and other special-status species occurrence within one-mile of the project area. All of these records are located far enough away from the project area as defined by the required buffer distance for each species, that they will not be affected by project activities. With the exception of one burrowing owl burrow, none of these species were found within the project area during the planning surveys. This

sighting, in August 2010, was approximately 150 feet south of the UPRR line. However, the site was found to be abandoned when re-checked by the project biologist on February 21, 2013 and was therefore, not included on the figure. Nonetheless, preconstruction surveys for burrowing owl, as well as the other covered species will be conducted in this as well as the other grassland within the project area. Unless removed prior to start of work, preconstruction nesting surveys of the trees along existing shoulders would be conducted for nests of Swainson's hawk, golden eagle and other tree-nesting species. Swallow nests beneath the existing bridges would either be removed or screened prior to the start of the nesting season to avoid adverse effects on this species.

## Covered and No-Take Plants

**Table 2b.** Covered and No-Take Plant Species, Typical Habitat Conditions, and Typical Blooming Periods

| Land Cover Type in the project area? | Plant Species  | Covered (C) or No-Take (N)? | Typical Habitat or Physical Conditions, if Known   | Typical Blooming Period <sup>a</sup> |
|--------------------------------------|--|-----------------------------|--|--------------------------------------|
| ☐ Oak savanna                        | Diablo Helianthella ( <i>Helianthella castanea</i> )         | C                           | Elevation above 650 feet <sup>b</sup>  | Mar–Jun                              |
|                                      | Mount Diablo fairy-lantern ( <i>Calochortus pulchellus</i> ) | C                           | Elevation between 650 and 2,600 feet <sup>b</sup>  | Apr–Jun                              |
| ☐ Oak woodland                       | Brewer's dwarf flax ( <i>Hesperolinon breweri</i> )          | C                           |  | May–Jul                              |
|                                      | Diablo Helianthella ( <i>Helianthella castanea</i> )         | C                           | Elevation above 650 feet <sup>b</sup>  | Mar–Jun                              |
|                                      | Mount Diablo fairy-lantern ( <i>Calochortus pulchellus</i> ) | C                           | Elevation between 650 and 2,600 feet <sup>b</sup>  | Apr–Jun                              |
|                                      | Showy madia ( <i>Madia radiata</i> )                         | C                           |  | Mar–May                              |
| ☐ Chaparral and scrub                | Brewer's dwarf flax ( <i>Hesperolinon breweri</i> )          | C                           |  | May–Jul                              |
|                                      | Diablo Helianthella ( <i>Helianthella castanea</i> )         | C                           | Elevation above 650 feet <sup>b</sup>  | Mar–Jun                              |
|                                      | Mount Diablo buckwheat ( <i>Eriogonum truncatum</i> )        | N                           |  | Apr–Sep; uncommonly Nov–Dec.         |
|                                      | Mount Diablo fairy-lantern ( <i>Calochortus pulchellus</i> ) | C                           | Elevation between 650 and 2,600 feet <sup>b</sup>  | Apr–Jun                              |
|                                      | Mount Diablo Manzanita ( <i>Arctostaphylos auriculata</i> )  | C                           | Elevation between 700 and 1,860 feet; restricted to the eastern and northern flanks of Mt. Diablo <sup>b</sup> | Jan–Mar                              |

| Land Cover Type in the project area?                 | Plant Species  | Covered (C) or No-Take (N)? | Typical Habitat or Physical Conditions, if Known   | Typical Blooming Period <sup>a</sup> |
|--|--|-----------------------------|--|--------------------------------------|
| <input type="checkbox"/> Alkali grassland            | Brittlescale ( <i>Atriplex depressa</i> )                        | C                           | Restricted to soils of the Pescadero or Solano soil series; generally found in southeastern region of plan area <sup>b</sup> | May–Oct                              |
|  | Caper-fruited tropidocarpum ( <i>Tropidocarpum capparideum</i> ) | N                           |  | Mar–Apr                              |
|  | Contra Costa goldfields ( <i>Lasthenia conjugens</i> )           | N                           | Generally found in vernal pools  | Mar–Jun                              |
|  | Recurved larkspur ( <i>Delphinium recurvatum</i> )               | C                           |  | Mar–Jun                              |
|  | San Joaquin spearscale ( <i>Atriplex joaquiniana</i> )           | C                           |  | Apr–Oct                              |
| <input type="checkbox"/> Alkali wetland              | Alkali milkvetch ( <i>Astragalus tener</i> ssp. <i>tener</i> )   | N                           |  | Mar–Jun                              |
|  | Brittlescale ( <i>Atriplex depressa</i> )                        | C                           | Restricted to soils of the Pescadero or Solano soil series; generally found in southeastern region of plan area <sup>b</sup> | May–Oct                              |
|  | San Joaquin spearscale ( <i>Atriplex joaquiniana</i> )           | C                           |  | Apr–Oct                              |
| <input checked="" type="checkbox"/> Annual grassland | Alkali milkvetch ( <i>Astragalus tener</i> ssp. <i>tener</i> )   | N                           |  | Mar–Jun                              |
|  | Big tarplant ( <i>Blepharizonia plumosa</i> )                    | C                           | Elevation below 1500 feet <sup>b</sup>   | Jul–Oct                              |
|  | Brewer’s dwarf flax ( <i>Hesperolinon breweri</i> )              | C                           | Restricted to grassland areas within a 500+ buffer from oak woodland and chaparral/scrub <sup>b</sup>                        | May–Jul                              |
|  | Contra Costa goldfields ( <i>Lasthenia conjugens</i> )           | N                           | Generally found in vernal pools  | Mar–Jun                              |
|  | Diamond-petaled poppy ( <i>Eschscholzia rhombipetala</i> )       | N                           |  | Mar–Apr                              |

| Land Cover Type in the project area?      | Plant Species  | Covered (C) or No-Take (N)? | Typical Habitat or Physical Conditions, if Known | Typical Blooming Period <sup>a</sup> |
|---|--|-----------------------------|--|--------------------------------------|
|   | Large-flowered fiddleneck ( <i>Amsinckia grandiflora</i> )                     | N                           |  | Apr–May                              |
|   | Mount Diablo buckwheat ( <i>Eriogonum truncatum</i> )                          | N                           |  | Apr–Sep; uncommonly Nov–Dec          |
|   | Mount Diablo fairy-lantern ( <i>Calochortus pulchellus</i> )                   | C                           | Elevation between 650 and 2,600 <sup>b</sup>     | Apr–Jun                              |
|   | Round-leaved filaree ( <i>California macrophylla</i> ) <sup>1</sup>            | C                           |  | Mar–May                              |
|   | Showy madia ( <i>Madia radiata</i> )   | C                           |  | Mar–May                              |
| <input type="checkbox"/> Seasonal wetland | Adobe navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i> ) | C                           | Generally found in vernal pools <sup>b</sup>     | Apr–Jun                              |
|   | Alkali milkvetch ( <i>Astragalus tener</i> sp. <i>tener</i> )                  | N                           |  | Mar–Jun                              |
|   | Contra Costa goldfields ( <i>Lasthenia conjugens</i> )                         | N                           | Generally found in vernal pools                  | Mar–Jun                              |

<sup>a</sup> From California Native Plant Society. 2007. *Inventory of Rare and Endangered Plants* (online edition, v7-07d). Sacramento, CA. Species may be identifiable outside of the typical blooming period; a professional botanist shall determine if a covered or no take plant occurs on the project site.

<sup>b</sup> See Species Profiles in Appendix D of the Final HCP/NCCP.

## Results of Covered and No-Take Plant Species Planning Surveys Required in Table 2b

**Describe the results of the planning survey conducted as required in Table 2b. If any covered or no-take plants were found, include the following information in the results summary:**

- Description and number of occurrences and their rough population size.
- Description of the “health” of each occurrence, as defined on pages 5-49 and 5-50 of the HCP/NCCP.
- A map of all the occurrences.
- Justification of surveying time window, if outside of the plant’s blooming period.
- The CNDDDB form(s) submitted to CDFG (if this is a new occurrence).

- A description of the anticipated impacts that the covered activity will have on the occurrence and/or how the project will avoid impacts to all covered and no-take plant species. All projects must demonstrate avoidance of all six no-take plants (see table 6-5 of the HCP/NCCP).

Protocol plant surveys were conducted by RCL Ecology for fall-blooming species in August 2010, spring-blooming species in May of 2012 and summarized in a report of covered, 'no take' and other special-status plants in May 2012. The report included an analysis of the habitats of listed and other plants found on the nearby USFWS Antioch Dunes National Wildlife Refuge as a reference site. None of the covered, 'no take' and other special-status species were found to occur on the project site. The report concluded that even though soil type (Delhi Sands) appears similar between the project site and the Refuge, dense growth of non-native plants on the project area precludes occurrence of the listed species plants on the project area. Planning Surveys of the project vegetative types are summarized as follows. (The entire report is included in the appendix of this document)

### **Habitat Types:**

#### **Ruderal Habitat**

This type occurs in the median of the existing roadway that was graded for installation of bioswales during the initial construction. This ruderal vegetation is characterized by nonnative, weedy plants that have invaded the disturbed area. Common species consist of wild oats (*Avena fatua*), black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), bur clover (*Medicago polymorpha*), and sour clover (*Melilotus indica*).

#### **Grassland Habitat**

Within the project area this type occurs on the engineered sloping road banks of SR 160 that are covered by a variety of non-native annual grassland plants. Dominant grasses and forbs in this community consist of wild oats, Italian ryegrass (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), common vetch (*Vicia sativa*), rose clover (*Trifolium hirtum*) soft chess (*Bromus hordeaceus*), hoary mustard (*Hirschfeldia incana*), chicory (*Cichorium intybus*) and yellow star thistle (*Centaurea solstitialis*). Tree cover occurs sporadically along the road shoulders throughout this type and consists of a few orchard escapes such as almond (*Prunus dulcis*) and olive (*Olea europaea*.), as well as several non-native iron bark eucalyptus (*Eucalyptus sideroxylon*) that were planted as landscape features during construction.

## **III. Species-Specific Monitoring and Avoidance Requirements**

This section discusses subsequent actions that are necessary to ensure project compliance with Plan requirements. Survey requirements and Best Management Practices pertaining to selected covered wildlife species are detailed in Section 6.4.3, *Species-Level Measures*, beginning on page 6-36 of the Final HCP/NCCP.

### **Preconstruction Surveys for Selected Covered Wildlife**

If habitat for selected covered wildlife species identified in Table 2a was found to be present in the project area. In Table 3, identify the species for which preconstruction surveys or notifications are required based on the results of the planning surveys. Identify whether a condition of approval has been inserted into the development contract to address this requirement.

**Table 3. Applicable Preconstruction Survey and Notification Requirements based on Land Cover Types and Habitat Elements Identified in Table 2a.**

| Species   | Preconstruction Survey and Notification Requirements  |
|---|---|
| <input type="checkbox"/> None   |   |
| <input checked="" type="checkbox"/> San Joaquin kit fox<br>(p. 6-38)                  | Map all dens (>5 in. diameter) and determine status.<br>Determine if breeding or denning foxes are in the project area.<br>Provide written preconstruction survey results to FWS within 5 working days after surveying. |
| <input checked="" type="checkbox"/> Western burrowing owl<br>(p. 6-40)                | Map all burrows and determine status.<br>Document use of habitat (e.g. breeding, foraging) in/near disturbance area (within 500 ft.)  |
| <input type="checkbox"/> Giant garter snake (p. 6-44)                                 | Delineate aquatic habitat up to 200 ft. from water's edge.<br>Document any sightings of garter snake.   |
| <input type="checkbox"/> California tiger salamander (p. 6-46)<br>(notification only) | Provide written notification to USFWS and CDFG regarding timing of construction and likelihood of occurrence in the project area.   |
| <input type="checkbox"/> California red-legged frog (p. 6-47) (notification only)     | Provide written notification to USFWS and CDFG regarding timing of construction and likelihood of occurrence in the project area.   |
| <input type="checkbox"/> Covered shrimp species<br>(p. 6-47)                          | Document and evaluate use of all habitat features (e.g., vernal pools, rock outcrops).<br>Document occurrences of covered shrimp.   |
| <input type="checkbox"/> Townsend's big-eared bat (p. 6-37)                           | Determine if site is occupied or shows signs of recent occupation (guano).  |
| <input checked="" type="checkbox"/> Swainson's hawk (p. 6-42)                         | Determine whether nests are occupied.   |
| <input checked="" type="checkbox"/> Golden eagle (p. 6-39)                            | Determine whether nests are occupied.   |
| Note: Page numbers refer to the HCP/NCCP.   |   |

## Preconstruction Surveys as Required for Selected Covered Wildlife in Table 3

**Describe the preconstruction survey's or notification conditions applicable to any species checked in Table 3.** All preconstruction surveys shall be conducted in accordance with the requirements set forth in Section 6.4.3, *Species-Level Measures*, and Table 6-1 of the HCP/NCCP.

### 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 in areas identified in the planning surveys as supporting suitable breeding or denning habitat for San Joaquin kit fox. 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. On the parcel where the activity is proposed, 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. Adjacent parcels under different ownership will not be surveyed. 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. Concurrence is not required prior to initiation of covered activities.

If San Joaquin kit foxes and/or suitable dens are identified in the survey area, the avoidance and minimization measures described below will be implemented.

## **Golden Eagle**

To avoid or minimize direct impacts on golden eagle as a result of covered activities, the following procedures will be implemented.

### **Preconstruction Survey**

Prior to implementation of covered activities, a qualified biologist will conduct a preconstruction survey to establish whether nests of golden eagles are occupied (see Section 6.3.1, *Planning Surveys*). If nests are occupied, minimization requirements and construction monitoring will be required.

## **Western Burrowing Owl**

### **Preconstruction Surveys**

Prior to any ground disturbance related to covered activities, a USFWS/CDFW-approved biologist will conduct a preconstruction survey in areas identified in the planning surveys as having potential burrowing owl habitat. The surveys will establish the presence or absence of western burrowing owl and /or habitat features and evaluate use by owls in accordance with CDFW survey guidelines (California Department of Fish and Wildlife 1993).

On the parcel where the activity is proposed, the biologist will survey the proposed disturbance footprint and a 500-foot radius from the perimeter of the proposed footprint to identify burrows and owls. Adjacent parcels under different ownerships will not be surveyed. Surveys should take place near sunrise or sunset in accordance with CDFW guidelines. All burrow or burrowing owls will be identified and mapped. Surveys will take place no more than 30 days prior to destruction. During the breeding season (February 1-August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1-January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted.

## **Swainson's Hawk**

Prior to initiating covered activities, conduct surveys for Swainson's hawk nest sites as described below.

### **Preconstruction Survey**

Prior to any ground disturbance related to covered activities that occurs during the nesting season (March 15–September 15), a qualified biologist will conduct a preconstruction survey no more than 1 month prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests within 1,000 feet are off the project site, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g.,

foraging) near the project site. If nests are occupied, minimization measures and construction monitoring are required (see below).

## Construction Monitoring & Avoidance and Minimization Measures for Selected Covered Species

If preconstruction surveys for key covered wildlife species establish the presence of any such species, construction monitoring will be necessary. In Table 4, check the boxes for the species that will be assessed during the preconstruction surveys (see Table 3). A summary of the construction monitoring requirements for each species is provided in Table 4 and these measures must be implemented in the event that preconstruction surveys described in Table 3 detect the covered species. A summary of avoidance measures is also provided in Table 4 and these measures must be implemented if construction monitoring detects the species or its sign. These construction monitoring and avoidance requirements are described in detail in Section 6.4.3, Species-Level Measures, of the Final HCP/NCCP.

### Construction Monitoring Plan Requirements in Section 6.3.3, Construction Monitoring, of the Final HCP/NCCP:

- Before implementing a covered activity, the applicant will develop and submit a construction-monitoring plan to the Implementing Entity<sup>4</sup> for approval.**

Table 4. Applicable Construction Monitoring Requirements

| Species Assessed by Preconstruction Surveys                         | Monitoring Action Required if Species Detected  |
|---|---|
| <input type="checkbox"/> None                                       | N/A   |
| <input checked="" type="checkbox"/> San Joaquin kit fox (p. 6-38)   | Establish exclusion zones (>50 ft) for potential dens.<br>Establish exclusion zones (>100 ft) for known dens.<br>Notify USFWS of occupied natal dens.   |
| <input checked="" type="checkbox"/> Western burrowing owl (p. 6-40) | Establish buffer zones (250 ft) around nests.<br>Establish buffer zones (160 ft) around burrows.  |
| <input type="checkbox"/> Giant garter snake (p. 6-44)               | Delineate 200-ft buffer around potential habitat.<br>Provide field report on monitoring efforts.<br>Stop construction activities if snake is encountered; allow snake to passively relocate.<br>Remove temporary fill or debris from construction site.<br>Mandatory training for construction personnel. |
| <input type="checkbox"/> Covered shrimp species (p. 6-47)           | Establish buffer around outer edge of all hydric vegetation associated with habitat (50 feet of limit of immediate watershed supporting the wetland, whichever is larger).<br>Mandatory training for construction personnel.  |
| <input checked="" type="checkbox"/> Swainson's hawk (p. 6-42)       | Establish 1,000-ft buffer around active nest and monitor compliance.  |
| <input checked="" type="checkbox"/> Golden eagle (p. 6-39)          | Establish 0.5-mile buffer around active nest and monitor compliance.  |

<sup>4</sup> The East Contra Costa County Habitat Conservancy and the local land use Jurisdiction must review and approve the plan **prior** to the commencement of all covered activities (i.e. construction).

