STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

REQUEST FOR PROPOSALS

I-15/I-215 Interchange Improvements (Devore)

FOR DESIGN AND CONSTRUCTION ON STATE HIGHWAY

On I-15 from 0.8 mile south of Glen Helen Parkway UC to 1.4 mile north of Kenwood Ave UC.
And
On I-215 from 1.2 mile south of Devore Road OC to the I-15 junction

DISTRICT 08, ROUTE I-15/I-215

CONTRACT NO. 08-0K7104

08-SBD-I-15 PM 14.0/R16.4, I-215 PM 16.0/17.8

Project ID 08000003664

Federal Aid Project

Addendum No. 4 Issued June 21, 2012

The Department issues this Addendum No. 4 to inform Proposers of the following changes and corrections to the RFP.

BOOK 2 PROJECT REQUIREMENTS

The Book 2, Project Requirements, is modified as indicated by the deletions and additions set forth below.

Section 2 Project Management

Section 2.5.2.2.1 "General" is modified as indicated below:

2.5.2.2.1 General

All Key Personnel will be required to be on-site 100% of the time during activities that involve their areas of responsibility. Key Personnel for the Project shall include the following:

- Project Manager,
- Quality Manager,
- Design Quality Manager,
- Construction Quality Manager,
- Design Manager,
- Construction Manager,
- Design Lead Engineer – Roadway (Engineer of record),
- Design Lead Engineer – Structure (Engineer of record),
- Geotechnical Engineer,
- Safety Manager,
- Utility Coordinator,
- Railroad Coordinator,
- Project Scheduler,
- Environmental Compliance Manager,
- Traffic Manager,
- Information Technology Manager.

Section 2.5.2.2.2 "Minimum Requirements of Key Personnel" is modified as indicated below:

2.5.2.2.2 Minimum Requirements of Key Personnel

The following provides a brief job description and minimum requirements of the Key Personnel assigned to the Project. Key Personnel will be evaluated, in part, based on the extent they meet and/or exceed such requirements.

The following provides a brief job description and minimum requirements of the Key Personnel assigned to the Project.

Project Manager

a) Shall be responsible for the overall design, construction, quality control, and Contract administration for the Project. This person shall have full responsibility for the prosecution of the Work, full decision-making and budgetary authority to act on behalf of the Design-Builder and bind the Design-Builder on all matters relating to the Project.

b) Reports directly to the Design-Builder's Executive Management Committee

c) Responsible for overall design, construction, quality management, and contract administration

d) Act as agent and be a single point of contact in all matters on behalf of the Design-Builder

e) Has authority to bind the Design-Builder on all matters relating to the project

f) Has authority to stop work

g) Must be present (or his/her Approved designee will be present) at the Site at all times that Work is performed

h) Fifteen (15) years experience managing complex infrastructure projects

i) Ten (10) years experience managing the design and construction of major urban freeway projects

j) Five (5) years of project management experience in design-build on major urban freeway projects

k) Recent experience as Project Manager for design and construction of highway projects similar in scope and complexity

l) License as Professional Civil Engineer in California preferred, but not required

Quality Manager

a) Shall be responsible for developing and implementing the Quality Control/Quality Assurance program, responsible for overseeing the day-to-day quality aspect of design, construction and Project management activities including managing the Design-Builder's workmanship inspections, overseeing Design-Builder's production testing, and coordinating with the Department's verification testing and inspection.

b) Shall work independently of the Design and Construction teams, shall not have any production-related responsibilities and report directly to Design-Builder's Executive Management Committee

~~c) Design Quality Assurance Manager and Construction Quality Manager shall be different people.~~

~~d)~~c) Shall be assigned full-time to the Project and be on Site during regular business hours whenever any Work is being performed and be available to be on Site within two hours outside of regular business hours

~~e)~~d) Reviews contract documents for adherence to quality and testing requirements.

~~f)~~e) Shall have the authority to stop any and all Work that does not meet the Contract requirements.

~~g)~~f) Recent experience in quality management of design and construction of projects similar in scope and complexity

~~h)~~g) Shall have fifteen (15) years of recent experience managing complex infrastructure projects

~~i)~~h) Shall have five (5) years of major design-build construction management of major urban freeways,

~~j)~~i) Must be a registered Professional Engineer in the State of California

Design Quality Manager

a) Shall report directly to the Design-Builder's Executive Management Committee,

b) Shall be a licensed Professional Engineer in the State of California now or by the time the first Notice to Proceed is issued,

c) Shall have responsibility for design quality management including overseeing the day-to-day quality aspects of design,

d) Shall be responsible for implementing design related quality planning and training, as well as providing continuous improvement of the Quality Management System,

e) Must demonstrate experience checking plans, calculations, drawings, and other design documents to ensure that they are independently checked,

f) The Design Quality Manager and Construction Quality Manager shall be different people.

g) Shall not be assigned any other duties or responsibilities on the Project,

h) Shall have five (5) years of experience as a design quality assurance manager on a project of similar scope and complexity.

Construction Quality Manager

a) Shall be responsible for overseeing the day-to-day quality aspect of construction including managing the Design-Builder's workmanship inspections, overseeing Design-Builder's production testing, and coordinating with the Department's verification testing and inspection,

b) Shall ensure that all testers have current certifications for the tests they are performing, that all on and off-site field labs have current certifications and that materials incorporated into the work meet the requirements of the contract documents,

c) The Design Quality Manager and Construction Quality Manager shall be different people,

d) Shall report directly to the Design-Builder's Executive Management Committee,

e) Shall be assigned full-time to the Project and be on Site during regular business hours whenever any construction activities are being performed,

f) Shall not have any production-related responsibilities,

g) Shall have the authority to stop any and all Work that does not meet the Contract requirements,

e) Shall have five (5) years experience as a Construction Quality Manager on a project of similar scope and complexity.

Design Manager

a) Shall be responsible for ensuring that the overall Project design is completed and design criteria requirements are met. The Design Manager must be available to the Department

within 24 hours whenever design activities are being performed, including design activities related to field design changes. The Design manager shall be responsible for design quality management.

b) Shall work under the direct supervision of the Design-Builder's Project Manager

c) Shall have five (5) years of major design-build project management of major urban freeway systems.

d) Shall have ten (10) years of recent experience in managing the design of complex highway projects

e) Shall have at least five (5) years or preferred ten (10) years of recent experience managing the design of highway projects similar in scope and complexity.

f) Shall have fifteen (15) years of experience managing complex infrastructure projects.

g) Must be a registered Professional Civil Engineer in the State of California now or by the time the initial notice to proceed is issued

Construction Manager

a) Reports directly to the Project Manager

b) Responsible for ensuring that the project is constructed in accordance with the design and project requirements

c) Must be present at the site of work at all times construction is in progress

d) Has authority to stop work

e) License as Professional Civil Engineer in California preferred but not required

f) Fifteen (15) years of experience managing complex infrastructure projects

g) Ten years (10) experience managing the construction of major urban freeway systems

h) Five (5) years of major design-build construction management of major urban freeways

Design Lead Engineer – Roadway (Engineer of Record):

a) Reports directly to the Design Manager

b) Engineer of Record for the roadway design

c) Responsible for ensuring that the roadway design is completed and Caltrans design criteria are met

d) Responsible for following the Quality Control processes and activities

e) Must be present at all review and design coordination meetings

f) Minimum of ten (10) years of recent experience as Engineer of Record and in design of roadway on the California State Highway System

g) Minimum of ten (10) years of recent experience in the design of roadways in major urban freeway systems similar in scope and complexity

h) Must have a license as Professional Civil Engineer in California

Design Lead Engineer – Structures (Engineer of Record)

a) Reports directly to the Design Manager

b) Engineer of Record for the structure design

c) Responsible for following the Quality Control processes and activities

d) Responsible for ensuring that the structure design is completed and Caltrans design criteria are met

e) Must be present at all review and design coordination meetings

f) Ten (10) years experience as Engineer of Record in the design of long-span bridges structures similar in scope and complexity on the California State Highway System

g) Minimum of ten (10) years experience as Engineer of Record in the design of large complex bridge structures – segmental bridges and/or steel bridges on the California State Highway System

h) Minimum ten (10) years bridge design and seismic design experience on California State Highway System

i) Must have a license as Professional Civil Engineer in California

Geotechnical Engineer

a) Reports directly to the Design Manager

b) Responsible for geotechnical investigations and reports

c) Minimum fifteen (15) years ten (10) of which in California of recent experience in deep foundation design including large pipe piles, drilled shafts, monitoring drilled shaft construction, drilled shaft load testing criteria and analysis, spread footings, and settlement

d) Must have a license as Civil Engineer or Geotechnical Engineer in California

Safety Manager

a) Must not be under the direct supervision of construction personnel and will report directly to Design-Builder's Project Manager

b) Shall be assigned to the Project full time and will be required to be on site for the duration of the Project

c) Shall have the authority to stop any and all Work when unsafe conditions are present

d) Shall have ten (10) years experience managing complex infrastructure projects.

e) Shall have five (5) years of construction safety management experience in implementing and managing safety programs and maintaining compliance with safety regulations during construction activities on major urban freeways.

f) Must be familiar with work zone safety regulations and must have at least five (5) years of recent experience working in roadway work zone safety and OSHA (Cal-OSHA) regulations

Utility Coordinator

a) Available during project design for utility design coordination. Required to be on-site during underground operations, utility relocations

b) Responsible for coordination of utility, and permitting requirements of the Design-Builder and for ensuring that utility, and permitting issues are resolved prior to start of construction work

c) Ten (10) years of experience with complex infrastructure projects

d) Five (5) years of management of utility function on major urban freeways

Railroad Coordinator

a) Responsible for coordination of railroad requirements of the Design-Builder and for ensuring that railroad issues are resolved prior to start of construction work

b) Ten years (10) of experience with complex infrastructure projects with direct management of railroad function

c) Five years (5) of management of railroad function on major urban freeways

Project Scheduler

a) Works directly for the Design-Builder

b) Fifteen (15) years experience in scheduling complex infrastructure projects

c) Five years (5) experience of schedule management on major urban freeways

Environmental Compliance Manager

a) Previous experience on more than one project, which required substantial coordination with Army Corps of Engineers, California State Regional Water Quality Control Board, California Department of Fish and Game (including preparation of permit applications), implementing measures addressing impacts to threatened and endangered species, implementing measures addressing impacts to waters, and implementing measures addressing cultural and paleontological resources (including on-site monitoring related to all of the above)

b) Experience on multiple projects requiring implementation of measures to address air quality, noise, and hazardous waste compliance requirements

c) Previous experience developing measures to satisfy Section 401, 404, and 1602 requirements as identified by corresponding Resource Agency, pertinent to issuance of same

Traffic Manager

a) Shall be assigned full time to implement, manage, and oversight the Traffic Management Plan for the Project, and serve at Design-Builder‘s point of contact for all TMP-related issues

b) Must be familiar with the California MUTCD and with Caltrans‘ standards

c) Five (5) years recent experience managing similar type of projects

d) Registered Professional Civil Engineer in the State of California now or by the time the notice to proceed is issued is preferred, but not required

Information Technology Manager

a) Reports directly to the Design-Builder Project Manager,

b) Responsible for installing and maintaining computer hardware, software and networks,

c) Acts as a single point of contact for Department Information Technology to coordinate the acquisition, deployment, maintenance and disposal of information technology equipment,

d) Responsible for the implementation and maintenance of the Document Control System,

e) Responsible for the security and management of project information.

Section 4 Environmental Compliance

Replace Exhibit 4-A "Environmental Commitment Record" with the revised Exhibit 4-B attached to this addendum.

Section 6 Utilities

Section 6.3.6.1 "Utility Work Which Shall Be Avoided" is modified as indicated below.

6.3.6.1 Utility Work Which Shall Be Avoided

The Design-Builder shall avoid Utility Work and protect in place the following utilities shown on the Utility Plan Sheets:

- All Utilities shown on I-15 south of Devore OH (Br. No. 54-818),
- The 14-inch Kinder Morgan pipeline within the project limits. Requirements for working near Kinder Morgan facilities are included in the RID. The Design-Builder shall contact Kinder Morgan for the most current requirements for working near a Kinder Morgan facility. It should be noted that protecting this utility in place may require a retaining wall near where the Utility follows the 'CD' Line,
- All Utilities in Cajon Blvd north of 'CAJ' Station 79~~101~~+00, except for adjustments to manholes and utility boxes,
- All Utilities in Kenwood Boulevard, expect for adjustments to manholes and utility boxes,
- The Southern California Gas 36-inch line crossing I-15 near 'A4' Station 28+00, except to extend casings,
- The Southern California Edison overhead line crossing I-15 near 'A4' Station 37+00,
- All underground Utilities in existing Dement Street except the 4-inch fiber optic line owned by Verizon Business (left side of existing street) and any casing extensions.

Section 6.3.6.4 "San Bernardino Municipal Water Department" is added as indicated below.

6.3.6.4 San Bernardino Municipal Water Department

The relocation of the 16-inch water line owned by San Bernardino Municipal Water Department (SBMW) between 'CAJ' Stations 57+00 and 79+00 shall be designed and constructed by the Design-Builder. This Utility shall be relocated within the new Cajon Blvd within the limits specified. The Design-Builder will coordinate with SBMW to determine the SBMW's specific requirements for design and construction of the relocation. The Contract Price of the Project shall include all costs, excluding Betterments, associated with the relocation of the Utility within the limits specified. The Design-Builder shall provide the Department with a lump sum estimate for the costs associated with this relocation, excluding Betterments, within 90 days of NTP1.

Section 6.3.6.5 "Devore Water Company" is added as indicated below.

6.3.6.5 Devore Water Company

The relocation of Devore Water Company (DWC) Utilities shall be designed by the Design-Builder. The Design-Builder will coordinate with DWC to determine DWC's specific requirements for design. A preliminary drawing of the required relocation is included in the RID. The Contract Price of the Project shall include all costs for the design of this relocation. The Design-Builder shall provide the Department with a lump sum estimate for the costs associated with the design of this relocation within 90 days of NTP1.

Replace Exhibit 6-B "Utility Tracking Report" with the revised Exhibit 6-B attached to this addendum.

Section 7 Right of Way

Section 7.5.1 "Construction Easements" is modified as indicated below.

7.5.1 Easements

7.5.1.1 Construction Easements

The Design-Builder shall include in the Preliminary Master Design Submittal_all Construction Easements necessary for construction of the Project. The Preliminary Master Design Submittal shall identify the Construction Easements sought and shall include drawings depicting proposed construction limits and cross-sections. Any additional Construction Easements identified after the Preliminary Master Design Submittal will be acquired at the Design-Builder cost, excluding Construction Easement required for utility relocation. Payment for additional Construction Easements shall be made by the Department and deducted from the Design-Builder's monthly progress payment.

The Department will be responsible for the acquisition activities of all Construction Easements for the Project, including additional Construction Easements identified after the Preliminary Master Design Submittal.

Acquisition of Construction Easements could take up to 24 calendar months from the time the written notification is submitted by the Design-Builder. Schedule implications associated with the acquisition of Construction Easements shall be the responsibility of the Design-Builder.

Section 7.5.1.2 "Utility Easements" is added as shown below.

7.5.1.2 Utility Easements

The Design-Builder shall coordinate with the Department and utility owners to assist in identifying the location of utility replacement easements.

The Department will be responsible for the acquisition activities of all utility easements for the Project, including additional utility easements identified after the Preliminary Master Design Submittal. The Department and utility owner will identify the utility easements after conflict maps are received from the Design-Builder.

Acquisition of additional utility easements could take up to 22 calendar months from the time Department approved relocation plans are approved by the Design-Builder. Schedule implications associated with the acquisition of utility easements shall be the responsibility of the Design-Builder.

Utility easements shown on the R/W Work Map will be acquired by the date referenced in Book 2 Section 7 7.1.

Section 13 Structures

Section 13.2.7 "Bridge Deck" is modified as indicated below:

13.2.7 Bridge Deck

Final bridge deck shall be cast-in-placed concrete. Precast concrete deck panels can only be used as stay-in-place forms for precast concrete girders.

Bridge decks that require treatment shall be cleaned and treated with high molecular weight methacrylate.

The Design-Builder will be required to check the live load capacity of existing bridges that require overlays. Overlays on existing bridge decks shall be polyester concrete. Asphalt concrete is not allowed for bridge deck overlays.

The closure pour width shall be constant throughout the length of the bridge. For the widened structures, the spacing between the existing girder and the first new girder shall be 50% or less of the spacing between the new adjacent girders on the widened portion.

Section 13.2.13 "Inspection and Maintenance Access" is modified as indicated below:

13.2.13 Inspection and Maintenance Access

The design shall allow all new and widened portions of the bridge superstructures, joints, and bearings to be accessible for long-term inspection and maintenance. ~~Box structures, cast-in-place concrete, or concrete segmental box girders shall be designed with a minimum inside depth of 4' to facilitate interior inspection.~~

Section 13.2.18 "Foundation Design" is modified as indicated below:

13.2.18 Foundation Design

The Design-Builder shall perform geotechnical investigations at the bridge site and produce Geotechnical Design Reports (GDRs) and Foundation Reports (FRs). Foundation type, capacity, estimated lengths, and bottom elevations shall be determined by the Design-Builder in accordance with the Geotechnical Report for the structure. Analysis shall include bearing capacities, factors of safety and an estimate of total and anticipated differential settlement for each structure. The final foundation design for each structure will be based on the approved Final Foundation Reports. The Preliminary Foundation Reports, Geotechnical Design Reports and Foundation Reports shall conform to Section 8, "Geotechnical".

Bridge Abutments and bent/columns shall be supported on pile foundations. Each bridge/structure shall have the same type of pile foundations (Group piles, Type I, or Type II shaft) at all bents.

Column and Pile transverse reinforcement requirements shall comply with Exhibit 13-C *"Transverse Reinforcement Requirements for Columns and Piles"*

Add Exhibit 13-C "Transverse Reinforcement Requirements for Columns and Piles" attached to this addendum.

Section 16 Signing, Pavement Marking, Signalization and Lighting

Section 16.2.8 "Certification Requirements" is modified as indicated below:

16.2.8 Certification Requirements

Design-Builder shall have an Electrical Engineer or a registered Civil Engineer with a minimum of 5 years electrical design experience on the California State Highway System.

Section 17 Intelligent Transportation Systems

Section 17.2.6 "Certification Requirements" is modified as indicated below:

17.2.6 Certification Requirements

The Design-Builder shall have an Electrical Engineer or a registered Civil Engineer with a minimum of 5 years electrical design experience on the California State Highway System.

The Design-Builder shall coordinate with the METS lab to coordinate the inspection of Electrical equipment and all pole standards.

Section 23 Ramp Metering

Section 23.2.8 "Certification Requirements" is modified as indicated below:

23.2.8 Certification Requirements

The Design-Builder shall have an Electrical Engineer or a registered Civil Engineer with a minimum of 5 years electrical design experience on the California State Highway System.

The Design-Builder shall perform all laboratory testing at a Department certified and approved lab and an AMRL-accredited facility for material tests required by this section. All material testers are to be certified for the materials they are testing. The design builder shall also coordinate with Caltrans METS lab for inspection of Electrical equipment and all pole standards

REFERENCE INFORMATION DOCUMENTS (RID)

See revised RID Index for a list of provided Reference Information Documents in the Data Room.

Date: February 2012

ENVIRONMENTAL COMMITMENTS RECORD
(I-15 / I-215 Interchange Improvements Project)

08-SBd-15
PM 14.0 / R16.4

08-SBd-215
PM 16.0 / 17.8

EA 08-0K7100
PN 0800000366

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc.	Responsible for Compliance and implementation of measure	Department Contact / Support	Timing/ Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)		Remarks	Environmental Compliance	
										YES	NO
Community Impacts											
REL-1 In conjunction with acquisition of any property, whether for temporary use or a partial or full acquisition for permanent use, all requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987, and The Business and Farm Relocation Program will be fully satisfied.	2.3-93	Department	Resident Engineer / District Environmental Planning	During Design-Build							
Utilities and Emergency Services											
UT-1 Prior to the approval of final plans, the impacts of all utility relocations shall be assessed against the impacts identified in the preliminary plans and assessed in this document. If such impacts exceed the impacts assessed in this document, then the Department will conduct additional environmental reviews of the revised plans, as necessary. During preparation of final plans, the Department will coordinate requisite utility relocation efforts prior to	2.4-6	Design Builder	District Design / Resident Engineer / District Environmental Planning	During Design-Build					Design Builder shall assess and disclose impacts of all utility relocation to the Department. The Department will conduct additional environmental reviews and coordinate requisite utility		

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										YES	NO
construction.									relocation efforts as necessary.		
Traffic and Transportation/Bicycle and Pedestrian Facilities											
TR-1 Prior to the commencement of any construction, the design-builder shall prepare a Traffic Management Plan per the Department's requirements, including: a community outreach program, media bulletins, appropriate signing, adherence to dust control restrictions, avoidance of traffic restrictions during peak travel periods, construction zone enhanced enforcement (provided by the California Highway Patrol), emergency response, and coordination of work as necessary with any other roadway projects in the vicinity. In particular, the TMP shall ensure that emergency responders have adequate access during all phases of construction, and shall provide for emergency contact points between the construction engineer and all emergency responders. The TMP shall also include measures to preserve the	2.5-85	Design Builder	Resident Engineer / District Traffic Management	During Design-Build							

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										YES	NO
viability of I-15 as a heavy haul route during construction to the degree feasible, and will identify measures to coordinate with the heavy haul industry.											
TR-2 The project will not utilize Kenwood Avenue north of the I-15 northbound ramps, or Devore Road north of the I-215 northbound ramps as a detour route during any part of the construction of this project. Additionally, construction haul trucks will be routed away from congested streets and sensitive areas.	2.5-86	Design Builder	Resident Engineer / District Traffic Management	During Design-Build							
TR-3 The design shall incorporate specific new signage directing motorists to Kenwood Avenue from northbound I-15 and I-215.	2.5-86	Design Builder	District Design / Resident Engineer / District Traffic Management	During Design-Build							
TR-4 If the project requires the closure of the local service interchanges at Glen Helen Parkway, Devore Road, or Kenwood Avenue for more than ten days, then a ramp closure study must be completed during the design-build phase. The Department will ensure implementation of any measures	2.5-86	Design Builder	Resident Engineer / District Traffic Management / District Environmental Planning	During Design-Build							

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										YES	NO
resulting from such studies.											
Visual/Aesthetics											
V-1 Hardsurface Plan: A plan to implement retaining and sound walls, medians, and other aesthetic hardscape will be incorporated into the final design of the project consistent with the applicable goals and policies articulated in the San Bernardino County and City of San Bernardino General Plans, as well as those in the Glen Helen Specific Plan, including:	2.6-62	Design Builder	District Design / Resident Engineer / Landscape Architecture	During Design-Build							
V-1-a Sound and retaining walls will be heavily textured (such as fractured rib or split-face) to minimize visual impacts of mass. Surfaces facing public use will incorporate wall cap and panel detailing to scale elements to adjacent features, and site-specific aesthetic features (local or historic references) to minimize community impact by enhancing the regional "sense of place." Sound and retaining walls in historic/cultural impact areas will include a range of minimization techniques not limited to: set back with planting	2.6-62	Design Builder	Resident Engineer / District Design / Landscape Architecture	During Design-Build							

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										YES	NO
at road edge, terracing, battered (non-vertical) retaining walls, and coloring to duplicate adjacent native soil.											
V-1-b Slope paving will include textural elements with pattern linking wall treatments to minimize visual impacts of disruption of viewshed elements and link paved elements into existing features.	2.6-62	Design Builder	Resident Engineer / District Design / Landscape Architecture	During Design-Build							
V-1-c Gore paving will incorporate contrasting paving treatment both as a safety feature and as a minimization measure to reduce visual mass of proposed paving areas.	2.6-62	Design Builder	Resident Engineer / District Design / Landscape Architecture	During Design-Build							
V-1-d Median barriers, where appropriate and approved by the Department, will incorporate an embossed pattern or "logo" to minimize visual impact of mass hardsurface resulting from median infill and loss of current textural variety of natural earth median. The embossed pattern will not be continuous and will be applied to between 20% and 25% of the new median barriers constructed. Background for the patterned areas will be that of the	2.6-62	Design Builder	Resident Engineer / District Design / Landscape Architecture	During Design-Build							