# Construction Monitoring & Avoidance and Minimization Measures as Required for Selected Covered Wildlife in Table 4

**Describe the construction monitoring and avoidance and minimization measures applicable to any species checked in Table 4.** A summary of avoidance measures is provided in Table 4, these measures must be implemented if construction monitoring detects the presence of the species. The construction monitoring & avoidance and minimization measures requirements are described in detail in Section 6.4.3, Species-Level Measures, of the HCP/NCCP.

## San Joaquin Kit Fox

To avoid or minimize direct impacts on San Joaquin kit fox as a result of covered activities, the following procedures will be implemented:

### Avoidance and Minimization Measures

- If a San Joaquin kit fox den is discovered in the proposed development footprint, the den will be monitored for 3 days by a USFWS/CDFW-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 or pupping den is found, USFWS and CDFW 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 CDFW.
- 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. Alternatively, 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 animal's 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 be 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 exclusion zones. Exclusion zone radii for potential 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.

## Golden Eagle

To avoid or minimize direct impacts on golden eagle as a result of covered activities, the following procedures will be implemented:

## **Avoidance and Minimization**

Covered activities will be prohibited within 0.5 mile of active nests. Nests can be built and active at almost any time of the year, although mating and egg incubation occurs late January through August, with peak activity in March through July. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, or limited activities) indicate that a smaller buffer could be appropriate or that a larger buffer should be implemented, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size.

## **Construction Monitoring**

Construction monitoring will focus on ensuring that no covered activities occur within the buffer zone established around an active nest. Although no known golden eagle nest sites occur with or near the ULL, covered activities inside and outside of the Preserve System have the potential to disturb golden eagle nest sites. Construction monitoring will ensure that direct effects to golden eagles are minimized.

## **Western Burrowing Owl**

To avoid or minimize direct impacts on western burrowing owl as a result of covered activities, the following procedures will be implemented:

### **Avoidance and Minimization and Construction Monitoring**

If burrowing owls are found during breeding season (February 1-August 31), the project proponent will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a non-disturbance buffer zone (described below). Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1-January 31), the project proponent should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone (described below).

If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. These doors should be in place for 48 hours prior to excavation. The project area will be monitored daily for 1 week to confirm that the owl(s) have abandoned the burrow. Whenever possible burrows will be excavated using hand tools and refilled to prevent reoccupation (California Department of Fish and Wildlife, 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.

## **Swainson's Hawk**

To avoid or minimize direct impacts on Swainson's hawk as a result of covered activities, the following procedures will be implemented:

### **Avoidance and Minimization and Construction Monitoring**

During the nesting season (March 15–September 15), covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, or limited activities) indicate that a smaller buffer could be used, the Implementing Entity will coordinate with CDFW/USFWS to determine the appropriate buffer size. If young fledge prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site

by other development, topography, or other features, the project applicant can apply to the Implementing Entity for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFW. While the nest is occupied, activities outside the buffer can take place. All active nest trees will be preserved on site, if feasible. Nest trees, including non-native trees, lost to covered activities will be mitigated by the project proponent according to the requirements below.

### **Mitigation for Loss of Nest Trees**

The loss of non-riparian Swainson's hawk nest trees will be mitigated by the project proponent by:

- If feasible on-site, planting 15 saplings for every tree lost with the objective of having at least 5 mature trees established for every tree lost according to the requirements listed below.

AND either

1. Pay the Implementing Entity an additional fee to purchase, plant, maintain, and monitor 15 saplings on the HCP/NCCP Preserve System for every tree lost according to the requirements listed below,

OR

2. The project proponent will plant, maintain, and monitor 15 saplings for every tree lost at a site to be approved by the Implementing Entity (e.g., within an HCP/NCCP Preserve or existing open space linked to HCP/NCCP preserves), according to the requirements listed below. The following requirements will be met for all planting options:

- Tree survival shall be monitored at least annually for 5 years, then every other year until year 12. All trees lost during the first 5 years will be replaced. Success will be reached at the end of 12 years if at least 5 trees per tree lost survive without supplemental irrigation or protection from herbivory. Trees must also survive for at least three years without irrigation.
- Irrigation and fencing to protect from deer and other herbivores may be needed for the first several years to ensure maximum tree survival. Native trees suitable for this site should be planted. When site conditions permit, a variety of native trees will be planted for each tree lost to provide trees with different growth rates, maturation, and life span, and to provide a variety of tree canopy structures for Swainson's hawk. This variety will help to ensure that nest trees will be available in the short term (5-10 years for cottonwoods and willows) and in the long term (e.g., Valley oak, sycamore). This will also minimize the temporal loss of nest trees.
- Riparian woodland restoration conducted as a result of covered activities (i.e., loss of riparian woodland) can be used to offset the nest tree planting requirement above, if the nest trees are riparian species.
- Whenever feasible and when site conditions permit, trees should be planted in clumps together or with existing trees to provide larger areas of suitable nesting habitat and to create a natural buffer between nest trees and adjacent development (if plantings occur on the development site).
- Whenever feasible, plantings on the site should occur closest to suitable foraging habitat outside the UDA.
- Trees planted in the HCP/NCCP preserves or other approved offsite location will occur within the known range of Swainson's hawk in the inventory area and as close as possible to high-quality foraging habitat.

## IV. Landscape and Natural Community-Level Avoidance and Minimization Measures

Describe relevant avoidance and minimization measures required to address the conservation measures listed below. If a conservation measure is not relevant to the project, explain why.

### For All Projects

#### HCP/NCCP Conservation Measure 1.10. Maintain Hydrologic Conditions and Minimize Erosion

Briefly describe how the project complies with this measure. See page 6-21 of the Final HCP/NCCP for details.

A Storm Water Control Plan per the Contra Costa County Clean Water Program (C-3 handbook) will be prepared. The Plan will contain the details of design and monitoring of storm water control facilities both during and post-construction consistent with City, County and Caltrans requirements. A major component of the plan will be the installation of bioswales in the median to detain and filter storm water before it enters existing drop structures draining to East Antioch Creek.

#### HCP/NCCP Conservation Measure 1.11. Avoid Direct Impacts on Extremely Rare Plants, Fully Protected Wildlife Species, or Covered Migratory Birds

Briefly describe how the project complies with this measure. See page 6-23 of the Final HCP/NCCP for details.

##### **Protected/Migratory Birds**

##### **Tree-nesting and bridge-nesting birds**

Raptors such as the red-tailed hawk, Cooper's hawk, and white-tailed kite may nest in the trees along the edge of the ROW. Cliff and violet-green swallows are currently nesting beneath the existing bridges. All of these species are protected under the California Fish and Wildlife Code and the federal Migratory Bird Treaty Act.

##### **Preconstruction Surveys**

##### **Tree nesters**

If possible, trees will be removed prior to the start of the nesting season (February 1). If this is not possible, a USFWS/CDFW-approved biologist will conduct a preconstruction survey of all large trees within 14 days of start of construction to determine whether any nesting is occurring.

##### **Avoidance and Minimization and Construction Monitoring**

If nesting is occurring, the biologist will coordinate with CDFW to determine a suitable buffer size to be placed around the nest(s) and monitor the site until the young have fledged the nest.

##### **Preconstruction Surveys**

## **Swallows**

Prior to the start of the breeding season (February 15) a USFWS/CDFW–approved biologist will inspect the bridges to determine the extent of last season nesting as well as the potential for nesting to occur on other sections of the bridges.

## **Avoidance and Minimization and Construction Monitoring**

Prior to the start of the breeding season (February 15) the biologist will oversee the placement of exclusion netting over the existing nests and those additional bridge components that could be used for swallow nesting. Poultry wire or other firm material with mesh size not exceeding  $\frac{3}{4}$ - inch will be attached to wood lath and fastened over the nests on all sides preventing the swallows from entering the nests. The same material will be fastened over other corners of the bridge understructure to prevent swallows from starting new nests in those areas. The biologist will monitor the exclusions to ensure that they are functioning correctly. The exclusions will remain until project completion at which time all exclusion material will be removed from the structures.

## **For Projects on or adjacent to Streams or Wetlands**

### **HCP/NCCP Conservation Measure 1.7. Establish Stream Setbacks**

Briefly describe how the project complies with this measure. See page 6-15 and Table 6-2 of the Final HCP/NCCP for details. For questions on the stream setback requirements, please contact the Conservancy.

The only water in the project area is East Antioch Creek which is piped for the full width of the project area. As the bridge supports will avoid the pipe, there will be no effect on the Creek.

### **HCP/NCCP Conservation Measure 2.12. Wetland, Pond, and Stream Avoidance and Minimization**

Briefly describe how the project complies with this measure. See page 6-33 of the Final HCP/NCCP for details.

The only water in the project area is East Antioch Creek which is piped for the full width of the project area. As the bridge supports will avoid the pipe, there will be no effect on the Creek.

## **For Projects adjacent to Protected Natural Lands (existing and projected)**

There are no protected natural lands adjacent to the project area.

Covered activities adjacent to permanently protected natural lands will require a variety of special considerations to address issues associated with characteristics of the urban-wildland interface. These considerations are intended to minimize the impacts of development on the integrity of habitat preserved and protected under the terms of the Plan. Permanently protected natural lands are defined as any of the following (see the latest Preserve System map on the Conservancy web site, [www.cocohcp.org](http://www.cocohcp.org)).

- Publicly owned open space with substantial natural land cover types including but not limited to state and regional parks and preserves and public watershed lands (local and urban neighborhood parks are excluded).

- Deed-restricted private conservation easements.
- HCP/NCCP Preserve System lands.
- Potential HCP/NCCP Preserve System lands (see Figure 5-3 in the HCP/NCCP).

## **HCP/NCCP Conservation Measure 1.6. Minimize Development Footprint Adjacent to Open Space**

Briefly describe how the project complies with this measure. See page 6-14 of the Final HCP/NCCP for details.

There are no dedicated open space areas adjacent to the project area.

## **HCP/NCCP Conservation Measure 1.8. Establish Fuel Management Buffer to Protect Preserves and Property**

Briefly describe how the project complies with this measure. See page 6-18 of the Final HCP/NCCP for details.

The SR-160 roadside is mowed annually to serve as a fuel management buffer between the highway and adjacent properties.

## **HCP/NCCP Conservation Measure 1.9. Incorporate Urban-Wildland Interface Design Elements**

Briefly describe how the project complies with this measure. See page 6-20 of the Final HCP/NCCP for details. The project area is not adjacent to a natural preserve or any urban-wildland interface area. Therefore, this measure does not apply.

## **For Rural Infrastructure Projects**

Rural infrastructure projects provide infrastructure that supports urban development within the urban development area. Such projects are divided into three categories: transportation projects, flood protection projects, and utility projects. Most rural road projects covered by the Plan will be led by Contra Costa County. All flood protection projects covered by the Plan will be led by the County Flood Control District. Utility projects will likely be led by the private companies that own the utility lines. A complete discussion of rural infrastructure projects is presented in Section 2.3.2 of the Final HCP/NCCP beginning on page 2-18.

## **HCP/NCCP Conservation Measure 1.12. Implement Best Management Practices for Rural Road Maintenance**

Briefly describe how the project complies with this measure. See page 6-25 of the Final HCP/NCCP for details.

The project is located in an urban area and as such will have no effect on the rural environment.

## HCP/NCCP Conservation Measure 1.13. Implement Best Management Practices for Flood Control Facility Maintenance

Briefly describe how the project complies with this measure. See page 6-26 of the Final HCP/NCCP for details.

N/A (the project is not a flood control facility).

## HCP/NCCP Conservation Measure 1.14. Design Requirements for Covered Roads outside the Urban Development Area

Briefly describe how the project complies with this measure. See page 6-27 of the Final HCP/NCCP for details.

The project is located in an urban area and as such will have no effect on the rural environment.

# V. Mitigation Measures

### **Complete and Attach Exhibit 1 (Permanent Impact Fees) and/or Exhibit 2 (Temporary Impact Fees) Fee Calculator(s) for Permanent and Temporary Impacts.**

- Briefly describe the amount of fees to be paid and when. See Exhibits 1 & 2.
- See Section 9.3.1 of the HCP/NCCP for details. If land is to be dedicated in lieu of fees or if restoration or creation of jurisdictional wetlands or waters is to be performed in lieu of fees, summarize these actions here and attach written evidence that the Conservancy has approved these actions in lieu of fees.

The applicant will be paying an HCP/NCCP Development Fee to mitigate for both permanent and temporary non-avoidable impacts. The fees were calculated on the area from the UPRR easement north to the end of project limits. The area of the project from the UPRR south to the project limits lies in Segment 1 of the SR 4 Bypass Road and involves acreage already paid for as discussed in the USFWS Biological Opinion for that segment. The Conservancy in consultation with CCTA and FWS determined the area of the SR 160/SR 4 Bypass Phase 2 Connectors project which overlaps with Segment 1 of the SR 4 Bypass Project to be 22.37 acres, which will be included in the HCP/NCCP permit coverage but will not be accessed additional mitigation fees (See Figure 3a). The applicant agrees to mitigate for a small area of ruderal land south of the UPRR tracks, as depicted in Figure 3a. Fees were calculated using the March 15, 2013 mitigation fee schedule for Participating Special Entities. The total mitigation fees according to the March 15, 2013 fee calculator will be \$299,589.08. Fees are subject to change pending the adoption of the 2012 periodic fee audit by the Conservancy's Governing Board. If the Conservancy Board approves changes to the fees based on the periodic fee audit on April 4, 2013 the fees will be adjusted to match the Board-approved fees. If the periodic audit is not adopted then fees will be as shown above. (See costs shown for permanent and temporary impacts on the enclosed Exhibit 1 and Exhibit 2).

## **Appendix:**

### **Exhibit 1 and 2: Fee Calculator**

#### **Figures:**

|             |  |
|-------------|--|
| Figure 1    | Site and Vicinity                            |
| Figure 2a-g | Project Plans                                |
| Figure 3    | Existing Land Cover                          |
| Figure 3a   | Land Cover - Permanent and Temporary Impacts |
| Figure 3b   | Project Map                                  |
| Figure 3c   | Photos of the Project Area                   |
| Figure 4    | Planning Surveys Species Habitat Map         |

### **Report of Surveys for Special-Status Plants**

# Exhibit 1: HCP/NCCP FEE CALCULATOR WORKSHEET

## PROJECT APPLICANT INFO:

Project Applicant: Contra Costa Transportation Authority

Project Name: SR 160/SR 4 Phase 2 Connectors Project

APN (s): \_\_\_\_\_

Date: March 28, 2013

Jurisdiction: Participating Special Entity

### DEVELOPMENT FEE (see appropriate ordinance or HCP/NCCP Figure 9-1 to determine Fee Zone)

#### Acreage of land to be permanently disturbed (from Table 1)<sup>1</sup>

|                                | Full Development Fee |   | Fee per Acre (subject to change on 3/15/14 <sup>2</sup> ) |                     |
|--------------------------------|----------------------|---|---|---------------------|
| Fee Zone 1                     | _____                | x | \$10,924.14 =   | \$0.00              |
| Fee Zone 2                     | _____                | x | \$21,848.28 =   | \$0.00              |
| Fee Zone 3                     | _____                | x | \$5,462.53 =  | \$0.00              |
| Fee Zone 4 <sup>3</sup>        | 18.01                | x | \$16,386.21 =   | \$295,115.64        |
| <b>Development Fee Total =</b> |                      |   |   | <b>\$295,115.64</b> |

### \*\*WETLAND MITIGATION FEE

|  | Acreage of wetland |   | Fee per Acre (subject to change on 3/15/14 <sup>2</sup> ) |               |
|--|--------------------|---|---|---------------|
| Riparian woodland / scrub                                  | _____              | x | \$71,547.41 =   | \$0.00        |
| Perennial Wetland  | _____              | x | \$123,103.63 =  | \$0.00        |
| Seasonal Wetland   | _____              | x | \$257,781.10 =  | \$0.00        |
| Alkali Wetland   | _____              | x | \$239,894.25 =  | \$0.00        |
| Ponds  | _____              | x | \$123,103.63 =  | \$0.00        |
| Aquatic (open water)                                       | _____              | x | \$61,025.73 =   | \$0.00        |
| Slough / Channel   | _____              | x | \$130,468.80 =  | \$0.00        |
| <b>Linear Feet</b>   |                    |   |   |               |
| <b>Streams</b>   |                    |   |   |               |
| Streams 25 Feet wide or less (Fee is per Linear Foot)      | _____              | x | \$428.23 =  | \$0.00        |
| Streams greater than 25 feet wide (Fee is per Linear Foot) | _____              | x | \$644.98 =  | \$0.00        |
| <b>Wetland Mitigation Fee Total =</b>                      |                    |   |   | <b>\$0.00</b> |

### FEE REDUCTION

|  |               |
|--|---------------|
| Development Fee reduction (authorized by Implementing Entity) for land in lieu of fee  | _____         |
| Development Fee reduction (up to 33%, but must be approved by Conservancy) for permanent assessments                         | _____         |
| Wetland Mitigation Fee reduction (authorized by Implementing Entity) for wetland restoration/creation performed by applicant | _____         |
| <b>Reduction Total =</b>   | <b>\$0.00</b> |

### CALCULATE FINAL FEE

|                                  |                     |
|----------------------------------|---------------------|
| Development Fee Total            | \$295,115.64        |
| Wetland Mitigation Fee Total +   | \$0.00              |
| <b>Fee Subtotal</b>              | <b>\$295,115.64</b> |
| Contribution to Recovery +       | None Applied        |
| <b>TOTAL AMOUNT TO BE PAID =</b> | <b>\$295,115.64</b> |

#### Notes:

- 1 City/County Planning Staff will consult the land cover map in the Final HCP/NCCP and will reduce the acreage subject to the Development Fee by the acreage of the subject property that was identified in the Final HCP/NCCP as urban, turf, landfill or aqueduct land cover.
- 2 The Conservancy is currently conducting the periodic fee audit required by the HCP/NCCP which could result in further adjustment to some or all fees in 2013. If the Conservancy Board approves changes to the fees based on the periodic fee audit on April 4, 2013 the fees will be adjusted to match the Board-approved fees. If the periodic audit is not adopted then fees will be as shown above.
- 3 "Fee Zone 4" is not shown on Figure 9.1 of the HCP/NCCP but refers to the fee applicable to those few covered activities located in northeastern Antioch (see page 9-21 of the HCP).