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										YES	NO
75% to 80% of the remaining median barriers constructed.											
V-2 Highway Planting: All measures necessary to address the potential visual/aesthetic impacts resulting from the I-15/I-215 Interchange Improvements project will be funded and constructed as part of the roadway construction project. Revegetation measures below will address visual/aesthetic impacts and be implemented in a manner that is consistent with constraints and other requirements related to the biological and cultural resources within the project area. Measures will be provided at the following locations:	2.6-62	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Cultural Studies	During Design-Build							
V-2-a All graded slopes will be revegetated so that mature (non-pioneer) species cover is established. Planting will be site-specific and vary according to slope aspect and elevation. Temporary irrigation as necessary to establish planting is considered part of this revegetation planting. Revegetation will be required for all disturbed ground as well as	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Cultural Studies	During Design-Build							

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										YES	NO
graded slopes, to restore visual unity of the site and integrity of the setting.											
V-2-b At Devore Road/I-215 and at Kenwood/I-15, planting will supplement Hardsurface Plan elements and provide appropriate planting at community entries. Planting will minimize visual and community impacts of the increased scale of the adjacent interchange, and provide buffering to retain the existing rural setting. Planting will be site specific and will link to the adjacent native landscape.	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist / District Maintenance	During Design-Build							
V-2-c Along the northbound truck climbing lane, planting will minimize visual impacts of the freeway widening that would occur under the project. Planting will be provided to reduce adjacent owners' awareness of the adjacent interchange.	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist / District Maintenance	During Design-Build							
V-2-d Areas adjacent to bridge and wall elements will be planted to minimize the increased scale of built elements. Native tree massing, appropriate to each specific location, will be implemented utilizing temporary	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist / District Maintenance	During Design-Build							

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										YES	NO
irrigation, to minimize local visual impacts.											
V-2-e Storm water elements (i.e., swales, basins) will be addressed as integrated elements of the revegetation planting. As approved by the Department, rip-rap and other constructed elements will be colored to match native soil to minimize visual intrusion. Grading of basins will minimize their visual impacts by being designed to present a "not man-made appearance," mimicking natural land forms.	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist / District Stormwater / District Maintenance	During Design-Build							
V-3 Light and Glare: Lighting fixtures will be selected to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with non-glare hoods and focused within the freeway right-of-way. The lighting plan will be reviewed and approved by the Department and the County and the City of San Bernardino, as applicable, prior to construction to ensure compliance with these criteria. Increased glare from proposed walls, structures and pavements will be minimized by measures	2.6-63	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist / District Maintenance	During Design-Build							

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										YES	NO
identified in V-1 and V-2.											
V-4 Grading: Slopes, particularly those abutting undisturbed areas, will include contour grading, easing all edges and slope rounding (Department's Highway Design Manual 304.4 and 109.3), and where necessary, additional right-of-way to achieve it. Contour grading and slope rounding will be provided to minimize the visual impacts of disrupted graded slopes against existing landforms and to address impacts to unity between native surroundings and graded areas.	2.6-64	Design Builder	Resident Engineer / District Design / Landscape Architecture / District Biologist	During Design-Build							
V-5 Structures: Architectural/ aesthetic treatment of bridges will address the I-15/I-215 Interchange as a unique and vivid visual asset. Structures will include shape and textural elements as appropriate to link them to adjacent Hardsurface Plan elements. Girders and barriers will incorporate similar unifying treatments. Support for lighting and signage will incorporate linking elements of the base or the pole itself to the overall structure. These	2.6-64	Design Builder	Resident Engineer / District Design / Structural Design/ Landscape Architecture / District Cultural Studies	During Design-Build							

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										YES	NO
treatments will address the visual impacts of the proposed structures by integrating its elements into a visually unified structure linked into surrounding ground treatments.											
Cultural Resources											
CR-1 If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	2.7-5	Design Builder	Resident Engineer / District Cultural Studies	During Design-Build							
CR-2 If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who	2.7-6	Design Builder	Resident Engineer / District Cultural Studies	During Design-Build							

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										YES	NO
discovered the remains will contact the District 8, Division of Environmental Planning, Gabrielle Duff, DEBC: (909) 383-6933, and Gary Jones, DNAC: (909) 383-7505, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.											
CR-3 Archaeological and tribal monitors shall be present during grubbing and clearing activity in the areas surveyed in the Supplemental HPSR. In the event that additional cultural deposits are uncovered during grubbing and clearing operations, the archaeological monitor shall be empowered to halt or divert work in the vicinity of the find until the archaeologist is able to determine the nature and the significance of the discovery.	2.7-6	Design Builder	Resident Engineer / District Cultural Studies	During Design-Build							
<u>Hydrology and Floodplain</u>											
FP-1 During design-build, all applicable coordination with San Bernardino County Department of Public Works Flood Control	2.8-8	Design Builder	Resident Engineer / District Design / District Hydraulics / District Design	During Design-Build							

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										YES	NO
Division shall occur including obtaining an encroachment permit as required prior to work within their right-of-way.											
FP-2 During design-build, the agency shall ensure that the project engineer prepares a Final Location Hydraulic Study (LHS) based on an updated hydraulic model for Cable Creek. In addition, a detailed survey of the existing creek will be performed to determine actual as-built conditions. The results of the survey will be incorporated into an updated hydraulic model for both existing and proposed conditions.	2.8-8	Design Builder	Resident Engineer / District Design / District Hydraulics	During Design-Build					The above measure only applied to Alternatives 2 and 5 because Alternative 3A was selected as the Preferred Alternative, this measure is no longer applicable to the project.		
Water Quality and Storm Runoff											
WQ-1 Comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the Department's Order No. 99-06-DWQ, NPDES No. CAS000003, and any subsequent permit as they relate to construction activities for the	2.9-20	Design Builder	Resident Engineer / District Design / District Storm Water	During Design-Build							

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										YES	NO
project. This will include submission of a Notice of Intent (NOI) to the State Water Resources Control Board at least 14 days prior to the start of construction which includes preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), and submission of a Notice of Termination (NOT) to the State Water Resources Control Board upon completion of construction and stabilization of the site.											

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										YES	NO
WQ-2 Comply with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003, National Pollutant Discharge Elimination System (NPDES) No. CAG998001, as they relate to discharge of uncontaminated non-storm water dewatering wastes discharges for the project. This will include submitting to the Santa Ana Regional Water Quality Control Board a Notice of Intent (NOI) at least 60 days prior to the start of construction, notification of discharge at least 5 days prior to any planned discharges, and monitoring reports by the 30th day of each month following the monitoring period.	2.9-20	Design Builder	Resident Engineer / District Design / District Storm Water	During Design-Build							
WQ-3 Comply with the Statewide Storm Water Management Plan (SWMP, May 2003, or subsequent issuance) and the National Pollutant Discharge Elimination System (NPDES) Permit, Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the Construction General Permit (CGP) 2009 0009-DWQ, NPDES	2.9-20	Design Builder	Resident Engineer / District Design / District Stormwater	During Design-Build							

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										YES	NO
No. CA000002, and the NPDES Permit and Waste Discharge Requirements for the San Bernardino County Flood Control District, the County of San Bernardino, and the Incorporated Cities of San Bernardino County within the Santa Ana Region, Order No. R8-2010-0036 (NPDES No. CAS618036), and any subsequent permit as required and as they relate to operation of the project.											
WQ-4 The potential exists for contaminated groundwater in the project area due to past leaks and spills in the vicinity. In the unexpected event that dewatering of contaminated groundwater occurs, compliance with the General Permit for de minimus water discharges or an individual permit from the SARWQCB, consistent with NPDES requirements, shall be required. Once the SARWQCB receives and reviews the NOI, the SARWQCB will decide which permit is applicable.	2.9-21	Design Builder	Resident Engineer / District Design / District Stormwater / District Environmental Engineering	During Design-Build							
Geology/Soils/Seismic/Topography											
G-1 During the design phase of the project, numerous exploratory borings will be	2.10-10	Design Builder	Resident Engineer / District Environmental Engineering/	During Design-Build							

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										YES	NO
excavated throughout the project area to investigate site-specific soils and conditions and to collect samples of subsurface soils for laboratory testing. The locations and depths of the borings will be selected based upon the final design selected. Either a truck-mounted drilling rig equipped with hollow-stem augers or a mud-rotary drilling rig shall be used to excavate the exploratory boreholes. Soil samples recovered shall be tested to determine soil type, soil shear strength, compressibility characteristics, Sand Equivalent, R-value, compaction characteristics, permeability and erosion, and corrosion potential.			Geotechnical Design								
G-2 During the design phase, settlement magnitudes and time rates of settlement shall be verified by exploratory borings, laboratory soil testing, and analysis.	2.10-11	Design Builder	Resident Engineer / District Environmental Engineering / Structural Design/ Geotechnical Design	During Design-Build							
G-3 In order to minimize the potential for surface soil erosion, selective grading and adhering to provisions for site drainage, slope planting, and any other measures required by the	2.10-11	Design Builder	Resident Engineer / District Design / District Environmental Engineering / Geotechnical Design/	During Design-Build							

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										YES	NO
Department will be incorporated into the design.			District Stormwater								
Paleontology											
P-1 A qualified paleontologist or his/her representative will attend the pre-grade meeting. At this meeting, the paleontologist will explain the likelihood for encountering paleontological resources, what resources may be discovered, and the methods that will be employed if anything is discovered.	2.11-3	Design Builder	Resident Engineer / District Paleontology	During Design-Build							
P-2 During construction excavation, a qualified vertebrate paleontologic monitor shall initially be present on a full-time basis whenever excavation will occur within the sediments that have a high sensitivity rating and on a spot-check basis in sediments that have a low sensitivity rating. Monitoring may be reduced to a part-time basis if no resources are being discovered in sediments with a high sensitivity rating (monitoring reductions and when they occur will be determined by the qualified Principal Paleontologist). The monitor shall	2.11-3	Design Builder	Resident Engineer / District Paleontology	During Design-Build							

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										YES	NO
inspect fresh cuts and/or spoils piles to recover paleontological resources. The monitor shall be empowered to temporarily divert construction equipment away from the immediate area of the discovery. The monitor shall be equipped to rapidly stabilize and remove fossils rapidly to avoid prolonged delays to construction schedules. If large mammal fossils or large concentrations of fossils are encountered, the grading contractor shall consider using heavy equipment on site to assist in the removal and collection of large materials.											