Template date: March 15, 2013

# Exhibit 2: TEMPORARY IMPACT FEE CALCULATOR WORKSHEET

## PROJECT APPLICANT INFO:

Project Applicant: Contra Costa Transportation Authority

Project Name: SR 160/SR 4 Phase 2 Connectors Project

APN (s): \_\_\_\_\_

Date: March 27, 2013 Jurisdiction: Participating Special Entity

### TEMPORARY DEVELOPMENT IMPACT FEE (see appropriate ordinance or HCP/NCCP Figure 9-1 to determine Fee Zone)

|                                     | Acreage of land to be temporarily disturbed (from Table 1) <sup>1</sup> |   | Years of Disturbance (2 years is the minimum for ground-disturbing) |     | Fee per Acre (subject to change on 3/15/14 <sup>2</sup> ) |                   |
|-------------------------------------|---|---|---|-----|---|-------------------|
| Fee Zone 1                          | _____   | X | _____   | /30 | \$10,924.14   | \$0.00            |
| Fee Zone 2                          | _____   | X | _____   | /30 | \$21,848.28   | \$0.00            |
| Fee Zone 3                          | _____   | X | _____   | /30 | \$5,462.53 =  | \$0.00            |
| Fee Zone 4 <sup>3</sup>             | 2.73  | X | 3   | /30 | \$16,386.21 =   | \$4,473.44        |
| <b>Temporary Impact Fee Total =</b> |   |   |   |     |   | <b>\$4,473.44</b> |

### \*\*TEMPORARY WETLAND MITIGATION FEE

|  | Acreage of wetland | Yrs. Of Disturbance (minimum shown) |   | Fee per Acre (subject to change on 3/15/14 <sup>2</sup> ) |             |
|--|--------------------|-------------------------------------|---|---|-------------|
| Riparian woodland / scrub                                  | _____              | 5.00                                | x | \$71,547.41 =   | \$ -        |
| Perennial Wetland  | _____              | 2.00                                | x | \$123,103.63 =  | \$ -        |
| Seasonal Wetland   | _____              | 2.00                                | x | \$257,781.10 =  | \$ -        |
| Alkali Wetland   | _____              | 2.00                                | x | \$239,894.25 =  | \$ -        |
| Ponds  | _____              | 2.00                                | x | \$123,103.63 =  | \$ -        |
| Aquatic (open water)                                       | _____              | 2.00                                | x | \$61,025.73 =   | \$ -        |
| Slough / Channel   | _____              | 2.00                                | x | \$130,468.80 =  | \$ -        |
| <b>Linear Feet</b>   |                    |                                     |   |   |             |
| <b>Streams</b>   |                    |                                     |   |   |             |
| Streams 25 Feet wide or less (Fee is per Linear Foot)      | _____              | 2.00                                | x | \$428.23 =  | \$0.00      |
| Streams greater than 25 feet wide (Fee is per Linear Foot) | _____              | 2.00                                | x | \$644.98 =  | \$0.00      |
| <b>Wetland Mitigation Fee Total =</b>                      |                    |                                     |   |   | <b>\$ -</b> |

### FEE REDUCTION

|  |               |
|--|---------------|
| Development Fee reduction (authorized by Implementing Entity) for land in lieu of fee  | _____         |
| Development Fee reduction (up to 33%, but must be approved by Conservancy) for permanent assessments                         | _____         |
| Wetland Mitigation Fee reduction (authorized by Implementing Entity) for wetland restoration/creation performed by applicant | _____         |
| <b>Reduction Total =</b>   | <b>\$0.00</b> |

### CALCULATE FINAL TEMPORARY IMPACT FEES

|   |                   |
|---|-------------------|
| Development Fee Total                           | 4473.44           |
| Wetland Mitigation Fee Total +                  | 0.00              |
| <b>Fee Subtotal =</b>                           | <b>4473.44</b>    |
| <b>TOTAL TEMPORARY IMPACT FEES TO BE PAID =</b> |                   |
|   | <b>\$4,473.44</b> |

#### Notes:

1 City/County Planning Staff will consult the land cover map in the Final HCP/NCCP and will reduce the acreage subject to the Development Fee by the acreage of the subject property that was identified in the Final HCP/NCCP as urban, turf, landfill or aqueduct land cover.

2 The Conservancy is currently conducting the periodic fee audit required by the HCP/NCCP which could result in further adjustment to some or all fees in 2013. If the Conservancy Board approves changes to the fees based on the periodic fee audit on April 4, 2013 the fees will be adjusted to match the Board-approved fees. If the periodic audit is not adopted then fees will be as shown above.

3 "Fee Zone 4" is not shown on Figure 9.1 of the HCP/NCCP but refers to the fee applicable to those few covered activities located in northeastern Antioch (see page 9-21 of the HCP).

**Template date: March 15, 2013**

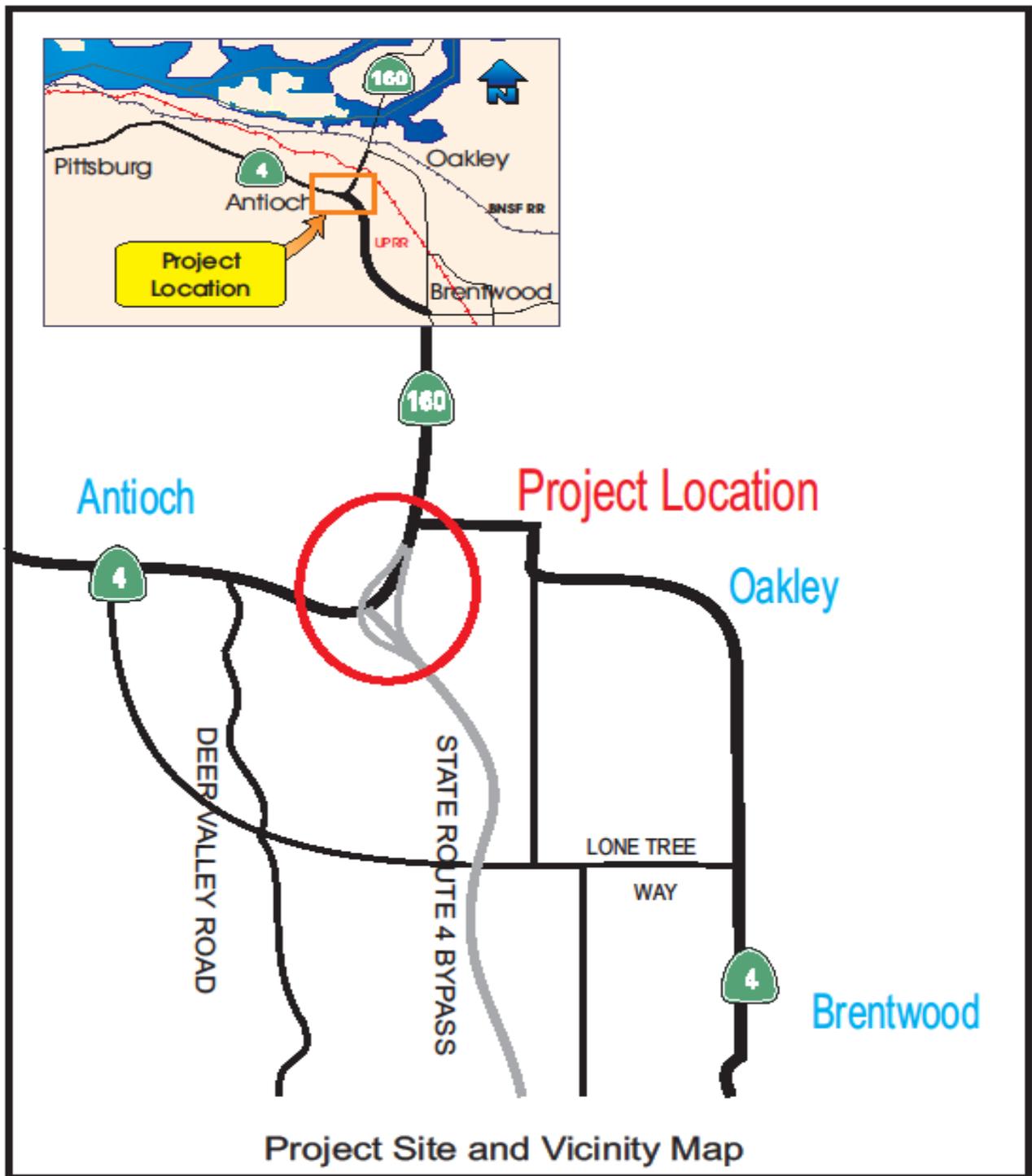


Figure 1: Project Site and Vicinity Map

INDEX OF SHEETS (FOR 65% SUBMITTAL)

| SHEET NO.        | DESCRIPTION                                     |
|------------------|---|
| 1                | TITLE AND LOCATION MAP                          |
| 2                | KEY MAP AND LINE INDEX                          |
| 3-9              | TYPICAL CROSS SECTIONS                          |
| 10-15            | LAYOUTS   |
| 16-24            | PROFILES AND SUPERELEVATION PLANS               |
| 25-33            | CONSTRUCTION DETAILS                            |
| 34-40            | EROSION CONTROL PLANS                           |
| 41-63            | DRAINAGE PLANS, PROFILE, DETAILS AND QUANTITIES |
| 64-69            | UTILITY PLANS                                   |
| 70-71            | CONSTRUCTION AREA SIGNS                         |
| 72-74            | STAGE CONSTRUCTION PLANS                        |
| 75-97            | TRAFFIC HANDLING PLANS, DETAILS AND QUANTITIES  |
| 98-104           | DETOUR PLANS AND QUANTITIES                     |
| 105-112          | PAVEMENT DELINEATION PLANS AND QUANTITIES       |
| 113-125          | SIGN PLANS, DETAILS AND QUANTITIES              |
| 126-128          | SUMMARY OF QUANTITIES                           |
| 129-136          | SOUND WALL PLANS                                |
| 137-153          | ELECTRICAL PLANS                                |
| STRUCTURAL PLANS |   |
| 154-182          | WB4-NB160 CONNECTOR VIADUCT                     |
| 183-212          | SB160-EB4/4 SEPARATION                          |
| 213-255          | SB160 VIADUCT                                   |
| 256-265          | RETAINING WALL PLANS                            |
| 266-293          | MSE WALL PLANS                                  |

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN CONTRA COSTA COUNTY  
IN CITY OF ANTIOCH  
FROM 0.3 MILE NORTH OF OAKLEY ROAD OVERCROSSING  
TO 0.6 MILE WEST OF LAUREL ROAD OVERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|--------|--------------------------|-----------|--------------|
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9 | 1         | 293          |



APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

DATE SIGNED 00-00-00

LICENSE Exp DATE 00-00-00

REGISTRATION No.

CALTRANS DESIGN OVERSIGHT APPROVAL

CONSULTANT DESIGN ENGINEER

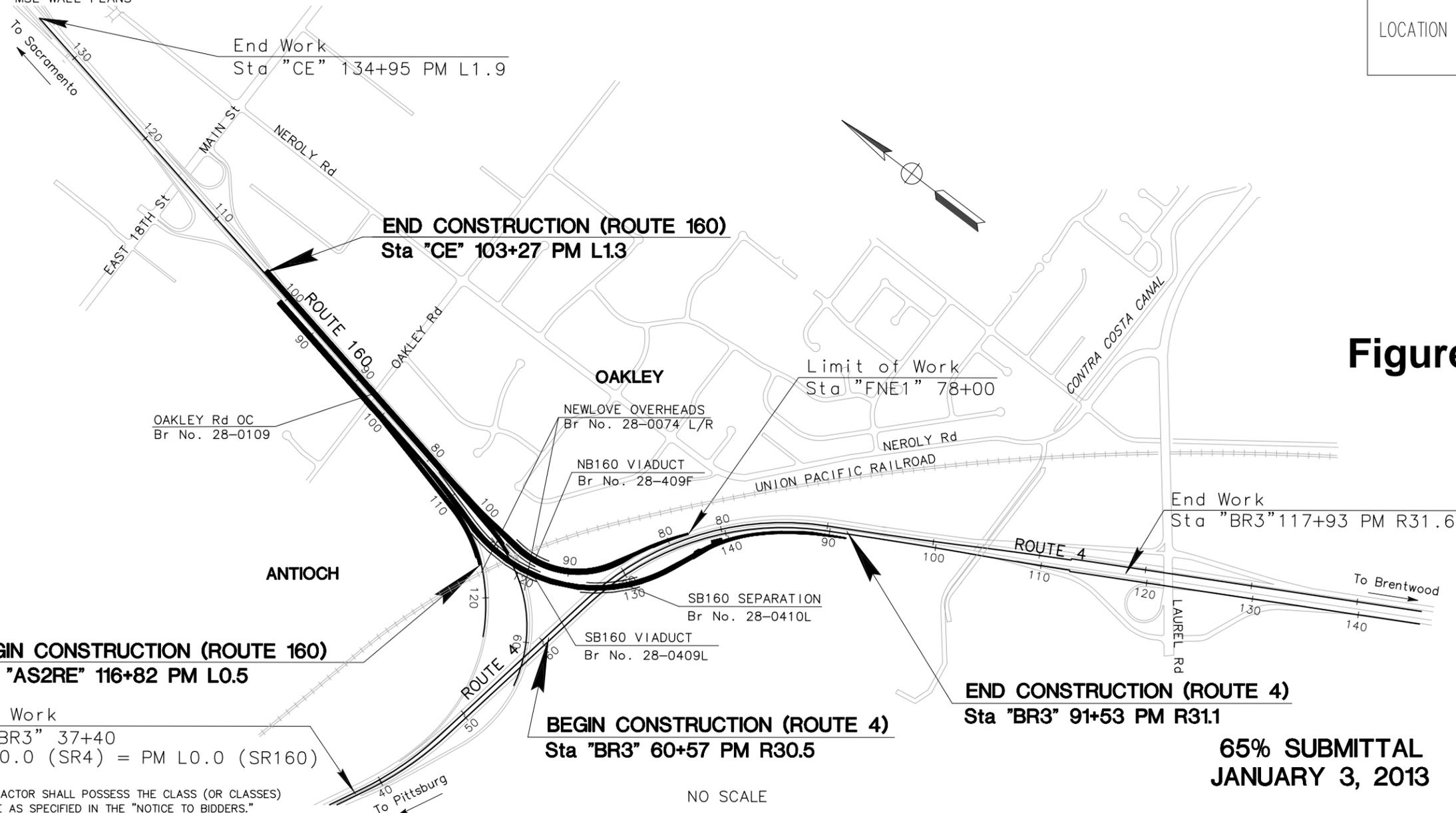


Figure 2: Project Plans

PROJECT ENGINEER REGISTERED CIVIL ENGINEER DATE  
 CHUONG NGUYEN  
 No. 46770  
 Exp. 06/30/13  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVENUE, SUITE 100  
 SAN JOSE, CA 95126

CONTRA COSTA TRANSPORTATION AUTHORITY  
 2999 OAK ROAD, SUITE 100  
 WALNUT CREEK, CALIFORNIA 94597

CONTRACT No. 04-2G5104  
 PROJECT ID 0412000203

PROJECT NUMBER & PHASE 04120002031

Begin Work  
 Sta "BR3" 37+40  
 PM R30.0 (SR4) = PM L0.0 (SR160)

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."