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										YES	NO
P-3 Localized concentrations of small (or micro-) vertebrates may be found in all native sediments. Therefore, it is recommended that these native sediments occasionally be spot-screened through 1/8- to 1/20-inch mesh screens to determine whether microfossils are present. If microfossils are encountered, additional sediment samples (up to 3 cubic yards, or 6,000 pounds) shall be collected and processed through 1/20-inch mesh, and sometimes 1/30-inch mesh screens, to recover additional fossils. The processing of large bulk samples is best accomplished at a designated location within the project limits that will be accessible throughout the duration of construction but will also be away from any proposed cut or fill areas. Processing is usually completed concurrently with construction, with the intent to have all processing completed before, or just after, project completion. A small corner of a staging or equipment parking area is an ideal location. If water is not available, the location should be accessible for a water truck to	2.11-3	Design Builder	Resident Engineer / District Paleontology	During Design-Build							

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										YES	NO
occasionally fill containers with water.											
P-4 Any recovered specimens shall be prepared to the point of identification and permanent preservation. This includes the picking of any washed mass samples to recover small invertebrate and vertebrate fossils, the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and the storage cost, and the addition of approved chemical hardeners/stabilizers to fragile specimens. This is best accomplished at a designated laboratory, usually off site, with access to fossil preparation tools, magnifying equipment, storage boxes and vials, and chemical hardeners. Processing of fossils through the lab is best accomplished concurrently with construction, especially if numerous fossils are being collected.	2.11-4	Design Builder	Resident Engineer / District Paleontology	During Design-Build							
P-5 Specimens shall be identified to the lowest taxonomic level possible and curated into an institutional repository with	2.11-4	Design Builder	Resident Engineer / District Paleontology	During Design-Build							

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										YES	NO
retrievable storage. The repository institutions usually charge a one-time fee based on volume, so removing surplus sediment is important. The repository institution may be a local museum or university that has a curator who can retrieve the specimens on request. The draft curation agreement between the landowner and the curation facility should be in place with an approved curation facility prior to the initiation of any paleontological monitoring or mitigation activities.											
P-6 A report of findings will be prepared at the conclusion of the project discussing what was found and the significance of the finds.	2.11-4	Design Builder	Resident Engineer / District Paleontology	During Design-Build							
Hazardous Waste/Materials											
HW-1 Dewatering is not anticipated during the construction of the project. However, in the event dewatering may be required, a Site Investigation for potentially contaminated groundwater will be required during the	2.12-14	Design Builder	Resident Engineer / District Design / District Storm Water / District Biologist	During Design-Build							

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preparation of final plans within the area of the project ROW.											
HW-2 Additional ADL sampling will occur in unpaved locations outside the existing State highway ROW during the preparation of final plans, when the adjacent properties will be acquired as part of the project. The analytical results of the soil sampling will determine the appropriate handling of the soil and disposal of surplus materials. When feasible, soil will be reused within Department ROW in accordance with CalEPA DTSC Variance No. V09HQSCD006 (effective July 1, 2009 through July 1, 2014) for ADL impacted soil, or a subsequent variance. If it is not feasible to reuse soils, then the excavated hazardous soils will require off-site disposal as hazardous waste at a permitted facility. Refer to Caltrans Special Standard Provision (SSP) XE 19-900 for additional information regarding the disposal of soils impacted with ADL. The following additional measures will be undertaken to	2.12-14	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
minimize the potential for adverse impacts from aerially deposited lead.											
HW-2-a A site-specific lead compliance plan should be developed to address health and safety of construction workers**.**	2-12.14	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-2-b In consideration of total lead concentrations, existing soil within the state right-of-way may be managed as non-hazardous and may be reused onsite without restriction or released as surplus to the design-builder for disposition as non-hazardous waste.	2-12.14	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-2-c However, it should be stipulated that the soil is contaminated with lead and should not be reused at residential or other sensitive receptor locations (i.e. schools, day care. etc.).	2-12.14	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-3 Prior to the start of construction, a site-specific Health and Safety Plan will be prepared, consistent with Department requirements, to address contact, handling, and disposal of potentially	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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contaminated groundwater and soil. The Plan shall include the following:											
HW-3-a Identification of key personnel	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-3-b Monitoring of potential vapors resulting from contaminated soil or groundwater, utilizing a photo-ionization detector	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-3-c Summary of risk assessment for workers, the community, and the environment	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-3-d Air Monitoring Plan	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-3-e Emergency Response Plan	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-4 Prior to the completion of Environmental Document and Project Approval phase, but after a build alternative is selected, a certified consultant shall conduct asbestos surveys of any roadway structures within the State	2.12-15	Department	Resident Engineer / District Environmental Engineering	Prior to PA&ED					**Completed**.		

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highway ROW that will be renovated or demolished.											
HW-5 During the preparation of final plans, prior to the start of any demolition or renovation of a structure, a certified consultant shall conduct asbestos, lead-based paint (LBP), and polychlorinated biphenyls (PCBs) surveys of any building structures that will be renovated or demolished.	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-6 During the preparation of final plans, prior to the start of any demolition or renovation, and/or relocation of a structure, all utility pole-mounted transformers within the project area shall be inspected for leaks. Leaking transformers will be considered a potential PCB hazard unless tested and shall be handled accordingly.	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-7 Prior to construction, any yellow traffic striping and pavement-marking material will be tested and removed in accordance with Caltrans SSP 14-001.	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
HW-8 Soils adjacent to the BNSF railroad tracks were tested and it was determined that the contamination of such soils is consistent with background levels. However, any excess soil from the railroad right-of-way should not be used on residential or other sensitive use (i.e.; day care) properties.	2.12-15	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-9 Soil sampling for pesticides on former agricultural properties that will be acquired as part of the project has been conducted where soil has not been disturbed (through grading, etc.). The analytical results of the soil sampling indicate that the soils can be safely reused on the project site. However, any soil considered for off-site re-use or disposal should be stockpiled, sampled and analyzed, at a minimum, for TPH (carbon chain), VOCs, and metals to assure that the soil is suitable for its intended reuse.	2.12-16	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-10 Prior to the start of any demolition or renovation of a structure, notification and submittal of fees to the SCAQMD	2.12-16	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
at least 10 days prior to proceeding with the demolition work (refer to SCAQMD Rule 1403) shall be required. Notification would fall under Section 7-1.01F, Air Pollution Control, and Section 7-1.04, Permits and Licenses, of the Standard Specifications. The design-builder shall adhere to the requirements of SCAQMD Rule 1403 during renovation/ demolition activities.											
HW-11 Unless documentation from the utility company indicates that creosote was not used, all wooden utility poles that are to be removed or relocated as part of the project, as well as soils located at the base of these utility poles, will be tested for creosote during the preparation of final plans when access is available. If creosote is detected within samples taken from either the utility poles or soils beneath the utility poles, such material shall be disposed of at the appropriate classified waste facility.	2.12-16	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-12 If unknown wastes or suspect materials are discovered during construction, all	2.12-16	Design Builder	Resident Engineer / District Environmental	During Design-Build							

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										YES	NO
excavation activities in the immediate vicinity of the area of concern shall be suspended. The contractor will follow the Department Unknown Hazards Procedures outlined in Section 7-1.06 of the Environmental Hazards and Safety Procedures of the Department's Construction Manual.[1] The Department, in conjunction with other appropriate agencies, shall develop a plan to investigate suspect materials and determine what corrective measures, if any, may be required to safeguard public health and the environment.			Engineering								
HW-13 Prior to renovation or demolition activities, a licensed asbestos abatement firm shall be contracted to remove the identified ACM shim and bolt mastic materials. The identified reasonably available control measures (RACMs) will require removal in compliance with the USEPA NESHAP and the local	2.12-16	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

[1] http://www.dot.ca.gov/hq/construc/manual2001/chapter7/chp7_1.pdf

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										YES	NO
South Coast Air Quality Management District (SCAQMD) Rule 1403.											
HW-14 The asbestos abatement contractor shall comply with Rule 1403 and provide at least a 10-day notification prior to asbestos removal.	2.12-17	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-15 Prior to the importation of any fill material, the design-builder shall ensure that all imported fill is sampled and is free of contamination.	2.12-17	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
HW-16 It is recommended that additional investigation be conducted at the closed service station site located on Devore Road north of I-215 to identify the anomaly using a backhoe. If necessary, the structure should be removed or abandoned in place in accordance with regulatory requirements. Additional sampling and laboratory analysis may be required below the structure if it is a UST or other potential source of chemical release. Given the history of the Site, undiscovered or unknown environmental conditions may be	2.12-17	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
encountered during grading and development of the project. If encountered, additional investigations and removal actions may be required at that time. Although no evidence of chemical impact was identified during the PSI, the contractor should be prepared to handle soils impacted by former site operations, should they be encountered during construction. All excavation activities should be performed by a grading contractor possessing an active various locations South Coast Air Quality Management District (SCAQMD) Rule 1166 excavation permit. During construction, stained or odorous soil, if encountered, may be stockpiled for characterization on a portion of the Department's property outside the construction zone. This soil should be placed inside bermed, plastic-lined staging areas and covered with plastic when not in active use. If encountered, impacted soils should be managed by the											

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										YES	NO
contractor in accordance with regulations.											
Air Quality											
AQ-1 During the design-build phase, the following standard conditions shall be implemented:	2.13-30	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-1-a Prior to any site preparation, grading and/or construction activities, the Project Engineer will require the design-builder to develop a Construction Emission Minimization Plan (CEM Plan). That plan will specifically incorporate measures for controlling particulate and other emissions during construction from the following sources: • Department's Standard Specifications Sections 14-9 and 18 (Rule Applicability and Dust Control) • Department's Standard Specifications Section 39-3.06 (Asphalt Concrete Plant Emissions) • Department's Standard Specifications Section 13(Stormwater measures related to dust control)	2.13-30	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
• SCAQMD Rule 403, including control measures from Tables 1, 2, and 3 in that rule • ARB Off-Road Fleet and Portable Equipment regulations, and SCAQMD permitting requirements, as applicable under Standard Specifications 14-9											
AQ-1-b During all site preparation, grading, clean-up, and other activities during construction, the Resident Engineer will require the design-builder to comply with the measures in the CEM Plan.	2.13-30	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-1-c The Resident Engineer will conduct site inspections at least once a month to ensure that the design-builder is complying with the provisions of the CEM Plan.	2.13-30	Department	District Environmental Engineering	During Design-Build							
AQ-2 During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering and/or other dust preventive measures identified in the SCAQMD Rule 403 BACMs, as listed in Table 2-13-H in Section 2.13.3 of Chapter	2.13-30	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
2 of this Environmental Document. These control techniques will be indicated in project specifications. Compliance with the Rule 403 BACMs will be subject to periodic site inspections by the Department. Measures will include:											
AQ-2-a All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-2-b Watering will occur at least three times daily with complete coverage, including mandatory watering after work is done for the day, with additional watering if necessary to adequately control dust.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-2-c All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-2-d The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized so as to prevent excessive amounts of dust.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
AQ-2-e Visible dust beyond the property line emanating from the project will be prevented to the maximum extent feasible, consistent with applicable Department standard specifications.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
The CEM Plan will also include the following measures to reduce PM_{10}: **AQ-2-f** Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas, (previously graded areas inactive for ten days or more), all unpaved parking or staging areas, or unpaved road surfaces.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-2-g Sweep streets at the end of the day if visible soil is carried onto adjacent public roads (recommend water sweepers with reclaimed water). Sweepers must comply with SCAQMD Rules 1186 and 1186.1.	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-2-h Control of material on all trucks hauling excavated or graded material from the site by compliance with State Vehicle Code Section 23114, with special	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
attention to Sections 23114(b)(F), (e)(2), and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads.											
AQ-2-i Temporarily cover stockpiles and make additional stabilizer/water applications when sustained wind speeds, or gusts, exceed 25 mph**.**	2.13-31	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-3 Equipment staging or storage areas shall be located at least 500 feet away from any occupied residence, school, hospital, licensed child care facility, or other licensed health care facility throughout the period of construction.	2.13-32	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-4 The CEM Plan will also include the following measures to reduce vehicular emissions:	2.13-32	See AQ-4a thru AQ-4e for responsibility	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-4-a Instruct the design-builder to minimize truck idling to the maximum extent feasible, and to comply at minimum with ARB on- and off-road vehicle regulations (maximum 5 minutes of idling unless meeting one of	2.13-32	Department	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
the rules' exemptions).											
AQ-4-b Use electricity from power poles rather than temporary diesel or gasoline power generators, to the maximum extent feasible.	2.13-32	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-4-c As part of the Construction Traffic Management Plan, route haul trucks away from congested streets or sensitive areas* to the maximum extent feasible. * Sensitive areas are those with occupied residences, schools, hospitals, child care facilities, or other health care facilities, and active-use parks such as playgrounds, consistent with the ARB Land Use Handbook.	2.13-32	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-4-d Control of ozone precursor emissions from construction equipment vehicles by maintaining equipment engines in good condition and in proper tune per the manufacturer's specifications.	2.13-32	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
AQ-4-e Ozone precursor emissions from construction equipment vehicles will be	2.13-32	Design Builder	Resident Engineer / District Environmental	During Design-Build							

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										YES	NO
controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications. Compliance with this measure will be subject to periodic inspections of construction equipment vehicles by the Department.			Engineering								
AQ-5 All Diesel fueled construction equipment, whether stationary or mobile, will comply with the latest applicable regulations promulgated by the California Air Resources Board (CARB).	2.13-32	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
Noise											
N-1 The control of noise from construction activities shall conform to the Department's Standard Specifications in Section 14-8.02, "Noise Control," and also by Standard Special Provisions S5-310, "Noise Control." Noise control shall conform to the provisions in Section 14-8.02 and the Standard Special Provision in S5-310. The noise level from the Contractor's operations, between the hours of 9:00 p.m. and 6:00	2.14-17	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
a.m., shall not exceed 86 dBA L_{max} at a distance of 50 ft. The Contractor should use an alternative warning method instead of a sound signal unless required by safety laws. In addition, the Contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without its appropriate muffler.											
N-2 In accordance with the County of San Bernardino County Code, construction activities shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday, excluding Sundays and Federal holidays.	2.14-18	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							
N-3 Portable equipment should be located as far as possible from the noise-sensitive locations as is feasible.	2.14-18	Design Builder	Resident Engineer / District Environmental	During Design-Build							
N-4 Construction vehicle staging areas and equipment maintenance areas should be located as far as possible from	2.14-18	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build							

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										YES	NO
sensitive receiver locations.											
N-5 Prior to completion of the Environmental Document and Project Approval, the sound barriers determined to be reasonable and feasible shall be coordinated with the affected property owners.	2.14-41	Design Builder	Resident Engineer / District Environmental Engineering	Prior to PA&ED					No sound barriers are considered reasonable and feasible for the Preferred Alternative; therefore, this measure is no longer applicable.		
N-6 Feasible sound barriers that are not reasonable based on a cost perspective or interior noise abatement measures, such as window and door upgrades, should be considered for Receiver R-6 because this receiver would be exposed to a severe traffic noise impact of 75 dBA L_{eq} or higher under all four build alternatives. Sound barrier 24 for Alternative 3A, the Preferred Alternative, is feasible, but not reasonable.	2.14-41	Design Builder	Resident Engineer / District Environmental Engineering	During Design-Build					Similarly, sound barriers Nos. 2, 14, and 32, under their respective alternatives, are also feasible but not reasonable, however, since they do not pertain to Alternative 3A, they are now removed from reference in this measure.		

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										YES	NO
BIOLOGICAL RESOURCES											
Natural Communities											
NC-1 The final project design will not exceed the grading limits identified in the preliminary project plans without additional environmental assessment.	2.15-19	Design Builder	Resident Engineer / District Design / District Biologist / District Environmental Planning	During Design-Build							
NC-2 Appropriate wildlife fencing will be installed to direct wildlife toward existing undercrossing structures and to inhibit wildlife movement onto the I-15 and I-215 freeways, as determined by the District Biologist. Equipment maintenance, lighting, and staging must be in designated areas, away from wildlife corridor entrances. The corridors will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.	2.15-19	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-3 Construction staging and storage activities will be located in upland areas so as to prevent the runoff from any spills from entering waters of the U.S. and State.	2.15-20	Design Builder	Resident Engineer / District Design / District	During Design-Build							

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										YES	NO
NC-4 In order to avoid impacts to nesting birds, any native vegetation removal or tree trimming activities will occur outside of the nesting bird season (February 15–August 31). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist must conduct a pre-construction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.	2.15-20	Design Builder	Resident Engineer / District Biologist	During Design-Build							
NC-5 A biologist will monitor construction for the duration of the project to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly constructed and followed.	2.15-20	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-6 The existing culvert structures that will be extended	2.15-20	Design Builder	Resident Engineer / District Design /	During Design-							

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										YES	NO
or modified by the project will be designed to be at least as compatible with wildlife usage as the existing culverts. For example, to create traction for wildlife, textured concrete will be used within the culvert and on culvert inlet/outlet structures. Existing culverts will be day-lighted or sky-lighted to enhance wildlife visibility, as determined to be feasible by the Department Project Manager. Vegetation will be removed from culvert areas with hydrological flow. However, because vegetation around culverts provides cover for animals, routine maintenance of culverts will involve clearing vegetation mainly in the flow line so use by wildlife is not inhibited. The following avoidance and minimization measures will be incorporated:			District Biologist	Build							
NC-6-a Following project construction, all disturbed habitat adjacent to 1a-Pittman Canyon (Matthews Ranch Road) and 1b-Pittman Canyon (culvert), 2-Middleman Canyon, 8-Cajon Creek, and 9-BNSF and UP Railroad will be restored with native vegetation to the best extent feasible.	2.15-20	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							

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										YES	NO
NC-6-b Equipment maintenance, lighting, and staging must be in designated areas, away from wildlife crossings.	2.15-20	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-6-c If work must be done at night, noise and direct lighting would be directed away from the crossings.	2.15-21	Design Builder	Resident Engineer / District Biologist	During Design-Build							
NC-6-d The crossings would be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.	2.15-21	Design Builder	Resident Engineer / District Biologist /	During Design-Build							
NC-6-e The existing culvert structures that would be extended or modified by the project would be designed so that they would be at least as compatible with wildlife usage as the existing culvert. Where feasible, the final design will incorporate the use of textured concrete within the culvert, and on culvert inlet/outlet structures**.**	2-15-21	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-6-f To maximize wildlife movement in each of the culverts identified in Table 2.15-C, any culverts listed in the table shall include natural or smooth cement bottoms in the extended segments.	2.15-21	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-6-g Wing-walls will be utilized to the maximum extent	2.15-21	Design Builder	Resident Engineer / District Design /	During Design-							

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										YES	NO
practicable to minimize culvert extension lengths for each of the culverts identified in Table 2.15-C.			District Biologist	Build							
NC-6-h During the final design stage, each of the major wildlife crossings shown in Table 2.15-C will be evaluated to determine the feasibility of day-lighting any portions of the culvert or adding sky-lights, where feasible, to enhance wildlife movement.	2.15-21	Design Builder	Resident Engineer District Biologist	During Design-Build							
NC-6-i Appropriate wildlife fencing will be installed to direct wildlife toward existing undercrossing structures, as determined by the District Biologist, to inhibit wildlife movement onto the I-15 and I 215.	2.15-21	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-6-j Vegetation will be removed from the flow line. However, because it is best to have vegetation around the culverts to provide cover for animals, routine maintenance of culverts by clearing vegetation in the flow line with minimal impact to wildlife will be provided, so use by wildlife is not inhibited.	2.15-21	Design Builder	Resident Engineer / District Biologist / District Maintenance	During Design-Build							
NC-6-k Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be	2.15-21	Design Builder	Resident Engineer / District Biologist	Prior to any ground disturbing activities							

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										YES	NO
installed around the project footprint to designate ESAs to be preserved. No grading or fill activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment should be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.											
NC-7 Noise sampling will be conducted before and after construction in Pittman Canyon in 3-5 locations as directed by the District biologist in the upstream drainage to provide data related to the wildlife enhancement measures.	2.15-22	Design Builder	Resident Engineer / District Biologist / District Design	During Design-Build							
NC-8 A minimum 5' passage (sidewalk or trail) will be incorporated adjacent to the	2.15-22	Design Builder	Resident Engineer / District Design /	During Design-Build							

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										YES	NO
newly constructed Cajon Road under the I-15 Bridge to allow wildlife movement in the area when the Creek is filled with water in normal storm conditions.			District Biologist								
NC-9 Rubberized asphalt will be used on Cajon Road in the area adjacent to Cajon Creek as it traverses under the I-15 Bridge to reduce noise.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-10 No lighting will be installed on Cajon Boulevard between 100 feet west of Devore Road/Glen Helen Parkway and 100 feet east of the Kenwood Avenue intersection. Any lighting at the Kenwood Avenue intersection shall be limited to requisite safety lighting only.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-11 No lighting will be installed on the I-15 bridges over Cajon Creek that will shine down below the bridges.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
NC-12 The Pittman Canyon culvert downstream (south and west of I-15) will be reconstructed utilizing 3:1 – 4:1 side slopes within the Department's right-of-way, and will include a stepped transition down to the drainage from the culvert.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							

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										YES	NO
NC-13 The District will work with USFS to identify wildlife enhancement measures in the Pittman Canyon area and Unnamed Drainage 4 prior to construction.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist / District Environmental Planning	During Design-Build							
NC-14 During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible.	2.15-22	Design Builder	Resident Engineer / District Design / District Biologist / District Environmental Planning	During Design-Build							
Wetlands and Waters											
WAT-1 Implementation of any of the Build Alternatives will require obtaining the following permits related to Waters of the U.S. and Waters of the State:	2.16-40	Design Builder	Resident Engineer / District Biologist	Prior to Construction							
WAT-1-a Section 404 Permit from the USACOE	2.16-40	Design Builder	Resident Engineer / District Biologist	Prior to Construction							
WAT-1-b Section 401 Waiver of Certification of the Section 404 Permit from the RWQCB	2.16-40	Design Builder	Resident Engineer / District Biologist	Prior to Construction							
WAT-1-c Section 1602 Agreement from the CDFG	2.16-40	Design Builder	Resident Engineer / District Biologist	Prior to Construction							

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										YES	NO
WAT-2 Compensatory mitigation is anticipated to be required to offset the loss of federal jurisdictional waters and will be at a minimum 2:1 mitigation ratio. Of the 76 acres being purchased for impacts to alluvial fan sage scrub, the Department plans to utilize 3.5 acres of the 76 to address impacts to waters of the U.S.	2.16-40	Design Builder	Resident Engineer / District Biologist	During Design-Build							
WAT-3 Compensatory mitigation is anticipated to be required to offset the loss of State jurisdictional waters and will be at a minimum 2:1 mitigation ratio. Of the 76 acres being purchased for impacts to alluvial fan sage scrub, the Department plans to utilize 24.25 acres of the 76 to address impacts to waters of the State.	2.16-41	Design Builder	Resident Engineer / District Biologist	During Design-Build							
Animals											
ANI-1 To avoid potential effects to special status raptors and other nesting birds protected by the Migratory Bird Treaty Act (MBTA), vegetation clearing and preliminary ground disturbance work will be completed outside of bird breeding season (typically set as February 15 through	2.18-6	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
August 31). In the event that initial groundwork cannot be conducted outside the bird breeding season, focused surveys will be conducted prior to ground disturbing activities. Should nesting birds be found, an exclusionary buffer will be established by the biologist. The buffer may be up to 500 feet in diameter depending on the species of nesting bird found. This buffer will be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.											
ANI-2 Surveys for the presence of special status bat-species will be required prior to the commencement of construction. Because the species of bat may change between current surveys and the time of construction, and because avoidance and minimization measures are species specific, the precise measures cannot be determined at this time. Therefore, the	2.18-7	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
application of appropriate avoidance and minimization measures regarding bats will require further investigation and potential mitigation as specified below:											
ANI-2-a A qualified bat biologist shall survey the project area in the 2012 Spring season to assess the potential for its use as a day and night roost which would allow time to deal with any bat issues that may arise and could be dealt with prior to construction. Since bat roosts can change seasonally, if bats are determined to be present during the 2012 Spring survey, the qualified bat biologist will also perform pre-construction surveys each subsequent spring prior to construction activities involving existing bridge structures. The surveys will include a combination of structure inspection, sampling, exit counts, and acoustic surveys. The acoustic survey assesses the frequency of sounds emitted by the bats and is used to determine the species of bats that are present.	2.18-7	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
ANI-2-b A night roost refers to a structure (natural or built) in which bats roost during the evening between foraging bouts. There would be minimal or no impacts to bats if construction activity is limited to daytime hours, the existing structures utilized by the bats for roosting are not removed or altered, vegetation adjacent to these structures is not cleared, and the airspace to access the structures is not restricted. If nighttime construction activity is anticipated, or if major modifications will be made to the bridges or culverts that may reduce their suitability for night roosting, the potential night roosting areas within the BSA will require further investigation during the preparation of the final project plans through acoustic monitoring to yield more precise information with regard to presence, species composition, and the approximate number of bats utilizing the structures for roosting. This information would then be used to determine the appropriate avoidance and minimization measures that would minimize impacts to night-	2.18-7	Design Builder	Resident Engineer / District Biologist	Prior to construction							