65% SUBMITTAL  
 JANUARY 3, 2013

|      |        |        |                             |              |                 |
|------|--------|--------|-----------------------------|--------------|-----------------|
| Dist | COUNTY | ROUTE  | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9    | 10           | 293             |

|  |               |
|--|---------------|
| REGISTERED CIVIL ENGINEER  | DATE          |
| CHUONG NGUYEN  | No. 46770     |
| PLANS APPROVAL DATE  | Exp. 06/30/13 |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |               |

|  |   |
|--|---|
| RAJAPPAN & MEYER<br>CONSULTING ENGINEERS, INC.<br>1038 LEIGH AVENUE, SUITE 100<br>SAN JOSE, CALIFORNIA 95126 | CONTRA COSTA TRANSPORTATION AUTHORITY<br>2999 OAK ROAD, SUITE 100<br>WALNUT CREEK, CALIFORNIA 94597 |
|--|---|

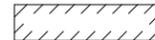
**NOTES:**

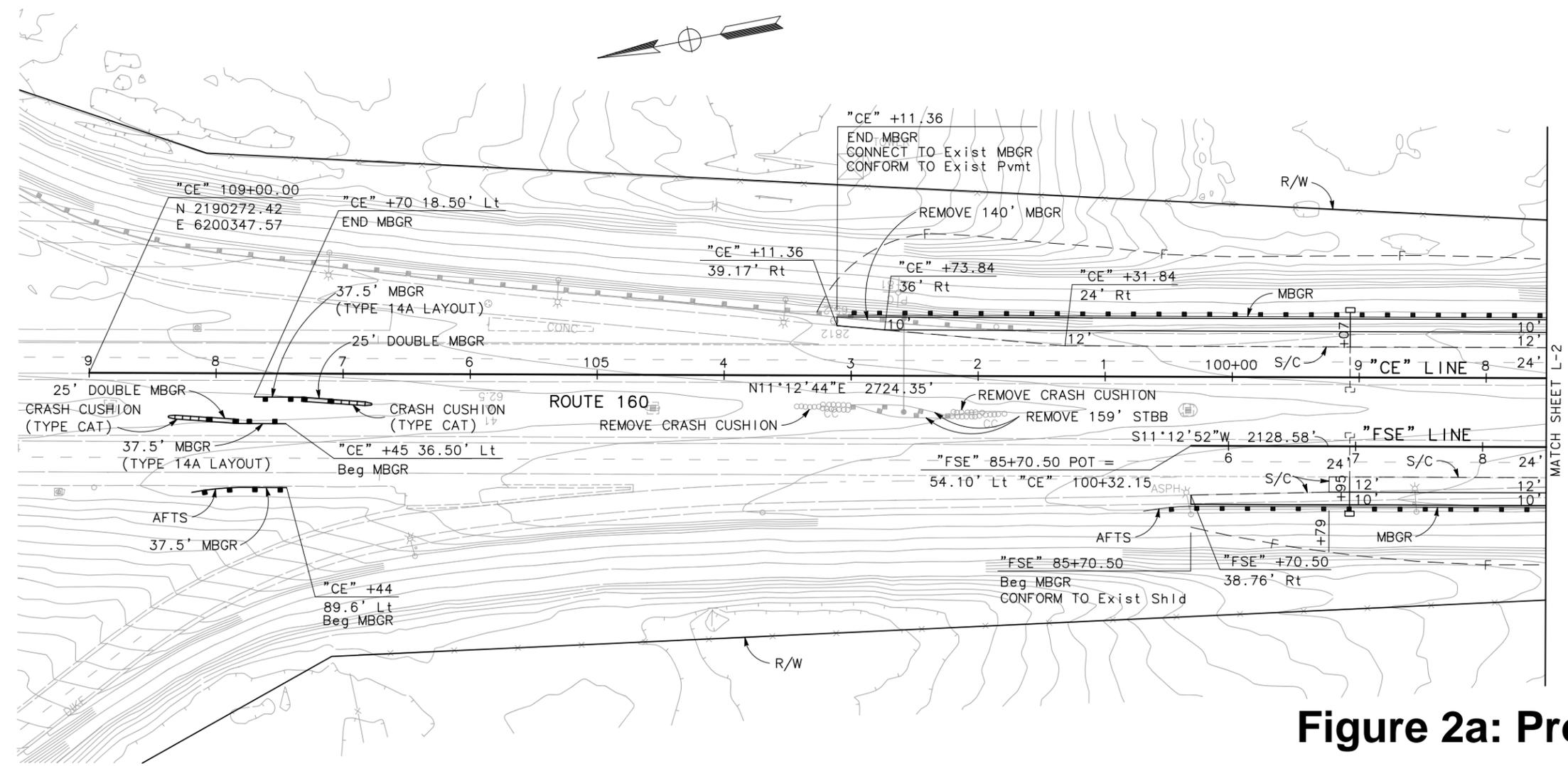
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL COORDINATE DISTANCES AND BEARINGS ARE BASED ON THE CCS83, ZONE 3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

**ABBREVIATIONS:**

- AFTS ALTERNATIVE FLARED TERMINAL SYSTEM  
MVP MAINTENANCE VEHICLE PULLOUT  
Reconst RECONSTRUCT  
S/C SAWCUT & CONFORM

**LEGEND**

-  HMA OVERLAY
-  JOINTED PLAIN CONCRETE PAVEMENT
-  MINOR CONCRETE (BRUSHED CONCRETE)
-  EXTEND IRRIGATION CROSSOVER CONDUIT
-  RETAINING WALL
-  SOUND WALL ON BARRIER
-  CONCRETE BARRIER



**Figure 2a: Project Plans**

LAYOUT  
SCALE: 1" = 50'

**65% SUBMITTAL  
JANUARY 3, 2013**

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
*Caltrans*  
CONSULTANT FUNCTIONAL SUPERVISOR: KEITH G. MEYER  
CALCULATED/DESIGNED BY: N MUMMANANI  
CHECKED BY: C NGUYEN  
REVISOR: N MUMMANANI  
DATE: 7/2/2010  
REVISION: 1038 LEIGH AVENUE, SUITE 100, SAN JOSE, CALIFORNIA 95126

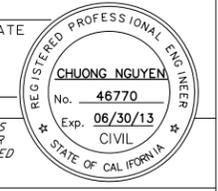
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RELATIVE BORDER SCALE IS IN INCHES  
0 1 2 3

UNIT PROJECT NUMBER & PHASE 04120002031

LAST REVISION DATE PLOTTED => \$DATE  
TIME PLOTTED => \$TIME

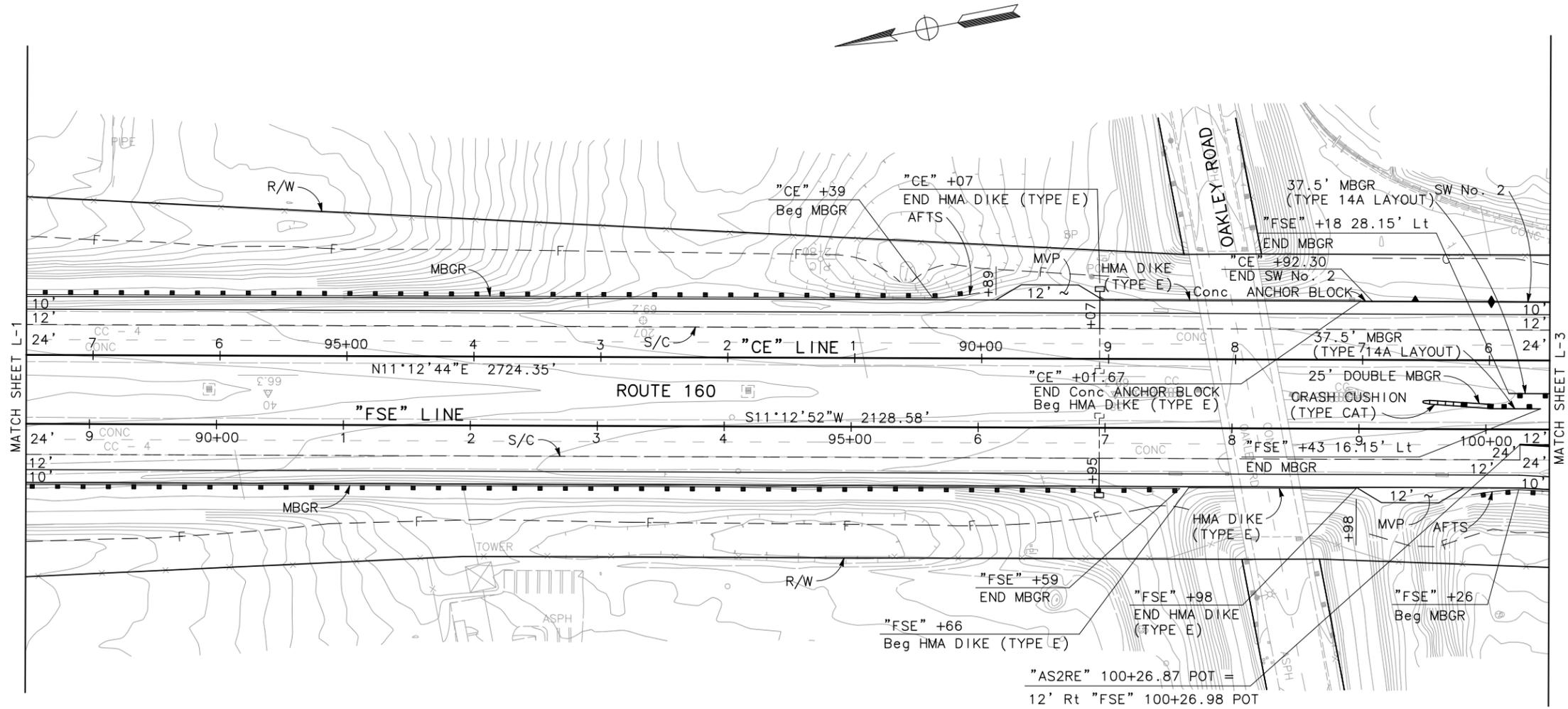
|  |        |        |   |           |              |
|--|--------|--------|---|-----------|--------------|
| Dist   | COUNTY | ROUTE  | POST MILES TOTAL PROJECT  | SHEET No. | TOTAL SHEETS |
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9  | 11        | 293          |
| REGISTERED CIVIL ENGINEER DATE   |        |        |   |           |              |
| PLANS APPROVAL DATE  |        |        |   |           |              |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |        |        |   |           |              |
| RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.<br>1038 LEIGH AVENUE, SUITE 100<br>SAN JOSE, CALIFORNIA 95126  |        |        | CONTRA COSTA TRANSPORTATION AUTHORITY<br>2999 OAK ROAD, SUITE 100<br>WALNUT CREEK, CALIFORNIA 94597 |           |              |



**NOTES:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

|  |                                  |                        |              |
|--|----------------------------------|------------------------|--------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR | CALCULATED/DESIGNED BY | REVISOR      |
| Keith G. Meyer                                     | Keith G. Meyer                   | N MUMMANENTI           | N MUMMANENTI |
| Checked by   | Checked by                       | Revised by             | Revised by   |
| C NGUYEN   | C NGUYEN                         | C NGUYEN               | C NGUYEN     |



**Figure 2b: Project Plans**

**65% SUBMITTAL  
JANUARY 3, 2013**

**LAYOUT**  
SCALE: 1" = 50'  
**L-2**

LAST REVISION    DATE PLOTTED => \$DATE    TIME PLOTTED => \$TIME

| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|--------|--------------------------|-----------|--------------|
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9 | 12        | 293          |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 CHUONG NGUYEN  
 No. 46770  
 Exp. 06/30/13  
 CIVIL  
 STATE OF CALIFORNIA

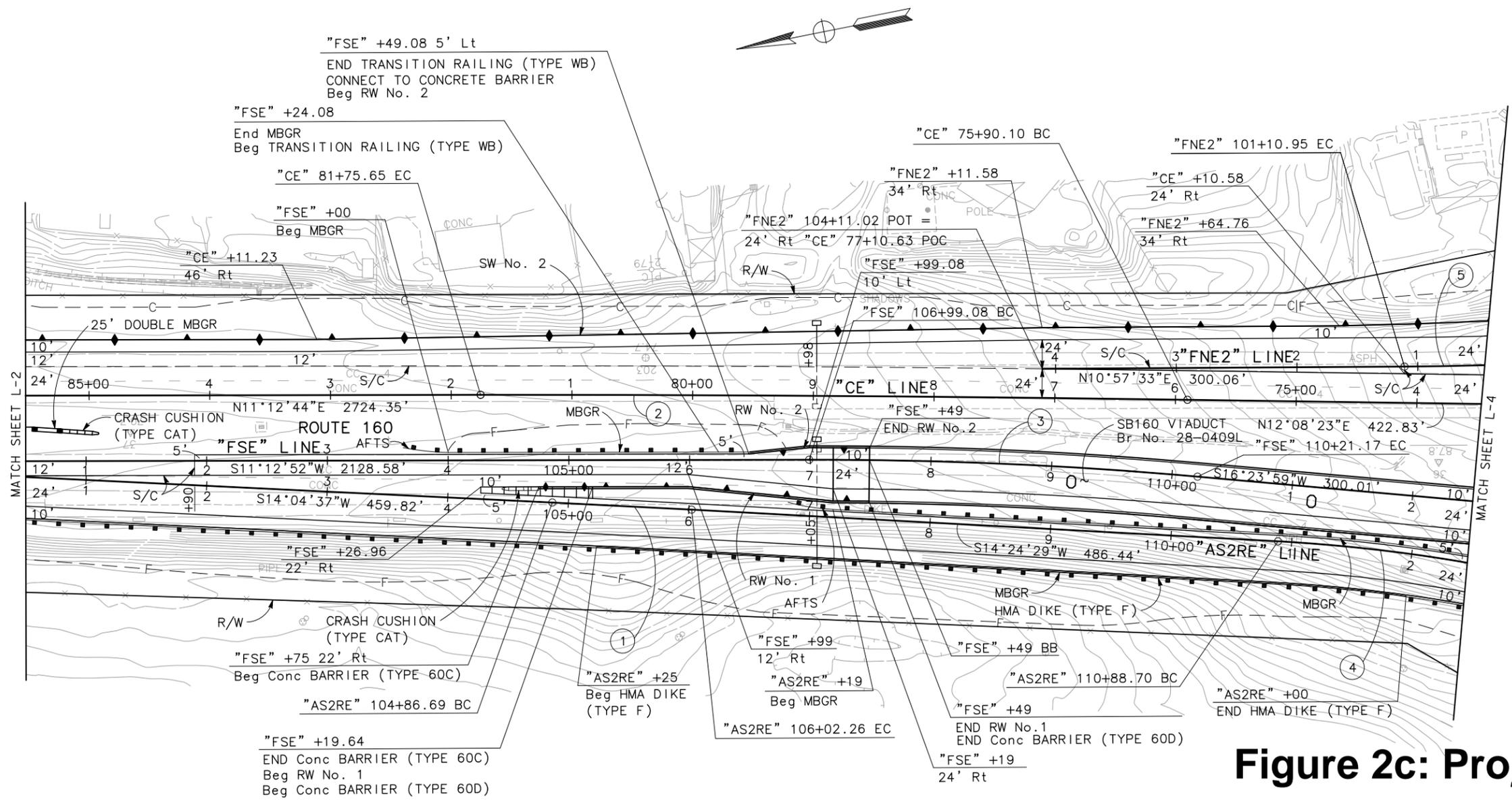
PLANS APPROVAL DATE \_\_\_\_\_  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.  
 RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. 1038 LEIGH AVENUE, SUITE 100 SAN JOSE, CALIFORNIA 95126  
 CONTRA COSTA TRANSPORTATION AUTHORITY 2999 OAK ROAD, SUITE 100 WALNUT CREEK, CALIFORNIA 94597