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										YES	NO
roosting bats.											
ANI-2-c Although bridge and culvert roosts can be relatively easy to identify, tree roosts are more subtle and require close examination. In order to avoid potential direct impacts to roosting bats, if tree removal or trimming is necessary for project construction, large trees and snags should be examined by a bat biologist in the spring season preceding construction prior to removal or trimming to ensure that no roosting bats are present.	2.18-8	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ANI-2-d An additional daytime assessment should be conducted in the spring prior to the start of construction to reexamine the crevices that may be suitable for use by day roosting bats. If day roosting bats are present or their presence is assumed in structures that will be directly affected by construction activities, exclusionary devices may need to be placed in the fall (September or October) to avoid potential direct impacts to bats.	2.18-8	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ANI-2-e The biologist will stipulate the appropriate time of year (normally the fall and winter) for construction at potential	2.18-8	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
roosting sites (e.g., bridge structures) to avoid impacts to roosting bats. After surveys are completed during the spring 2012 season, depending on the results, appropriate avoidance and minimization measures will be specified by a qualified bat biologist. Avoidance and minimization measures may include some or all of the following: exclusionary devices and changing staging areas, access routes, and lighting.											
ANI-3 Prior to commencement of any construction in Cajon Creek, the Department shall review and approve a speckled dace relocation plan that will include the following elements:	2.18-8	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ANI-3-a Ongoing surveying for the presence of speckled dace in Cajon Creek by a qualified biologist.	2.18-8	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ANI-3-b Review of proposed grading activities to ensure that no ponds are created that might entrap speckled dace.	2.18-8	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ANI-3-c Plans for water diversion, if needed.	2.18-8	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ANI-3-d Relocation plans for any speckled dace that might be identified.	2.18-8	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ANI-4 Prior to the commencement of any construction in Cajon Creek, the Department shall review and approve a two-striped garter snake relocation plan that will include the following elements:	2.18-9	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ANI-4-a The SBKR monitors will be trained to survey for the presence of the two-striped garter snake. Any such snakes found will be appropriately relocated outside the construction area.	2.18-9	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ANI-4-b Plans for water diversion and the potential to encounter the snake will be developed.	2.18-9	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
Threatened and Endangered Species											
Efforts for San Bernardino Kangaroo Rat *- Measures Incorporated into Project Design*											
ES-1 Widening of I-15 south of Cajon Creek was shifted into the median rather than outside widening to avoid impacts to SBKR habitat and waters of the U.S. and State.	2.19-26	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ES-2 In areas where feasible, the project footprint was minimized through the use of 2:1 slopes rather than the Department standard 4:1 slopes.	2.19-26	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-3 To minimize potential impacts to SBKR habitat and to waters of the U.S and State, the following design refinements have been incorporated into the proposed reconnection of Cajon Boulevard:	2.19-26	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-3-a The design speed of the roadway was reduced to allow for tighter curves. This reduction in design speed allowed for reduced habitat impacts as follows:	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-3-a-i West of the I-15 undercrossing, Cajon Boulevard was aligned as close as possible to the I-15 freeway to minimize the extent of the habitat island created between Cajon Boulevard and I-15.	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-3-a-ii East of the I-15 undercrossing Cajon Boulevard was aligned as close as possible to the existing developed parcels that front on Old Cajon Boulevard	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							

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										YES	NO
to limit impacts to the habitat between Cajon Boulevard and the Creek.											
ES-3-a-iii The edge of the embankment for Cajon Boulevard adjacent to Cajon Creek will be protected by a retaining wall rather than by slopes, reducing the impacts to SBKR habitat.	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-3-a-iv An approximately 3-foot solid wall will be constructed along the reconnection of Cajon Boulevard, to shield Cajon Creek and adjacent SBKR habitat from car lights.	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-4 Impacts of the reopening of the closed portion of existing Cajon Boulevard between Kenwood Avenue and its current southern terminus were reduced by the following measures:	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-4-a Maintaining and utilizing the existing closed roadbed as much as possible.	2.19-27	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
ES-4-b Limiting capacity on Cajon Boulevard between Kenwood Avenue and Devore	2.19-27	Design Builder	Resident Engineer / District Design /	During Design-Build							

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										YES	NO
Road/Glen Helen Parkway to one lane in each direction (instead of the originally proposed four-lane roadway, two lanes in each direction).			District Biologist								
Efforts for San Bernardino Kangaroo Rat *- Compensatory Measure for Permanent Take of Habitat*											
ES-5 To offset permanent and temporary impacts to SBKR suitable habitat (occupied and potentially occupied), the Department will purchase credits within the Cajon Creek Conservation Bank or another accredited conservation bank for SBKR according to the ratios specified in the table below. In addition, temporary effects will be offset by restoring habitat to pre-project conditions. Please see Appendix M in the Department's BA (2011).	2.19-27	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build					Department will be responsible for purchasing credits and the Design Builder will be responsible for restoring habitat.		
Efforts for San Bernardino Kangaroo Rat *- Measures to Reduce Impacts During Construction*											

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										YES	NO
ES-6 A biologist with knowledge about SBKR and its habitat will be retained to function as a biological monitor. The biological monitor will hold a valid Section 10(a)(1)(A) permit for SBKR. At least 30 days prior to initiating project activities, the name(s), any permit numbers, and resumes of all prospective biological monitors will be submitted, in writing, to the Palm Springs Fish and Wildlife Office (PSFWO). Project activities will not begin until the PSFWO approves a biological monitor or monitors. If no response is received within 30 days, the Department will contact the USFWS regarding status.	2.19-28	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ES-7 Prior to clearing or construction and under the supervision of the approved biological monitor, highly visible barriers (such as orange construction fencing) will be installed around scalebroom scrub communities (*Lepidospartum squamatum,* Alliance, Sawyer et al. 2009)	2.19-28	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
adjacent to the project footprint to designate Environmentally Sensitive Areas (ESAs) to be protected from construction impacts. No grading or fill activity of any type will occur within these ESAs. In addition, heavy equipment, including motor vehicles, will not drive or operate within the ESAs. All construction equipment will be operated in a manner to prevent accidental damage to nearby protected areas. No structure of any kind, or incidental storage of equipment or supplies, will occur within these protected zones											
ES-8 The biological monitor will ensure compliance with the project description evaluated in the project biological opinion, including all conservation measures and terms and conditions, and will have the authority to halt/suspend all activities until appropriate corrective measures have been taken.	2.19-28	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ES-9 The biological monitor will report any non-compliance within 24 hours to the Palm Springs Fish and Wildlife Office (PSFWO).	2.19-29	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ES-10 The biological monitor will develop and conduct an environmental awareness education program for all construction personnel (including temporary design-builders and subcontractors) before any work is begun on or adjacent to the project site. At a minimum, the information presented will include (1) the purpose of resource protection; (2) a description of SBKR and its habitat; (3) a description of the arroyo toad and its critical habitat; (4) the conservation measures that will be implemented in conjunction with project construction; (5) delineation and flagging of the project area, and limitations on movement of personnel and equipment and; (6) the general provisions of the Act including the legal status of SBKR, arroyo toad and the meaning of "take."	2.19-29	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-11 Before any ground disturbance begins and under the supervision of the approved biological monitor, the design-builder will delineate and mark all limits of construction to be clearly visible to all personnel. All construction-related activities by	2.19-29	Design Builder	Resident Engineer / District Biologist	Post construction							

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										YES	NO
design-builders, subcontractors or their agents, and equipment (including vegetation removal, grading, equipment lay-down and storage, and design-builder parking) will be restricted to the designated limits of construction and staging areas. Construction staging and equipment storage will be located outside of any potential habitat areas. All movement of design-builders, subcontractors or their agents, and equipment will be restricted to the limits of construction and staging areas. Black mesh silt fencing will be installed to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities. The biological monitor will inspect the fencing at the close of each business day throughout the construction phase. The design-builder will implement any required repairs to the fencing within 24 hours of receiving notification of the required repair. Should any work occur beyond the fenced or demarcated limits of impact, the biological monitor will request that the resident engineer halt											

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										YES	NO
work until the problem has been remedied. The biological monitor will notify the PSFWO of the problem within 24 hours of its occurrence.											
ES-12 Prior to project-related vegetation clearing and grading within SBKR suitable habitat areas, an exclusionary fence will be installed, as necessary, around the limits of SBKR suitable habitat (category 1) areas. The exclusionary fence will consist of a 5-feet-tall chain link fence with a ¼-inch gauge wire mesh strip (e.g., hardware cloth) attached to the inside base of the chain link fence. The wire mesh will be buried to a minimum depth of 12 inches below the ground surface and have a minimum height of 4 feet above ground level. The proposed fence design will be submitted to and approved by the PSFWO at least 30 days prior to emplacement and grading. The qualified biologist experienced with SBKR will be present on-site when the fence is installed to minimize the disturbance of SBKR burrows from the fence installation. During fence construction, the biological	2.19-30	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
monitor or other qualified biologist holding a 10(a)(1)(A) permit will hand-excavate marked burrows within 100 feet in advance of the trenching backhoe; if necessary, another biologist will stand by the backhoe to observe any animals caught up in the backhoe bucket. The SBKR permitted biologist will remove any SBKR found in the burrow or backhoe bucket and release them outside the fence alignment. A fence design will be submitted to the PSFWO for approval at least 30 days prior to emplacement.											
ES-13 After any required exclusionary fence is in place, and before initial ground disturbance construction activities, the fenced area will be trapped and all small mammals captured will be removed and released outside the project footprint to adjacent suitable habitat. The biological monitor or other qualified biologist holding a valid section 10(a)(1)(A) permit will live-trap and remove as many SBKR as possible from within the enclosed construction area and recapture any SBKR that return	2.19-30	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
to the site. Trapping will continue for at least 5 consecutive nights, or until there have been 2 consecutive nights of trapping with no SBKR captures, or until PSFWO has provided written or verbal approval to discontinue trapping. The SBKR permitted biologist will mark all SBKR captures on the chest with a red Sharpie pen (or comparable pen) to identify any recaptures that re-enter the fenced area and will report the number of captures and recaptures to the PSFWO.											
ES-14 At the beginning and close of each work day throughout the duration of construction, the design-builder or biological monitor will inspect unfilled excavations, unburied pipes, and soils stockpiles for the presence of any SBKR that may be entrapped. The SBKR-permitted biologist will remove and release the entrapped animals outside the project footprint to adjacent habitat. At the close of each work day, and after any discovered SBKR have been removed, the design-builder will backfill, cover, or otherwise close all excavations or unburied pipes; temporarily	2.19-30	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
store and cover soils stockpiles within the designated temporary work area (and not outside that area where SBKR may burrow overnight); and inspect the exclusionary fencing and immediately repair any gaps larger than 0.5 in.											
ES-15 During construction, the biological monitor will conduct walk-over surveys of the project area at least 2 days a week (or other interval approved by the PSFWO) before the start of daily activities for the purpose of detecting any evidence that SBKR are entering the construction footprint. During these walk-over surveys, the biological monitor will remove any live SBKR from the construction area and locate any dead or injured SBKR within the limits of construction.	2.19-31	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
ES-16 When trapping, collecting, and releasing any SBKR found in the construction area or vicinity during the course of work, the biological monitor/biologist will implement the following measures:	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ES-16-a Locate all traps in areas that best typify SBKR habitat, and place them in sufficient numbers to provide adequate coverage of suitable habitat. Mark all trap locations with flagging, reflective tape, or other technique that is visible under day and night conditions, and at a distance of at least 16.3 ft.	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-b Use only 12-inch Sherman or wire-mesh live traps; 9-inch models may be used only if obtained before March 13, 1990. Ensure all trap models are modified to eliminate or substantially reduce the risk of SBKR injury (e.g., tail lacerations or excisions). Do not place any batting in the traps.	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-c Sterilize traps previously used outside of San Bernardino County.	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-d Conduct trapping only if the nightly low temperature is forecast to be 50 degrees Fahrenheit or above, and if no extended periods of wind, rain, fog, or other inclement weather will occur to make conditions unsuitable for trapping or will	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
unduly imperil the lives of the animals.											
ES-16-e Adjust traps by hand each time they are placed, set, and baited, at a sensitivity level appropriate for capturing SBKR. Visually inspect all traps before closing, and close them by hand.	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-f Check all traps at least twice each night, once near midnight and again at sunrise.	2.19-31	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-g Identify all trap locations with a unique identification code on a log sheet, note the date and time each trap is checked, and periodically review the log sheet to ensure no traps are inadvertently missed. Field documentation shall be available to Service personnel upon request.	2.19-32	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-16-h Hold individual SBKR for no longer than 1 hour before releasing them, and relocate them as quickly as possible. Do not place the animal in a plastic bag; transfer it in a clean, structurally sound, breathable container with adequate ventilation. Do not at any time allow the animal to become stressed due to temperature extremes (either hot or cold).	2.19-32	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ES-17 The approved biological monitor will prepare a weekly monitoring memo to document the construction activities, describe the conservation measures utilized, and report any observations of live or dead SBKR for transmittal to the Department and PSFWO until construction is complete.	2.19-32	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-18 The approved biological monitor will submit annual reports on vegetation restoration activities and results as specified in the restoration plan for the temporary impact areas.	2.19-32	Design Builder	Resident Engineer / District Biologist / Landscape Architecture / District Maintenance	During Design-Build					Any reports with duration requirements must satisfy said requirements.		
ES-19 The design-builder will ensure that Service personnel have the right to access and inspect the project site during project implementation (with prior notification from the Service) for compliance with the project description, conservation measures, and terms and conditions of the Biological Opinion.	2.19-32	Design Builder	Resident Engineer / District Biologist	Prior to construction							
ES-20 No night work will be conducted in SBKR habitat areas. When night work is conducted adjacent to SBKR habitat areas, noise and lighting	2.19-32	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
will be directed away from these habitats.											
ES-21 After construction is complete, and at the direction of the Department Biologist, the design-builder will remediate compacted soils in the temporary work area by ripping all areas not directly in the active channels (ordinary high water mark) to a depth of about 1 foot. Stockpiled sand and cobble topsoil will be placed to an appropriate depth (about 1 foot) to provide SBKR burrowing substrates of soil densities similar to pre-construction conditions.	2.19-32	Design Builder	Resident Engineer / District Biologist	Post Construction							
ES-22 The following Best Management Practices (BMPs) will be implemented during project construction:	2.19-32	Design Builder	Resident Engineer / District Biologist / District Storm Water	During Design-Build							
ES-22-a According to the Water Quality Assessment prepared for the project, temporary construction effects to water quality are subject to the Department Storm Water Quality Handbooks, which provide the working details for critical, temporary Construction Site BMPs. The handbooks provide guidelines for the proper design, implementation, and	2.19-33	Design Builder	Resident Engineer / District Biologist / District Storm Water	During Design-Build							