**NOTES:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| No. | RADIUS    | DELTA     | TANGENT | LENGTH  | N           | E           |
|-----|-----------|-----------|---------|---------|-------------|-------------|
| ①   | 20000.00' | 00°19'52" | 57.78'  | 115.56' | 2192423.830 | 6180319.488 |
| ②   | 39988.00' | 00°50'20" | 292.78' | 585.55' | 2195436.054 | 6160605.116 |
| ③   | 3559.00'  | 05°11'07" | 161.15' | 322.09' | 2188035.883 | 6196220.735 |
| ④   | 1350.00'  | 26°59'26" | 323.99' | 635.95' | 2187312.071 | 6198261.869 |
| ⑤   | 3000.00'  | 03°30'34" | 91.91'  | 183.76' | 2186274.701 | 6202635.783 |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Galtrans®  
 CONSULTANT FUNCTIONAL SUPERVISOR KEITH G. MEYER  
 CALCULATED/DESIGNED BY CHECKED BY  
 N MUMMANENTI C NGUYEN  
 REVISOR BY DATE REVISOR DATE



**Figure 2c: Project Plans**

**65% SUBMITTAL  
 JANUARY 3, 2013**

**LAYOUT**  
 SCALE: 1" = 50'  
**L-3**

DATE PLOTTED => \$DATE  
 TIME PLOTTED => \$TIME  
 LAST REVISION

|      |        |        |                          |           |              |
|------|--------|--------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9 | 13        | 293          |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 CHUONG NGUYEN  
 No. 46770  
 Exp. 06/30/13  
 CIVIL  
 STATE OF CALIFORNIA

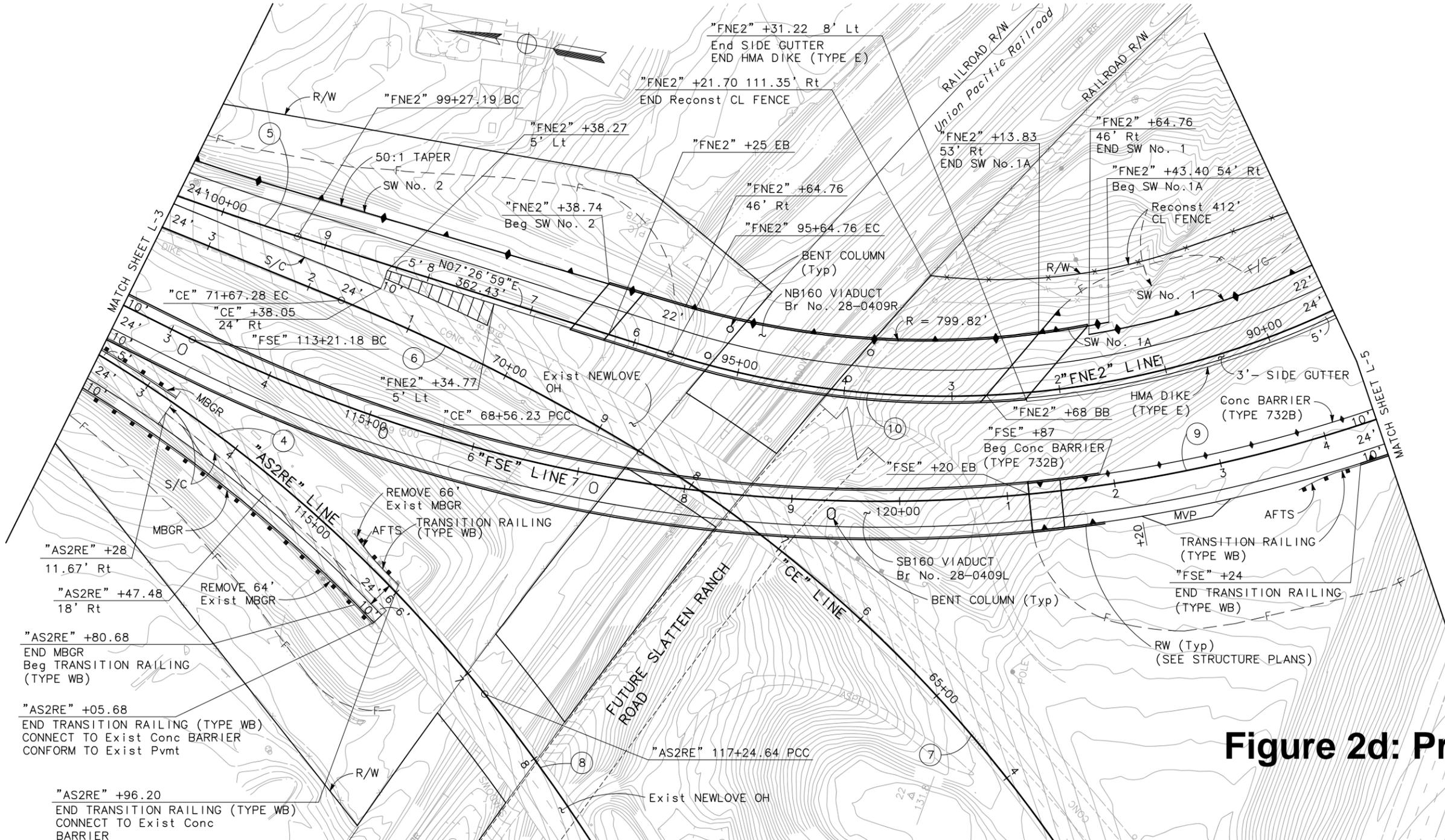
PLANS APPROVAL DATE \_\_\_\_\_  
 RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVENUE, SUITE 100  
 SAN JOSE, CALIFORNIA 95126  
 CONTRA COSTA TRANSPORTATION AUTHORITY  
 2999 OAK ROAD, SUITE 100  
 WALNUT CREEK, CALIFORNIA 94597

**NOTES:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| CURVE DATA |          |           |          |          |             |             |
|------------|----------|-----------|----------|----------|-------------|-------------|
| No.        | RADIUS   | DELTA     | TANGENT  | LENGTH   | N           | E           |
| ④          | 1350.00' | 26°59'26" | 323.99'  | 635.95'  | 2187312.071 | 6198261.869 |
| ⑤          | 3000.00' | 03°30'34" | 91.91'   | 183.76'  | 2186274.701 | 6202635.783 |
| ⑥          | 1895.81' | 09°24'02" | 155.87'  | 311.04'  | 2187012.043 | 6197756.559 |
| ⑦          | 1300.00' | 56°14'54" | 694.84'  | 1276.23' | 2186793.290 | 6198310.758 |
| ⑧          | 1750.00' | 20°55'02" | 323.04'  | 638.88'  | 2187576.588 | 6197961.818 |
| ⑨          | 1434.00' | 83°48'00" | 1286.66' | 2097.35' | 2186338.367 | 6200925.892 |
| ⑩          | 850.00'  | 68°58'50" | 583.98'  | 1023.35' | 2186194.087 | 6200456.939 |

REVISOR: N MUMMANENTI  
 CHECKED BY: C NGUYEN  
 SUPERVISOR: KEITH G. MEYER  
 DEPARTMENT OF TRANSPORTATION



**Figure 2d: Project Plans**

**65% SUBMITTAL  
 JANUARY 3, 2013**

**LAYOUT**  
 SCALE: 1" = 50'  
**L-4**

|      |        |        |                          |           |              |
|------|--------|--------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9 | 14        | 293          |

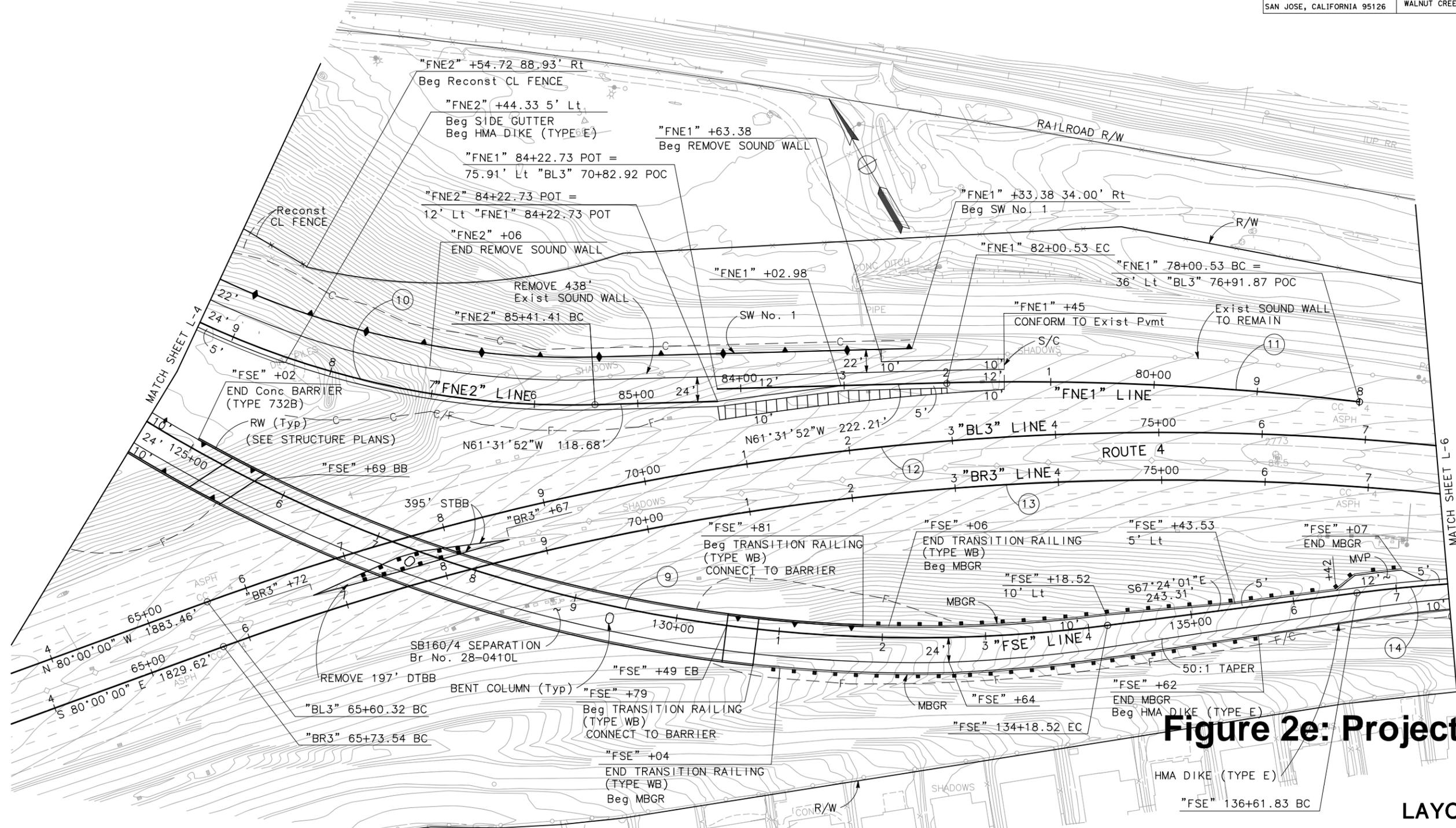
REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 CHUONG NGUYEN  
 No. 46770  
 Exp. 06/30/13  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE \_\_\_\_\_  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.  
 RAJAPPAN & MEYER CONSULTING ENGINEERS, INC. 1038 LEIGH AVENUE, SUITE 100 SAN JOSE, CALIFORNIA 95126  
 CONTRA COSTA TRANSPORTATION AUTHORITY 2999 OAK ROAD, SUITE 100 WALNUT CREEK, CALIFORNIA 94597

**NOTES:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| CURVE DATA |          |           |          |          |             |             |
|------------|----------|-----------|----------|----------|-------------|-------------|
| No.        | RADIUS   | DELTA     | TANGENT  | LENGTH   | N           | E           |
| 9          | 1434.00' | 83°48'00" | 1286.66' | 2097.35' | 2186338.367 | 6200925.892 |
| 10         | 850.00'  | 68°58'50" | 583.98'  | 1023.35' | 2186194.087 | 6200456.939 |
| 11         | 2752.54' | 08°19'34" | 200.35'  | 400.00'  | 2182875.236 | 6199045.055 |
| 12         | 2709.97' | 51°15'40" | 1300.18' | 2424.54' | 2182800.870 | 6199161.210 |
| 13         | 2664.03' | 51°15'40" | 1278.14' | 2383.45' | 2182800.870 | 6199161.210 |
| 14         | 1395.00' | 22°16'37" | 274.66'  | 542.38'  | 2183633.100 | 6200063.355 |



**Figure 2e: Project Plans**

LAYOUT

SCALE: 1" = 50'

L-5

**65% SUBMITTAL  
 JANUARY 3, 2013**

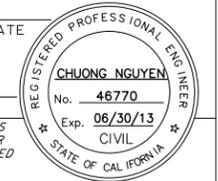
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 G4 Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: KEITH G. MEYER  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 N MUMMANANI C NGUYEN  
 REVISOR: DATE REVISOR: DATE

DATE PLOTTED => \$DATE  
 TIME PLOTTED => \$TIME  
 LAST REVISION

|      |        |        |                          |           |              |
|------|--------|--------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE  | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | CC     | 4, 160 | R30.0/R31.6<br>L0.0/L1.9 | 15        | 293          |

REGISTERED CIVIL ENGINEER DATE



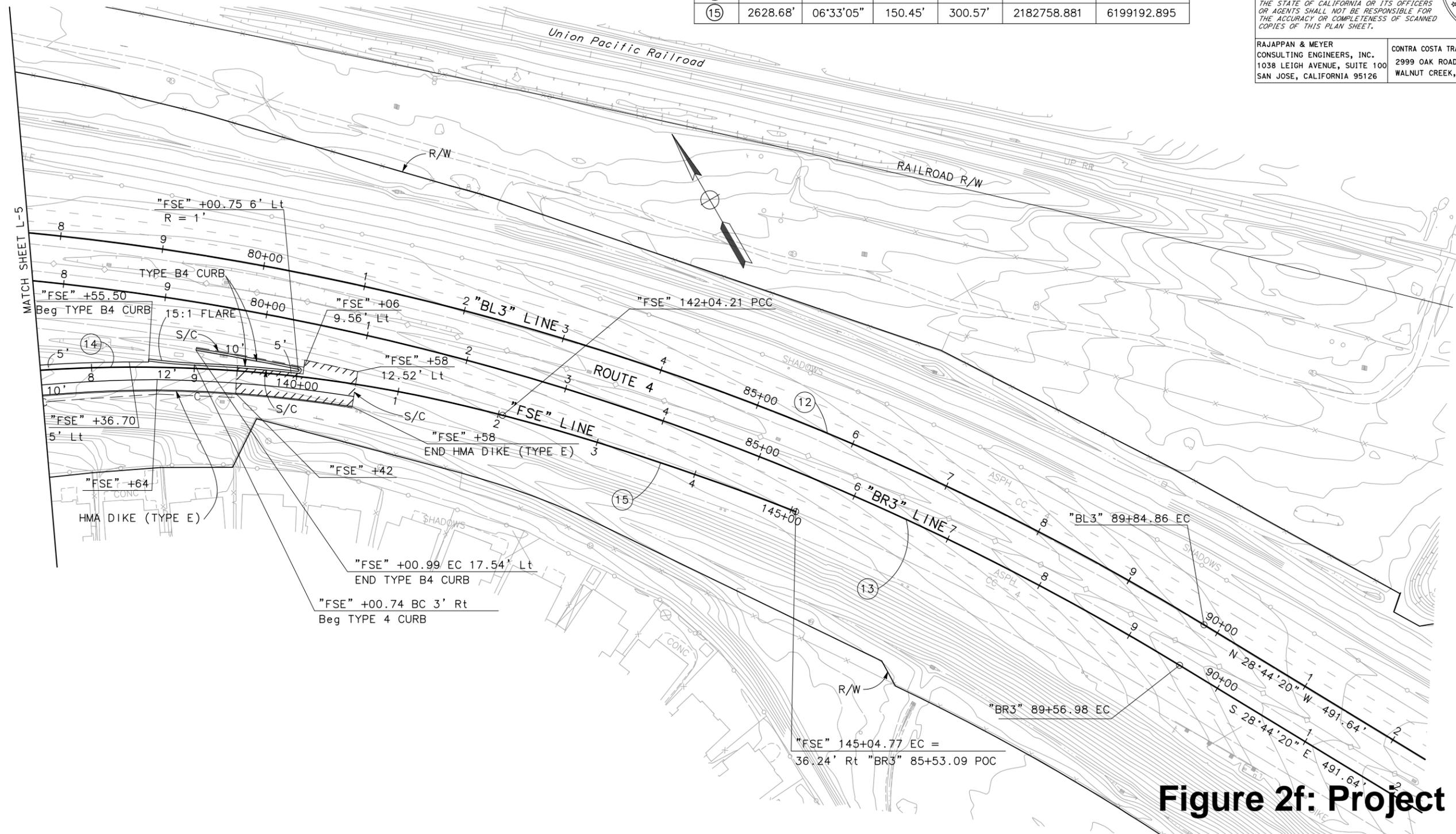
PLANS APPROVAL DATE  
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RAJAPPAN & MEYER CONSULTING ENGINEERS, INC.  
 1038 LEIGH AVENUE, SUITE 100  
 SAN JOSE, CALIFORNIA 95126  
 CONTRA COSTA TRANSPORTATION AUTHORITY  
 2999 OAK ROAD, SUITE 100  
 WALNUT CREEK, CALIFORNIA 94597

**NOTES:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| CURVE DATA |          |           |          |          |             |             |
|------------|----------|-----------|----------|----------|-------------|-------------|
| No.        | RADIUS   | DELTA     | TANGENT  | LENGTH   | N           | E           |
| 12         | 2709.97' | 51°15'40" | 1300.18' | 2424.54' | 2182800.870 | 6199161.210 |
| 13         | 2664.03' | 51°15'40" | 1278.14' | 2383.45' | 2182800.870 | 6199161.210 |
| 14         | 1395.00' | 22°16'37" | 274.66'  | 542.38'  | 2183633.100 | 6200063.355 |
| 15         | 2628.68' | 06°33'05" | 150.45'  | 300.57'  | 2182758.881 | 6199192.895 |



**Figure 2f: Project Plans**

LAYOUT

SCALE: 1" = 50'

L-6

**65% SUBMITTAL  
 JANUARY 3, 2013**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
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CONSULTANT FUNCTIONAL SUPERVISOR: KEITH G. MEYER  
 CALCULATED/DESIGNED BY: N MUMMANANI  
 CHECKED BY: C NGUYEN  
 REVISOR: N MUMMANANI  
 DATE REVISOR: C NGUYEN

BORDER LAST REVISED 7/2/2010

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 DGN FILE => \$REQUEST

RELATIVE BORDER SCALE IS IN INCHES

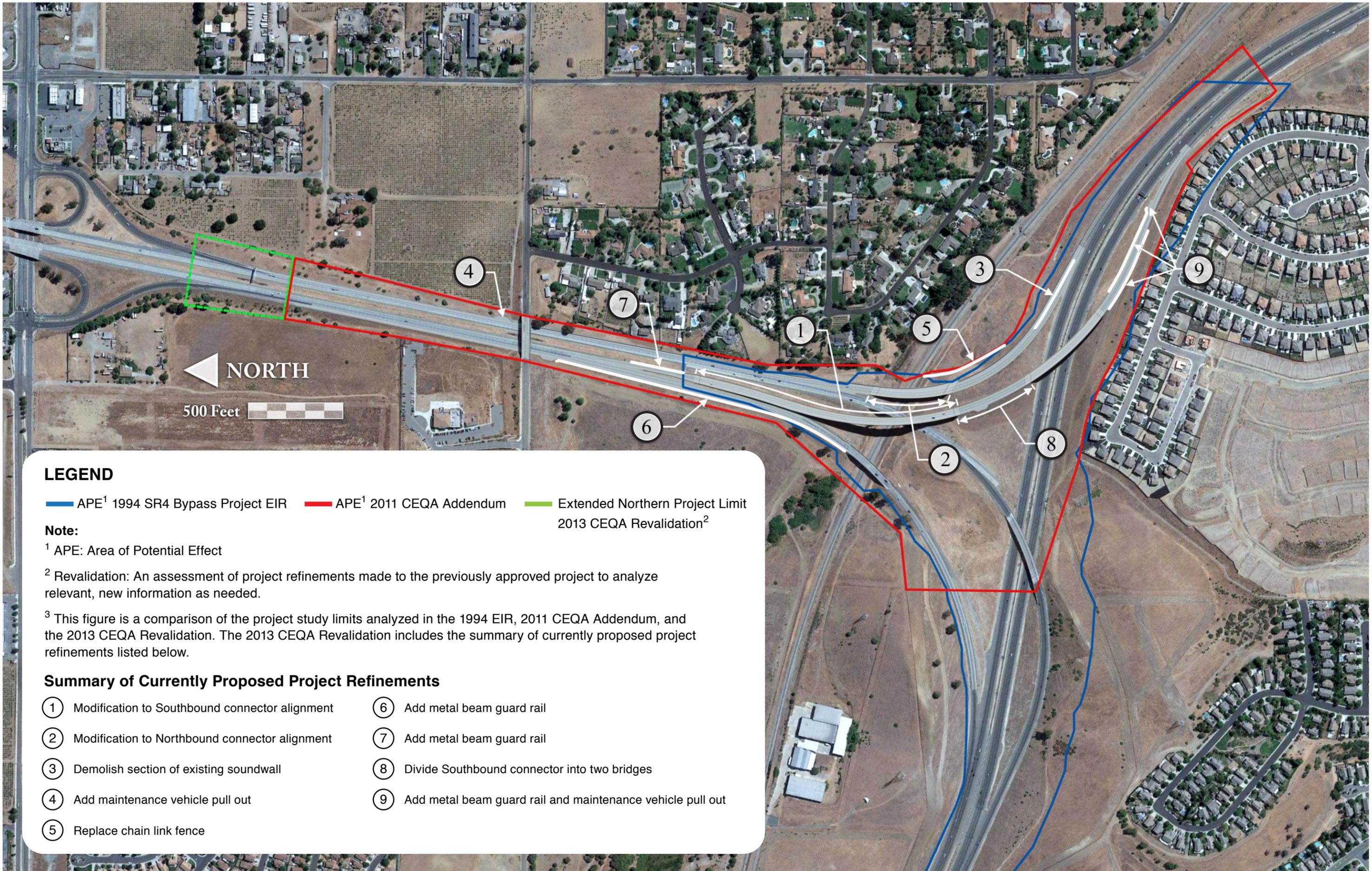


UNIT

PROJECT NUMBER & PHASE

04120002031

DATE PLOTTED => \$DATE  
 TIME PLOTTED => \$TIME  
 LAST REVISION



**LEGEND**

— APE<sup>1</sup> 1994 SR4 Bypass Project EIR    
 — APE<sup>1</sup> 2011 CEQA Addendum    
 — Extended Northern Project Limit 2013 CEQA Revalidation<sup>2</sup>

**Note:**

- <sup>1</sup> APE: Area of Potential Effect
- <sup>2</sup> Revalidation: An assessment of project refinements made to the previously approved project to analyze relevant, new information as needed.
- <sup>3</sup> This figure is a comparison of the project study limits analyzed in the 1994 EIR, 2011 CEQA Addendum, and the 2013 CEQA Revalidation. The 2013 CEQA Revalidation includes the summary of currently proposed project refinements listed below.

**Summary of Currently Proposed Project Refinements**

- |  |  |
|--|--|
| ① Modification to Southbound connector alignment | ⑥ Add metal beam guard rail                                  |
| ② Modification to Northbound connector alignment | ⑦ Add metal beam guard rail                                  |
| ③ Demolish section of existing soundwall         | ⑧ Divide Southbound connector into two bridges               |
| ④ Add maintenance vehicle pull out               | ⑨ Add metal beam guard rail and maintenance vehicle pull out |
| ⑤ Replace chain link fence                       |  |

**Figure 2g: Project Plans**



- Grassland
- Ruderal
- Urban

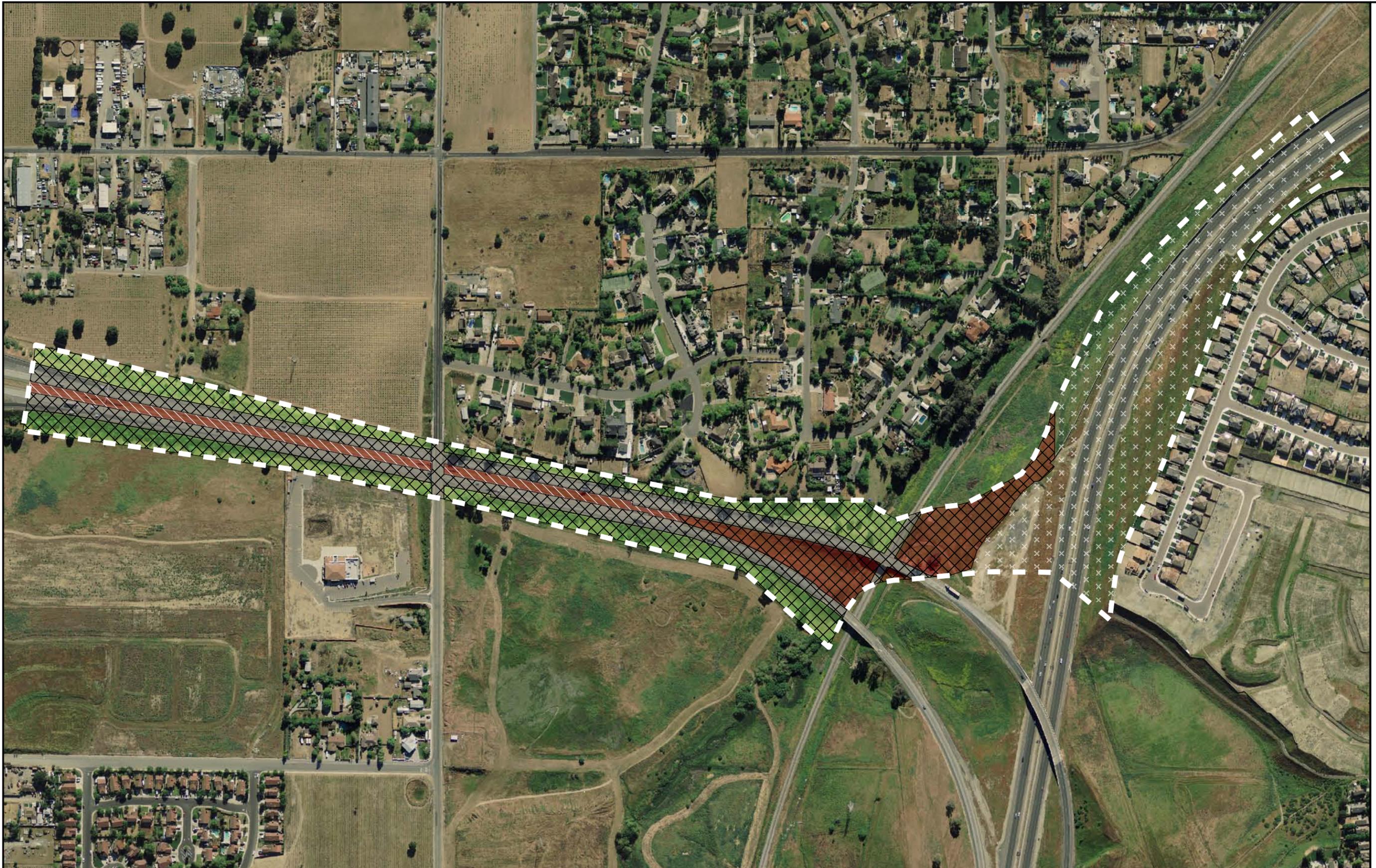


**SR 160 to SR 4  
Connectors Project**

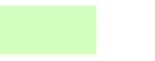
**Figure 3 - Existing Land Cover**



**Figure 3a**



**Landcover**



Grassland



Ruderal



Urban

**Impact Acreage**

Permanent Grassland  
12.5 Acres

Permanent Ruderal  
5.51 Acres

Temporary Ruderal  
2.73 Acres

Urban  
9.94 Acres



**SR 160 to SR 4  
Connectors Project**



Project Area

**Impacts**



Permanent



Temporary



Mitigated  
under Segment 1  
2004 BO (22.37 ac)

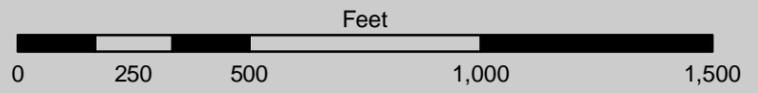


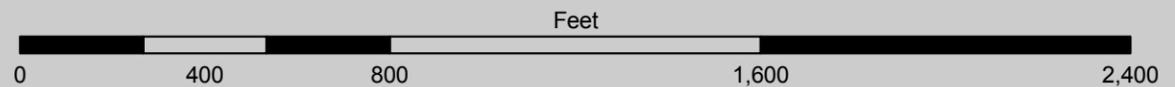
Figure 3b  
Project Area  
Map



**SR 160 to SR 4  
Connectors Project**

Project Area

Proposed new alignment





Looking north from the existing connectors (August 2010)



Looking south from the median bioswales (February 2013)

**Figure 3c: Photos of the Project Area**



Looking north from the staging area (February 2013)



Looking south from Oakley Road Bridge (February 2013)

**Figure 3c: Photos of the Project Area**

Note:  
 Reconnaissance surveys were not conducted in residential area of the project vicinity. Please refer to the HCP pg. 6-37 for reconnaissance protocol in urban areas.

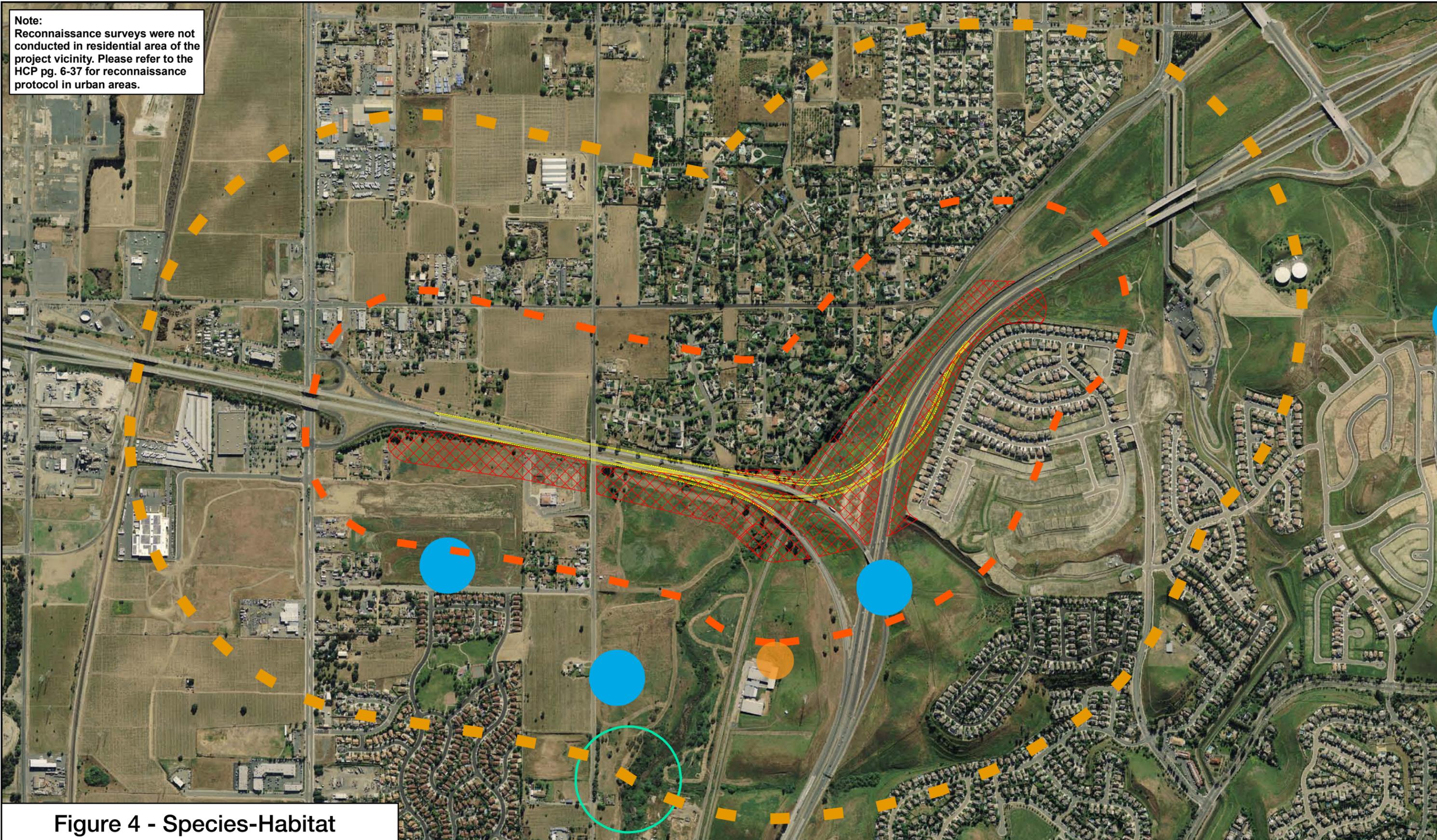


Figure 4 - Species-Habitat

**SR 160 to SR 4  
 Connectors Project**

Project Footprint

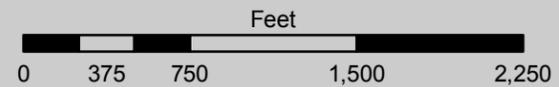
Western Burrowing Owl & San Joaquin Kit Fox Potential Habitat within 250 ft Buffer

Swainson Hawk 1000 ft Buffer

Golden Eagle 1/2 mile Buffer

CNDDB Sightings  
 Western Burrowing Owl  
 Swainson Hawk Nesting

Recon. Survey Sighting  
 Valley Elderberry  
 Longhorn Beetle



**REPORT OF SURVEYS FOR SPECIAL-STATUS PLANTS  
SR 160/ SR 4 BYPASS PHASE 2 CONNECTORS**

**ANTIOCH, CONTRA COSTA COUNTY, CALIFORNIA**

Prepared for:

**CirclePoint**

Scott Steinwert, President  
135 Main Street, Suite 1600  
San Francisco, CA 94105  
415-227-1100

May 2012

Prepared by:

**RCL Ecology**

Randall Long, Biologist  
329 Mt. Palomar Place  
Clayton, CA 94517  
925-672-0563

## **1.0 INTRODUCTION**

RCL Ecology conducted focused surveys for 14 special-status plants thought to have potential to occur within portions of the SR 160/SR 4 Bypass Connectors project. This survey was required as the earlier plant survey for the project Biological Assessment (RCL Ecology 2010) conducted in August 2010 could identify fall-blooming species, but was outside of the spring-blooming periods of some species, and therefore, their presence could not be ruled out. Therefore, the study called for focused surveys during May 2012 to cover the blooming period of the remaining plants. As findings were negative for species presence, they were assumed to be absent from the project area. This report describes the plant habitats and provides a comparison between the reference area and the project site.