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										YES	NO
maintenance of construction BMPs. The Storm Water Pollution Prevention Plan (SWPPP) for the proposed project will identify the specific BMPs to be implemented during project construction so as not to cause or contribute to an exceedance of any applicable water quality standard contained in a Statewide Water Quality Control Plan and/or the Santa Ana RWQCB Basin Plan. These BMPs will meet the Best Available Technology/Best Control Technology requirement as stipulated in the Department National Pollution Discharge Elimination System Permit.											
ES-22-b All equipment maintenance and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated staging areas to prevent the release of hazardous substances into the project site or drainages (i.e., Cajon Creek, Cable Creek, Lytle Creek or their tributaries). Any accidental spills will be immediately contained and properly disposed of.	2.19-33	Design Builder	Resident Engineer / District Biologist / District Storm Water	Prior to construction							

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										YES	NO
ES-22-c No pets will be allowed in, or adjacent to, the project site.	2.19-33	Design Builder	Resident Engineer	During Design-Build							
ES-22-d No rodenticides, herbicides, insecticides, or other chemicals will be used that could be harmful to the SBKR or SBKR or arroyo toad critical habitats.	2.19-33	Design Builder	Resident Engineer	During Design-Build							
ES-22-e Trash will be stored in closed containers so that it is not readily accessible to scavengers, (e.g., crows and raccoons) and will be removed from the construction site on a daily basis so as not to attract potential SBKR predators.	2.19-33	Design Builder	Resident Engineer	During Design-Build							
ES-22-f Spoils and rubble will not be deposited outside the limits of construction and all fill material and waste will be disposed of properly and removed from the construction site on a daily basis.	2.19-33	Design Builder	Resident Engineer	During Design-Build							
ES-22-g Erosion control, fuel spill cleanup, and mandated equipment noise control measures will be used at all times.	2.19-33	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-23 Implement the conservation measures as specified in the project	2.19-33	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							

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										YES	NO
description evaluated in the biological opinion. If the biological monitor detects impacts to SBKR from project-related activities in excess of those described in the incidental take statement, the Department, their agents, or the biological monitor will contact the PSFWO immediately.											
Efforts for San Bernardino Kangaroo Rat *- Restoration Activities after Construction*											
ES-24 Prior to initiating project impacts, develop a restoration plan for the temporary impact areas. The plan will be submitted to the PSFWO for review and approval no later than 30 days prior to initial ground-disturbing activities.	2.19-34	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-25 Following Project construction, all disturbed habitat adjacent to Pittman Canyon, Middleman Canyon, Cajon Creek, and Burlington Northern Santa Fe Railroad wildlife crossings will be restored with native vegetation.	2.19-34	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-26 Develop appropriate restoration plans for any temporarily impacted areas	2.19-34	Design Builder	Resident Engineer / District Biologist/ District Landscape	During Design-Build							

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										YES	NO
within SBKR suitable habitat. Such restoration plans will be implemented immediately following the completion of construction for that location. Restoration plans will be submitted to PSFWO for approval no later than 30 days prior to ground-disturbing activities. In some areas during initial ground-disturbing activities, the upper 6 inches of topsoil will be salvaged and stockpiled for use in areas to be revegetated. Upon completion of construction, the temporary impact areas will be revegetated with native plant species consistent with those found adjacent to affected areas. A Department biologist will approve the native plant palette to be used in areas to be revegetated. No species listed on Cal-IPC's California Invasive Plant Inventory that have a high or moderate rating will be used for revegetation. Components of the restoration plan shall include methods for recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (i.e., weeding,			Architect/District Design								

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										YES	NO
replacement planting, supplemental watering, etc.) and monitoring the restored area for a period of five years (or less if the restoration meets all success criteria). Also, this plan will include a detailed description of restoration methods, slope stabilization and erosion control, criteria for restoration to be considered successful, and monitoring protocol(s). Following the completion of construction activities, these temporary impact areas will be planted as soon as possible to prevent encroachment by nonnative invasive weeds. The restoration plan will be implemented for a minimum of 5 years, unless the Service agrees that success criteria are met earlier and no artificial water has been used for at least 2 years.											
ES-27 Following construction, all permanent lighting installed along the new freeway alignment will be permanently shielded and directed onto the roadway.	2.19-35	Design Builder	Resident Engineer / District Biologist	During Design-Build							
Efforts for Arroyo Toad											
ES-28 The Department will fund the habitat enhancement effort	2.19-35		Resident Engineer /	During Design-							

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										YES	NO
by entering into an agreement with Inland Empire Conservation District (IERCD) and the Santa Ana Watershed Authority (SAWA) to perform in-stream enhancement of arroyo toad habitat within Cajon Wash upstream of the proposed project site. The Department will fund the enhancement of one acre of arroyo toad habitat within Cajon Wash to offset 0.15 acre of permanent effects and 0.06 acre of temporary effects to arroyo toad critical habitat. This in-stream enhancement location will be within the same critical habitat unit as the area affected. Prior to ground-disturbing activities, the Department will provide the PSFWO with a copy of the agreement with the Inland Empire Resource Conservation District and Santa Ana Watershed Authority.		Department	District Biologist	Build							
ES-29 A biologist with knowledge of arroyo toad and its habitat will be retained to function as a biological monitor for work in areas within or adjacent to arroyo toad critical habitat.	2.19-35	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-29-a The biological monitor will ensure compliance with the project description including any	2.19-35	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
Conservation Measures and Terms and Conditions identified in the January 27, 2012, Biological Opinion issued for project effects to listed species discussed in the project BSA.											
ES-29-b The biological monitor will develop and implement a design-builder education program to be provided to all personnel (including temporary design-builders and subcontractors) over the life of the project. Prior to conducting any work on the site, personnel will be instructed regarding: • The purpose of resource protection • Description of the arroyo toad and its critical habitat • Conservation measures that will be implemented in conjunction with project construction • General provisions of the FESA	2.19-35	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-29-c The biological monitor will be present during vegetation clearing and grading prior to project construction and during construction to monitor habitat	2.19-35	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
conditions and construction impacts as deemed necessary in coordination with the PSFWO.											
ES-30 Prior to any ground disturbance, all limits of project construction will be delineated and marked so as to be clearly visible to personnel on foot and in heavy equipment. All construction-related activities (e.g., vegetation removal, grading, equipment lay-down and storage, and design-builder parking) will occur inside the limits of construction. Construction staging and equipment storage will be located outside of any potential habitat areas. All movement of design-builders, subcontractors, or their agents and equipment will be restricted to the limits of construction and staging and equipment storage areas.	2.19-36	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-31 No night work will be conducted in arroyo toad critical habitat. When night work is conducted adjacent to arroyo toad critical habitat areas, noise and lighting would be directed away from critical habitat areas.	2.19-36	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
ES-32 To implement reasonable and prudent measure number 2 (monitor and report on compliance/effectiveness of conservation measures), the following shall be provided:	2.19-36	See ES-32a thru ES-32c for responsibility	Resident Engineer / District Biologist	During Design-Build							
ES-32-a Submit a monthly report to PSFWO covering results of the biological monitor's visits to the Project site during all phases of project construction, until construction is complete.	2.19-36	Design Builder	Resident Engineer / District Biologist	During Design-Build							
ES-32-b Submit annual reports on vegetation restoration activities and results as specified in the restoration plan for the temporary impact areas.	2.19-36	Design Builder	Resident Engineer / District Biologist	During Design-Build					Any reports with duration requirements must satisfy said requirements.		
ES-32-c Ensure Service personnel have the right to access and inspect the Project site during project implementation (with prior notification from the Service) for compliance with the project description, conservation measures, and terms and conditions of the project biological opinion.	2.19-36	Design Builder/ Department	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
General Measure to Protect Species During Structure Demolition											
ES-33 During demolition of any structure, if listed or sensitive species are found within the structure, non-lethal methods of removal must be undertaken to remove the sensitive or listed species from the structure. Species with no status may be exterminated after identification by the biological monitor. Relocation of listed species will follow specifications found within the Biological Opinion; sensitive species shall be relocated in areas of suitable habitat at the maximum possible distance from residential or commercial structures within the project area. In cases where no special status species are found within a structure to be demolished, lethal extermination methods will be chosen to target the interior of the structure.	2.19-36	Design Builder	Resident Engineer / District Biologist / Structures Design / Structures Construction	During Design-Build							
<u>Invasive Species</u>											
Measures to be Implemented Prior to the Beginning of Construction											
INV-1 Prior to the start of any grading:	2.20-2										

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										YES	NO
INV-1-a The construction site shall be surveyed well in advance of construction (12 months if possible), and existing native plant materials will be collected on site. Sufficient time should be allocated for a professional seed company to visit the project site during the appropriate season and collect the native plant seed. If a decision is made to collect seed from USFS lands, a forest products permit will be obtained beforehand. Seeds will be stored appropriately until use.	2.20.2	Design Builder	Resident Engineer / District Biologist	Prior to construction							
INV-1-b The location of existing invasive species within the planned construction footprint will be mapped and documented (including, but not limited to, fennel, tamarisk and tree of heaven). Invasive species occurrence documentation will include: • USFS location information for the project area • Field Surveys • Description of the methods used to detect and document invasive species occurrences	2.20-2	Design Builder	Resident Engineer / District Biologist	Prior to construction							