### **1.1 PROJECT LOCATION AND DESCRIPTION**

#### **Location**

The project 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 within the 'Antioch North, California USGS 7.5-minute quadrangle (Figure 1- *Site and Vicinity*).

#### **Project description**

Partial connection between SR 4 and the SR 4 Bypass and SR 4 and SR 160 was provided for north bound SR 160 traffic and eastbound SR 4 Bypass traffic during construction of segment 1 of the SR 4 Bypass. However, no direct connections were provided for southbound SR 160 to eastbound SR 4 Bypass or for westbound SR 4 Bypass to northbound SR 160 at that time. Therefore, the purpose of this project is to construct a freeway to freeway connector in each direction between the SR 4 Bypass and SR 160, the approach to the Antioch Bridge. Primary components of the project will involve construction of additional lanes, widening of existing roadway, construction of two new bridges for the new connectors over the existing connectors, two additional bridges over the Union Pacific Railroad (UPRR) right of way, extension of the existing soundwall on the east side of the SR 4 Bypass north along SR 160 to Oakley Road, installation of retaining walls on the east side of SR-160, and construction of bioswales in the highway median.

## **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 (CDFG), July 2010. California Natural Diversity Database, Brentwood, Oakley, Antioch North and Antioch South quads. California Department of Fish and Game Natural Heritage Division. Sacramento, California.

CDFG, 2009. Protocols for surveying and evaluating impacts to special-status native plant populations and natural communities. November.

CNPS, 2001. CNPS botanical survey guidelines, Pages 38-40 in California Native Plant Society's inventory of rare and endangered vascular plants of California (D.P. Tibor, editor). sixth edition. Special Publication No. 1, California Native Plant Society, Sacramento, 387 pp.

City of Antioch, April 2009. Hillcrest Area Specific Plan, Antioch, California.

East Contra Costa County Habitat Conservancy. East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP). 2007.

Loeke, D. 1993. Biological resources assessment, SR 4 Bypass Road Segments 1 and 3.

Long, R., et. al. 2009. Updated studies for USFWS listed plants and invertebrates on the Delhi Sands soils within the Hillcrest Area Specific Plan. July.

Long R., 2010. Biological resources assessment, SR 160/ SR 4 Bypass Connectors. August.

USFWS. May 2012. List of species that may be present in the North Antioch, Antioch South, Jersey Island and Brentwood, USGS quadrangles.

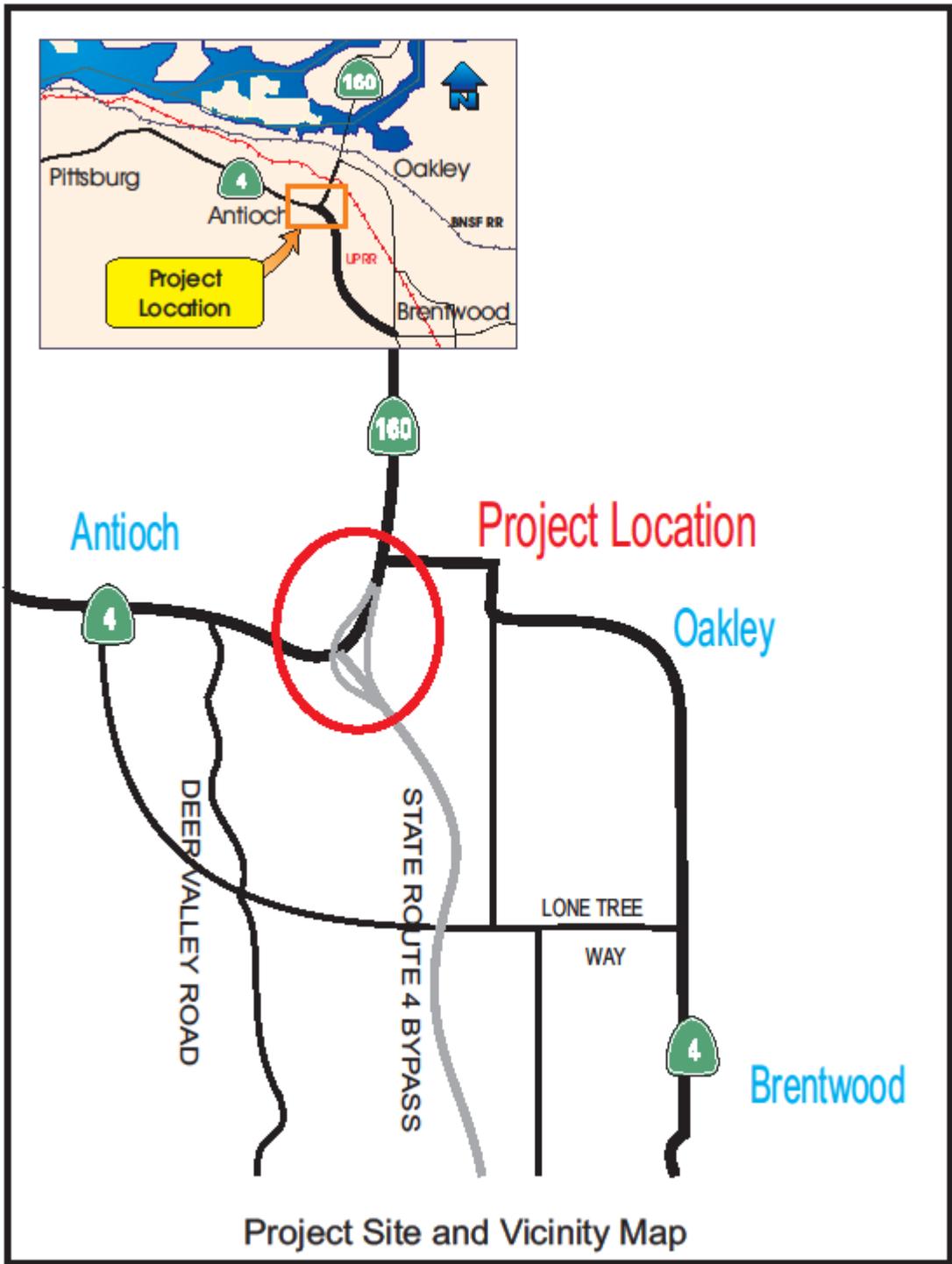
USDA, NRCS. 1977. Soil survey of Contra Costa County, California. September.

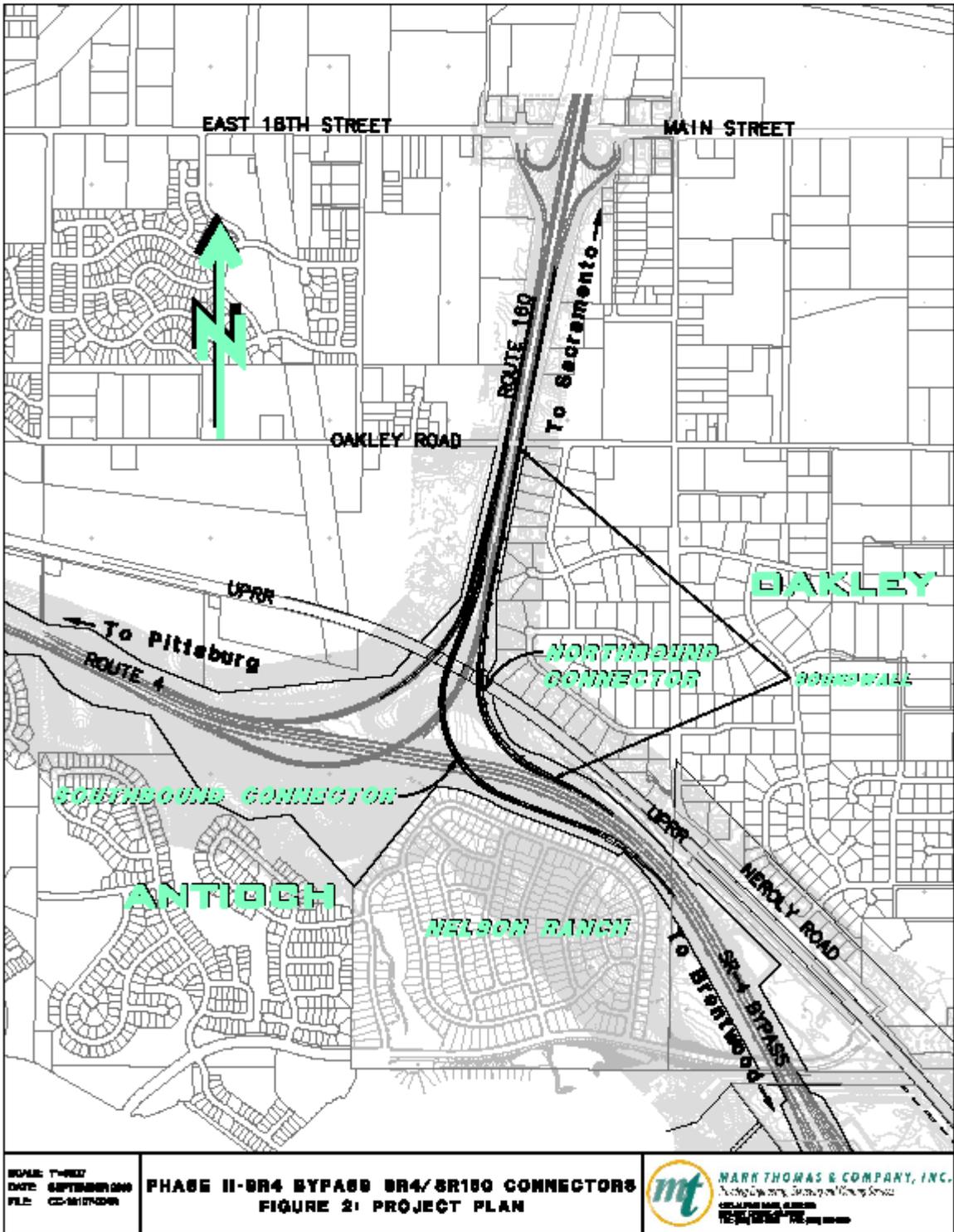
USFWS, 2008. Five year review, Antioch Dunes evening-primrose, and Contra Costa wallflower. June.

USFWS, 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed, and candidate plants. Sacramento, California 2pp.

The following reference was used in identification of plant species:

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken, editors. 2012. The Jepson manual: vascular plants of California, second edition. University of California Press, Berkeley.





## **2.2 SURVEY REQUIREMENTS AND QUALIFICATIONS OF SURVEYOR**

RCL Ecology surveys followed the guidelines approved by the California Department of Fish and Game (2009), California Native Plant Society (2001), and the U.S. Fish and Wildlife Service (1996). These guidelines recommend that (1) surveys be conducted at the appropriate time of the year (i.e. blooming periods) for proper identification, (2) that surveys be floristic, that is, all species are recorded and identified to a taxonomic level to ensure that the specimen is not a special-status species, and that the surveyor has prior experience observing the special-status species in their natural habitat.

Randall Long, Principal and Senior Biologist of RCL Ecology performed the reconnaissance surveys for the fall-blooming species on August 3 and 9, 2010 and for the spring-blooming species on May 7 and 11, 2012. Mr. Long has over 17 years in special-status plant survey experience in the local area including specific experience on studies of the subject special-status plants both within and directly adjacent to the project area including the above reference (Long, R., et al. 2009) where he surveyed for, and compared habitats for the listed plants on the Antioch Dunes National Wildlife Refuge (ADNWR) and those within the Delhi Soil Series on lands directly west of the project area. These plants included the Antioch Dunes evening primrose (*Oenothera deltoides* ssp. *howellii*), Contra Costa wallflower (*Erysimum capitatum* var. *angustatum*) and the Antioch Dunes buckwheat (*Eriogonum nudum* var. *psychicola*.) the host plant required for the life cycle of the endangered Lange's metalmark butterfly (*Apodemia mormo langei*).

Surveys were conducted by walking meandering transects within the right-of way (ROW) and recording all species observed (Table 1-*List of Plants Observed in the Project Area*). All plants that could not be readily identified in the field were collected for later identification in the office.

## **3.0 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 highway construction and consists of nearly flat road grades with engineered side slopes and median bioswales gently sloping from north to south. The area is primarily bordered on the west by undeveloped land; on the east by residential properties and vineyards; on the north by the SR 160/18<sup>th</sup> Street Interchange; and on the south by the SR 4 Bypass.

### **3.1 LAND COVER TYPES VEGETATION AND SOILS**

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.

## **Ruderal**

Ruderal vegetation is characterized by sparse nonnative, weedy plants on disturbed sites. Common species consist of black mustard (*Brassica nigra*), yellow star thistle (*Centaurea solstitialis*), Italian thistle (*Carduus pycnocephalus* var. *pynocephalus*), and sour clover (*Melilotus indica*). This type occurs in the median of the existing roadway that was graded for installation of bioswales during the initial construction.

## **Non-Native Annual Grassland**

Within the project area this type occurs on the engineered sloping road banks that were filled and graded during construction and then invaded by a variety of non-native annual grassland plants. Dominant grasses and forbs in this community consist of wild oats (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), common vetch (*Vicia sativa*), rose clover (*Trifolium hirtum*) soft chess (*Bromus hordeaceus*), hoary mustard (*Hirschfeldia incana*), Italian thistle and yellow star thistle among others. Tree cover is sporadic throughout this type consisting of orchard escapes such as almond (*Prunus dulcis*) and olive (*Olea europaea*), as well as several planted eucalyptus (*Eucalyptus* sp.) and a few native interior live oak (*Quercus wislizeni*) and Coast live oak (*Q. agrifolia*) trees along the ROW fence.

## **Urban**

The urban cover type within the project area consists of the existing concrete roadways and bridges as well as a graded area in the southeast corner of the site.

## **Soils**

The study area is primarily located on the Delhi Sands soil series that occurs along the Sacramento-San Joaquin Delta shoreline south to the southern portion of the project area. The soil type is composed of fine granitic material derived from glacial action deposited in the area as a result of past flooding of the river system. Within the project area it occurs from the SR 160/18<sup>th</sup> street interchange south to the existing bridge connectors. That latter portion of the site is located on the steeper Diablo series that is a clay soil derived from calcareous, fine-grained sandstone and shale on 9 to 15% slopes. The area of Delhi sand is unique being the only Delhi soil mapped within Contra Costa County (NRCS 1977).

## **Reference Site**

The reference site for the study was the 67 acre Antioch Dunes National Wildlife Refuge (ADNWR) located on the south side of the San Joaquin River approximately two miles northwest of the study area. The Refuge, consisting of two sections of habitat, was established in 1980 to protect the Antioch Dunes evening primrose, Contra Costa wallflower, Antioch Dunes buckwheat, and the Lange's metalmark butterfly. The area where the Refuge is located was historically part of a nine kilometer stretch of one hundred feet high dunes in the early 1900s (USFWS 2008). However, much of this, and the other Delhi Sands soil type was excavated

overtime resulting in numerous sand pits throughout the area as evidenced by the large sand pit just west of the of the project area (USFWS 2008).

#### **4.0 SPECIAL-STATUS PLANTS**

The CNDDDB lists twenty nine (29) special-status plants as occurring within the nine quadrangles adjacent to the *Antioch North*, quadrangle. Appendix A lists these species, describes their habitats, blooming periods and their potential for their occurrence within the project area. Many of these were removed from further analysis as they have habitat requirements not present on the project site. This left 14 species (Table 1) having habitat requirements providing potential to occur on the Delhi Sands or Diablo clay soils of the project area and were the subject of focused fall and spring surveys.

#### **5.0 CONCLUSION**

None of the special-status species were found on the project area. Although the Delhi Soil type appears to be similar on both the refuge and project area, the lack of open areas due to 100% cover by non-native species appears to be a factor in the absence of dune species on the project area as discussed below.

Moving sand is essential to maintain the dune ecology as it provides openings for seedlings to become established. However, the invasion of exotic vegetation has worked against this process by stabilizing the remaining sand-dune habitat and competing with the native dune vegetation. Therefore, a variety of habitat restoration techniques have been used on the Refuge in attempts to maintain open areas varying from hand removal of the non-native vegetation to removal of top soil and replacement with sand in order to restore the habitat condition (USFWS 2008).

This issue is illustrated in Figures 2 and 3 comparing the bare ground openings created around the Antioch Dunes evening primrose plants (Figure 2) with the 100% ground cover of non-native vegetation on the project area (Figure 3).

**Table 1**  
**Plants with Potential to Occur in the Project Area**

| LAND COVER TYPE | SPECIES  | BLOOMING PERIOD                          |
|-----------------|--|--|
| Grassland       | San Joaquin spearscale ( <i>Atriplex joaquiniana</i> )                             | April–October                            |
|                 | Alkali milkvetch ( <i>Astragalus tener</i> ssp. <i>tener</i> )                     | March–June                               |
|                 | Big tarplant ( <i>Blepharizonia plumosa</i> )                                      | July–October                             |
|                 | Brewer’s dwarf flax ( <i>Hesperolinon breweri</i> )                                | May–July                                 |
|                 | Contra Costa goldfields ( <i>Lasthenia conjugens</i> )                             | March–June                               |
|                 | Diamond-petaled poppy ( <i>Eschscholzia rhombipetala</i> )                         | March–April                              |
|                 | Large-flowered fiddleneck ( <i>Amsinckia grandiflora</i> )                         | April–May                                |
|                 | Mount Diablo buckwheat ( <i>Eriogonum truncatum</i> )                              | April–September;<br>(uncommonly Nov–Dec) |
|                 | Mount Diablo fairy-lantern ( <i>Calochortus pulchellus</i> )                       | April–June                               |
|                 | Round-leaved filaree ( <i>California macrophylla</i> ) <sup>1</sup>                | March–May                                |
|                 | Showy madia ( <i>Madia radiata</i> )   | March–May                                |
|                 | Antioch Dunes evening primrose ( <i>Oenothera deltoides</i> ssp. <i>howellii</i> ) | March- September                         |
|                 | Contra Costa wallflower ( <i>Erysimum capitatum</i> var. <i>angustatum</i> )       | July–October                             |
|                 | Antioch Dunes buckwheat ( <i>Eriogonum nudum</i> var. <i>psychicola</i> )          | March–July                               |



Figure 2-Antioch Dunes evening primrose in center with surrounding vegetation removed to reduce competition and encourage seedlings (ADNWR)



Figure 3-Dense non-native grass and vetch resulting in 100% ground cover. West side of project ROW.

**TABLE 1-**  
**PLANTS OCCURRING ON THE STUDY AREA**

| <b>FAMILY NAME</b>    | <b>SCIENTIFIC NAME</b>                                    | <b>COMMON NAME</b>  |
|-----------------------|---|---------------------|
| <b>Asteraceae</b>     | <i>Baccharis pilularis</i>                                | coyote brush        |
|                       | <i>Centaurea solstitialis</i>                             | yellow star-thistle |
|                       | <i>Carduus pycnocephalus</i> ssp.<br><i>pycnocephalus</i> | Italian thistle     |
|                       | <i>Chamomilla suaveolens</i>                              | pineapple weed      |
|                       | <i>Lactuca serriola</i>                                   | prickly lettuce     |
|                       | <i>Heterotheca grandiflora</i>                            | telegraph weed      |
|                       | <i>Picris echioides</i>                                   | bristly ox-tongue   |
| <b>Boraginaceae</b>   | <i>Amsinckia menziesii</i> var.<br><i>intermedia</i>      | fiddleneck          |
| <b>Brassicaceae</b>   | <i>Hirschfeldia incana</i>                                | hoary mustard       |
|                       | <i>Raphanus sativus</i>                                   | wild radish         |
| <b>Chenopodiaceae</b> | <i>Salsola tragus</i>                                     | Russian-thistle     |
| <b>Euphorbiaceae</b>  | <i>Euphorbia esula</i>                                    | leafy spurge        |
| <b>Fabaceae</b>       | <i>Lotus purshianus</i> var.<br><i>purshianus</i>         | Spanish-clover      |
|                       | <i>Melilotus indica</i>                                   | sour clover         |
|                       | <i>Trifolium hirtum.</i>                                  | rose clover         |
|                       | <i>Vicia villosa</i> ssp. <i>villosa</i>                  | hairy vetch         |
| <b>Fagaceae</b>       | <i>Quercus agrifolia</i>                                  | Coast live oak      |
|                       | <i>Quercus wislizenii</i>                                 | interior live oak   |
| <b>Geraniaceae</b>    | <i>Erodium botrys</i>                                     | long-beaked filaree |
|                       | <i>Erodium cicutarium</i>                                 | filaree             |
|                       | <i>Geranium dissectum</i>                                 | cut-leaved geranium |
| <b>Malvaceae</b>      | <i>Malva parviflora</i>                                   | cheeseweed          |
| <b>Myrtaceae</b>      | <i>Eucalyptus</i> sp.                                     | eucalyptus          |
| <b>Oleaceae</b>       | <i>Olea europea</i>                                       | olive               |
| <b>Papaveraceae</b>   | <i>Eschscholzia californica</i>                           | California poppy    |
| <b>Poaceae</b>        | <i>Avena fatua</i>  | wild oats           |
|                       | <i>Bromus diandrus</i>                                    | rip gut brome       |
|                       | <i>Bromus hordeaceus</i>                                  | soft chess          |
|                       | <i>Festuca arundinacea</i>                                | tall fescue         |
|                       | <i>Hordeum murinum</i>                                    | foxtail             |
|                       | <i>Lolium multiflorum</i>                                 | Italian rye grass   |
|                       | <i>Vulpia myuros</i>                                      | fescue              |
| <b>Rosaceae</b>       | <i>Prunus dulcis</i>                                      | almond              |

**APPENDIX A**

**Special-Status Plants Potential for Occurrence at the Project Site**

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## APPENDIX A

### SPECIAL-STATUS PLANTS POTENTIAL FOR OCCURRENCE AT THE PROJECT SITE

| Family<br><br>Scientific Name<br><br>Common Name                                 | Status <sup>1</sup>                         | Habitat Affinities and Reported Localities<br>in the Project Area   | Blooming<br>Period/<br>Life Form | Habitat<br><br>Present/Absent      |
|--|---|---|----------------------------------|------------------------------------|
| <b>Apiaceae</b>  |   |   |                                  |                                    |
| <i>Lilaeopsis masonii</i><br>Mason's lilaeopsis                                  | Federal SC<br>State CR<br>CNPS 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<br>Perennial herb      | Absent                             |
| <b>Asteraceae</b>  |   |   |                                  |                                    |
| <i>Aster lentus</i><br>Suisun Marsh aster  | Federal SC<br>State CEQA<br>CNPS 1B:2-2-3   | Freshwater and brackish marshes. Known from the Napa River and San Joaquin/Sacramento River Delta.  | May-Nov<br>Perennial herb        | Absent                             |
| <i>Balsamorhiza macrolepis</i> var.<br><i>macrolepis</i><br>big-scale balsamroot | Federal none<br>State CEQA<br>CNPS 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<br>Perennial herb     | Absent, would have been detectable |
| <i>Blepharizonia plumosa</i> ssp.<br><i>plumosa</i><br>big tarplant              | Federal none<br>State CEQA<br>CNPS 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<br>Annual herb          | Absent, would have been detectable |

|  |                          |                          |  |                              |                                    |
|--|--------------------------|--------------------------|--|------------------------------|------------------------------------|
| <i>Helianthella castanea</i><br>Diablo helianthella                              | Federal<br>State<br>CNPS | SC<br>CEQA<br>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<br>Perennial herb | Absent                             |
| <i>Isocoma arguta</i><br>Carquinez goldenbush                                    | Federal<br>State<br>CNPS | SC<br>CEQA<br>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<br>Perennial shrub   | Absent                             |
| <i>Lasthenia conjugens</i><br>Contra Costa goldfields                            | Federal<br>State<br>CNPS | FE<br>CEQA<br>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<br>Annual herb      | Absent, would have been detectable |
| <i>Madia radiata</i><br>showy madia  | Federal<br>State<br>CNPS | none<br>CEQA<br>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<br>Annual herb     | Absent, would have been detectable |
| <i>Senecio aphanactis</i><br>rayless ragwort                                     | Federal<br>State<br>CNPS | none<br>CEQA<br>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<br>Annual herb     | Absent, would have been detectable |
| <b>Boraginaceae</b><br><i>Amsinckia grandiflora</i><br>large-flowered fiddleneck | Federal<br>State<br>CNPS | FE<br>CE<br>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<br>Annual herb     | Absent, would have been detectable |
| <i>Plagiobothrys hystriculus</i><br>bearded popcorn-flower                       | Federal<br>State<br>CNPS | none<br>CEQA<br>1A       | Vernal pools and mesic Valley/foothill grassland. Presumed extinct. Endemic to Solano County.  | April-May<br>Annual herb     | Absent, would have been detectable |
| <b>Brassicaceae</b>  |                          |                          |  |                              |                                    |

|  |                          |                          |   |   |                                    |
|--|--------------------------|--------------------------|---|---|------------------------------------|
| <i>Erysimum capitatum</i> ssp.<br><i>angustatum</i><br>Contra Costa wallflower | Federal<br>State<br>CNPS | FE<br>CE<br>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<br>Perennial herb                | Absent. would have been detectable |
| <i>Tropidocarpum capparideum</i><br>caper-fruited tropidocarpum                | Federal<br>State<br>CNPS | SC<br>CEQA<br>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<br>Annual herb                  | Absent                             |
| <b>Campanulaceae</b>   |                          |                          |   |   |                                    |
| <i>Downingia pusilla</i><br>dwarf downingia                                    | Federal<br>State<br>CNPS | none<br>CEQA<br>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<br>Annual herb                    | Absent                             |
| <b>Chenopodiaceae</b>  |                          |                          |   |   |                                    |
| <i>Atriplex joaquiniana</i><br>San Joaquin sparscale                           | Federal<br>State<br>CNPS | SC<br>CEQA<br>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.<br>Annual herb                | Absent, would have been detectable |
| <b>Ericaceae</b>   |                          |                          |   |   |                                    |
| <i>Arctostaphylos auriculata</i><br>Mt. Diablo manzanita                       | Federal<br>State<br>CNPS | none<br>CEQA<br>1B:3-1-3 | Chaparral, in canyons and on slopes, on sandstone. Known only from Mt. Diablo area in Contra Costa County.  | Jan-March<br>Evergreen shrub              | Absent                             |
| <b>Fabaceae</b>  |                          |                          |   |   |                                    |
| <i>Lathyrus jepsonii</i> var. <i>jepsonii</i><br>Delta tule pea                | Federal<br>State<br>CNPS | SC<br>CEQA<br>1B:2-2-3   | Freshwater and brackish marshes. Occurs throughout the Sacramento San Joaquin River delta, San Francisco Bay and Central Valley.  | May-Sept<br>Perennial herb                | Absent                             |
| <b>Geraniaceae</b>   |                          |                          |   |   |                                    |
| <i>Erodium macrophyllum</i><br>Round-leaved filaree                            | Federal<br>State<br>CNPS | none<br>none<br>2        | Cismontane woodland; valley and foothill grassland  | Mar-June<br>Annual herb                   | Absent, would have been detectable |
| <b>Lamiaceae</b>   |                          |                          |   |   |                                    |
| <i>Scutellaria lateriflora</i><br>blue skullcap                                | Federal<br>State<br>CNPS | none<br>CEQA<br>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<br>perennial herb (rhizomatous) | Absent                             |
| <b>Liliaceae</b>   |                          |                          |   |   |                                    |

|  |                          |                          |   |   |                                    |
|--|--------------------------|--------------------------|---|---|------------------------------------|
| <i>Calochortus pulchellus</i><br>Mt. Diablo fairy-lantern                                | Federal<br>State<br>CNPS | none<br>CEQA<br>1B:2-2-3 | Chaparral, cismontane woodland, Valley/foothill grassland. Known from Contra Costa and possibly Solano counties.  | April-June<br>Perennial herb<br>(bulbiferous) | Absent                             |
| <i>Fritillaria liliacea</i><br>fragrant fritillary                                       | Federal<br>State<br>CNPS | SC<br>CEQA<br>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<br>Perennial herb<br>(bulbiferous)  | Absent                             |
| <b>Linaceae</b>  |                          |                          |   |   |                                    |
| <i>Hesperolinon breweri</i><br>Brewer's western flax                                     | Federal<br>State<br>CNPS | SC<br>CEQA<br>1B:2-2-3   | Chaparral, cismontane woodlands, Valley/foothill grassland, mostly on serpentinite. Found in Napa, Solano, and Contra Costa counties.   | May-July<br>Annual herb                       | Absent                             |
| <b>Malvaceae</b>   |                          |                          |   |   |                                    |
| <i>Hibiscus lasiocarpus</i><br>rose-mallow   | Federal<br>State<br>CNPS | none<br>CEQA<br>2:2-2-1  | Freshwater marshes. Restricted to the Sacramento-San Joaquin River Delta.   | June-Sept<br>Perennial herb<br>(rhizomatous)  | Absent                             |
| <i>Oenothera deltooides</i> ssp <i>howellii</i><br><i>Antioch Dunes evening-primrose</i> | Federal<br>State<br>CNPS | FE<br>CE<br>1B:3-3-3     | Remnant river bluffs and interior sand dunes. Known from seven occurrences among the dunes east of Antioch.   | Mar-Sept<br>Perennial herb                    | Absent, would have been detectable |
| <b>Papaveraceae</b>  |                          |                          |   |   |                                    |
| <i>Eschscholzia rhombipetala</i><br>diamond-petaled California poppy                     | Federal<br>State<br>CNPS | SC<br>CEQA<br>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<br>Annual herb                      | Absent, would have been detectable |
| <b>Polygonaceae</b>  |                          |                          |   |   |                                    |
| <i>Eriogonum truncatum</i><br>Mt. Diablo buckwheat                                       | Federal<br>State<br>CNPS | none<br>CEQA<br>1A       | Chaparral, coastal scrub, Valley/foothill grassland on sandy soils. Presumed extinct, but found in 2005 on Mt. Diablo, Contra Costa County.   | April-Sept<br>Annual herb                     | Absent                             |
| <i>Eriogonum nudum</i> var. <i>psychicola</i><br>Antioch Dunes buckwheat                 | Federal<br>State<br>CNPS | none<br>none<br>1B.1     | Known only from the Delhi Sands soils within the Antioch Dunes National Wildlife Refuge, Antioch, Contra Costa County.  | July-October<br>Perennial herb                |                                    |
| <b>Potamogetonaceae</b>  |                          |                          |   |   |                                    |
| <i>Potamogeton zosteriformis</i><br>eel-grass pondweed                                   | Federal<br>State<br>CNPS | none<br>CEQA<br>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<br>Annual herb<br>(aquatic)         | Absent, would have been detectable |

**Scrophulariaceae**

|   |                          |                         |  |  |        |
|---|--------------------------|-------------------------|--|--|--------|
| <i>Cordylanthus mollis</i> ssp. <i>mollis</i><br>soft bird's-beak | Federal<br>State<br>CNPS | FE<br>CR<br>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<br>Annual herb<br>(hemiparasite)   | Absent |
| <i>Limosella subulata</i><br>Delta mudwort                        | Federal<br>State<br>CNPS | none<br>CEQA<br>2:2-3-1 | Marshes and swamps, muddy or sandy intertidal flats in the Sacramento and San Joaquin river deltas.  | May-Aug<br>Perennial herb<br>(stoloniferous) | Absent |

<sup>1</sup> Explanation of sensitivity status codes:

Absent means habitat not present. Would have been detectable means that the species was surveyed for during its blooming season and therefore, would have that been found if 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 1A)-Plants assumed extinct in California, (CNPS 1B.1) Plants rare, threatened, or endangered in California and elsewhere. (CNPS 2.2) – Plants rare, threatened, or Endangered in California but more common elsewhere.

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