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PM 14.0 / R16.4

08-SBd-215
PM 16.0 / 17.8

EA 08-0K7100
PN 0800000366

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc.	Responsible for Compliance and implementation of measure	Department Contact / Support	Timing/ Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure	Measure Completed (Date and Initials)		Remarks	Environmental Compliance	
										YES	NO
INV-1-c A Final Invasive Species Removal Map will be prepared based on the above, which will be confirmed and accepted by the Department Biologist.	2.20-3	Design Builder	Resident Engineer / District Biologist	Prior to construction							
INV-1-d The design-builder shall appoint an Invasive Species Monitor tasked with ensuring that the measures that follow are implemented during all phases of construction.	2.20-3	Design Builder	Resident Engineer / District Biologist	Prior to construction							
Measures to be Implemented during Initial Clearing and Grubbing											
INV-2 During all initial clearing and grubbing operations, the Invasive Species Monitor shall ensure that the following measures are implemented:	2.20-3	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
INV-2-a Invasive species in the work area shall be removed from the site prior to seed set based upon the mapping created in INV-1.	2.20-3	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
INV-2-b For all species of invasive woody plants in areas of potential disturbance within the construction footprint, either remove the whole plant including all roots if feasible, or cut and stump treat with a Department	2.20-3	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
approved aquatic herbicide using the cut and daub method within minutes of cutting. Resulting cut biomass should be appropriately disposed of off-site. If seed is present when cut, the vehicles carrying the cut biomass shall be covered well enough to prevent loss of seed or root material in transport. If herbicide application is not feasible, cutting is not recommended unless the stumps will be permanently buried under at least 4 feet of fill or covered with pavement.											
INV-2-c Soil and vegetation disturbance will be minimized to the greatest extent feasible.	2.20-3	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-2-d During initial ground disturbing activities, the upper six inches of topsoil will be salvaged and stockpiled for potential re use in areas to be revegetated (except for areas currently infested with invasive species).	2.20-3	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-2-e Excavated soil from areas with invasive species populations will be kept separate from other soil and removed and appropriately disposed of 1) off-site or 2) placed in areas to be	2.20-3	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
covered with concrete or at least four feet of additional fill.											
Measures to be Implemented during All Periods of Construction											
INV-3 During all construction operations, the Invasive Species Monitor shall ensure that the following measures are implemented.	2.20-3	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-a No storage or staging areas will be located on USFS lands.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-b Trucks with loads carrying vegetation shall be covered and vegetative materials removed from the site shall be disposed of in accordance with all applicable laws and regulations.	2.20-4	Design Builder	Resident Engineer / District Design / District Biologist	During Design-Build							
INV-3-c During construction, the construction design-builder will ensure implementation of appropriate dust control measures, to prevent excessive amounts of dust, and to control the aeolian removal of weeds and seeds from stockpiled materials. All active portions of the construction site are watered a minimum of three times daily,	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							

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										YES	NO
consistent with dust control measures specified in air quality Measures AQ-1 through AQ-4 in Section 2.13.4 (Air Quality) of this Environmental Document, to prevent excessive amounts of dust and to control the aeolian removal of weeds and seeds from stockpiled materials.											
INV-3-d All material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-e Soil/gravel/rock shall be obtained from weed-free sources, to the extent practicable.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-f The design-builder shall identify the source of fill material for construction work performed on USFS land and immediately adjacent (100') and will obtain approval from USFS prior to its use.	2.20-4	Design Builder	Resident Engineer / District Biologist	Prior to ground disturbing activities							
INV-3-g To the extent practicable only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control to the maximum extent practicable.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-h Erosion and sediment control devices, including certified weed-free straw, mulch,	2.20-4	Design Builder	Resident Engineer / District Biologist								

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										YES	NO
fiber rolls, and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.											
INV-3-i The design-builder will be responsible for ensuring the inspection and cleaning of construction equipment at the beginning of each work day and prior to transporting equipment from one project location to another. All equipment used on the project site shall be field cleared of dirt and vegetation debris within the infested area prior to moving the equipment into non-infested areas of the project and documented in a form approved by Department biologist.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
INV-3-j Should an invasion occur during construction, appropriate eradication strategies will be employed.	2.20-4	Design Builder	Resident Engineer / District Biologist	During Design-Build							
Measures to be Implemented during Revegetation and Restoration Activities											
INV-4 During all landscaping and restoration activities, the following measures shall be implemented.	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							

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										YES	NO
INV-4-a To the extent practicable, restoration seeding will be conducted in the fall to maximize natural rainfall for watering.	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-4-b Soil that was collected under measure INV-2-d shall be restored to create new top soil.	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-4-c In compliance with the Executive Order on Invasive Species, E.O. 13112, the landscaping and erosion control included in the project will not use species listed on Cal-IPC's California Invasive Plant Inventory. The Department Biologist will approve the native plant pallet to be used in areas to be revegetated. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or adjacent to the construction areas.	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-4-d Bare soil will be revegetated with the following (in order of preference): • The seed collected above under mitigation measure INV-	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							

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										YES	NO
1-a. If additional seed is needed, the seed mix shall be taken from native plant species from local Southern California genotypes (but not stock from coastal genotypes), and approved by the Department. Seed purity will be certified by planting seed labeled under the California Food and Agricultural Code or that has been tested within a year by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. Any such seed will be collected from within a 25 mile radius of the project site, and within an elevation range of 900 to1,500 feet mean sea level (MSL) and available for the scheduled planting time. If local propagules are not available or cannot be collected in sufficient quantities, materials collected or grown from other sources within southern California shall be substituted at the discretion of the District Biologist.											

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										YES	NO
Measures to be Implemented after Completion of Construction and Revegetation											
INV-5 After completion of construction and revegetation, the Department Biologist shall ensure the following measures are completed.	2.20-5	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-5-a Identify any necessary eradication procedures (e.g., spraying, hand weeding) should an invasion of nonnative plants occur; the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized by the PSFWO and monitored by a Department biologist.	2.20-6	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-5-b Monitor the erosion control and revegetation sites twice yearly (spring and fall) for three years from date of revegetation installation in a specific area, to detect and control the introduction/invasion of nonnative species.	2.20-6	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							
INV-5-c Identify any necessary eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur; the use of herbicides will be	2.20-6	Design Builder	Resident Engineer / District Biologist / Landscape Architecture	During Design-Build							

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										YES	NO
prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the Department Biologist. Where herbicide application is not acceptable or feasible, woody stumps will be removed from the site and appropriately disposed of off-site, permanently buried under at least 4 feet of fill, or covered with pavement to avoid re-sprouts from stumps. Follow-up herbicide treatment of re-sprouts from cut stumps shall be conducted for a minimum of three years from stump removal.											

UTILITY TRACKING REPORT (Last update: 5/3/2012)					
UTILITY DISPOSITION	**UTILITY**	**APPROX. STATION FROM**	**APPROX. STATION TO**	**APPROX. LENGTH (LF)**	**NOTES**
	Dement St. (I-215), 'DEM' Line				
Protect in Place	SCG 4"/6" Gas Line (Xing I-215)	24+50.0	28+00.0	365	
Extend Casing	SCG 4"/6" Gas Line (Xing I-215)	24+50.0	24+50.0	18	Extend 10" casing to edge of R/W
Relocate	SCE OH (Xing I-215, 2 wood poles w/12kV Lines; 3 circuits)	19+00.0	19+00.0		Shift poles by the amount that Dement St is being shifted.
Relocate	Verizon OH - 2 lines	29+00.0	29+00.0		Pole in center of proposed Dement St alignment.
Extend Casing	Verizon, Sprint FOC - 4-2" conduits in 30" Sleeve (Xing I-215)	19+50.0	19+50.0	35	Extend 30" casing to edge of R/W
Extend Casing	Verizon Business (MCI) 2-4" Conduits in 30" Sleeve (Xing I-215)	19+00.0	19+00.0	55	Extend 30" casing to edge of R/W
Relocate	Verizon Business (MCI) 1-4" conduit	19+00.0	28+00.0	1,050	Relocate into new Dement align.
Protect in Place	Verizon, Sprint FOC UG (4-2" conduits)	19+50.0	30+50.0	1,190	
Protect in Place	Verizon Business (MCI) 1-4" conduit	28+00.0	30+50.0	190	NW end of Demont
Protect in Place	Verizon UG telephone	17+00.0	26+00.0	900	
Protect in Place	SCE UG Single Circuit Cable	26+50.0	26+50.0		
Relocate	SCE Poles (26+00, 27+50, 29+00)				3 poles. 26+00 may be a Verizon pole.
Protect in Place	SCE Poles	15+00.0	27+50.0		Check to make sure not in new Dement align. Also check guying (existing) for conflicts.
	Devore Road Bridge, 'DEV' Line				
Relocate	8" DWC Water	10+00.0	22+00.0	872	Relocate into new Devore Road OC. Includes a service line on the southeast corner of the bridge.
Relocate	Verizon 4 Conduits Telco UG	9+80.0	21+00.0	872	Relocate into new Devore Road OC
Protect in Place	TWT & L3, 6-2" Conduit HDPE in 20" Sleeve	9+80.0	20+00.0	872	
Relocate	SCE Poles (20+50, 22+10)	20+50.0	22+10.0		May affect guying on pole N of 22+10 as well. May be able to abandon if line is no longer needed on Arrowhead Blvd.
	N/o Devore Rd Bridge & E/o I215, 'D2' Line				
Relocate	SCG 2" Gas Line	410+50.0	414+00.0	310	In Arrowhead Blvd. May be able to abandon.
Relocate	DWC 2" Water Line	410+30.0	416+00.0	520	In Arrowhead Blvd. May be able to abandon.
Relocate	SCE OH & Verizon Telco, Poles & anchors	410+50.0	417+50.0		In Arrowhead Blvd. Would be best to abandon this (Remove), rather than save with a R/W line shift, because it helps with other relocs.
	E/o I215 & S/o I15 ('SF' and 'MRN' Lines)				
Protect in place	SCE OH poles & anchors (from end of Santa Fe)				Also includes OH telephone (V) and TV lines.
Protect in place	SCG 2" Gas Line (end of Sante Fe Ave.)	10+00.0	12+00.0		
Protect in place	4" Water Line (end of Sante Fe Ave.)	10+00.0	12+00.0		
Relocate	SCE OH & 2 poles & anchors (end of Marion Ave.)				Also includes OH telephone (V) and TV lines.
Relocate	DWC 1.25" Steel Water Line (end of Marion Ave.)			10	Cap end.
Relocate	DWC 2" Steel Water Line (end of Marion Ave.)			10	Cap end.

UTILITY TRACKING REPORT (Last update: 5/3/2012)					
UTILITY DISPOSITION	**UTILITY**	**APPROX. STATION FROM**	**APPROX. STATION TO**	**APPROX. LENGTH (LF)**	**NOTES**
Relocate	SCG 2" Gas Line (end of Marion Ave.)			60	Remove service connection
	Nedlee Ave, 'NED' Line				
Protect in Place	SCG 2" Gas Line	30+00.0	33+05.0	305	
Protect in Place	TWT and L3 6-2" Conduits HDPE	30+00.0	35+50.0	550	
Relocate	TWT and L3 6-2" Conduits HDPE	35+50.0	46+00.0	1,070	Relocate into new Nedlee Ave alignment
Protect/ Relocate	TWT/L3 6-2: Conduits HDPE in 20" steel sleeve (Xing I-15)	46+00	46+00.0	450	Existing portion in sleeve will be protected in place, but sleeve will need to be extended to R/W line.
Relocate	SCE & Verizon OH to Greenwood Ave (19 poles)	37+30.0	past Greenwood Ave	3,800	SCE stops at Greenwood. Verizion extends past end of Nedlee Ave and Greenwood, almost to Kenwood
Protect in Place	Sprint & Verizon 4 -2" Conduits PVC	30+00.0	35+00.0	500	
Relocate	Sprint & Verizon 4 -2" Conduits PVC	35+00.0	past Greenwood Ave	3,800	Extends past end of Nedlee Ave and Greenwood, almost to Kenwood
Protect in Place	Verizon Bus. (MCI) 1-4" Conduit PVC	30+00.0	35+00.0	500	
Relocate	Verizon Bus. (MCI) 1-4" Conduit PVC	35+00.0	past Greenwood Ave	3,800	Extends past end of Nedlee Ave and Greenwood, almost to Kenwood. There also is an empty casing crossing I-15 that will need to be extended.
Protect in Place	DWC 6" Water	30+00.0	32+60.0	260	
Protect in Place	DWC 10" Steel Sleeve	35+75.0	35+75.0		Empty sleeve
	Greenwood Ave, 'GND' Line				
Relocate	SCE OH I-15 Xing - Steel Lattice Poles & 3 circuits				Will cross on a slightly new alignment (Still from the end of Greenwood Ave). Currently working with SCE to finalize relocation plan.
	Kenwood Ave, 'KEN' Line				
Relocate	1 Manhole (Verizon)	786+00.0	786+00.0		Adjust height only
Protect in Place	SCG 2" PE Gas	779+50.0	779+50.0		Crosses Kenwood Ave.
Protect in Place	ATT 4" Multiduct	775+64.3	798+81.6	2,320	
Protect in Place	1 SCE Pole (Kenwood)	782+00.0	782+00.0		
Protect in Place	Verizon Business 1-4" conduit, 2-1 1/8" conduit	786+00.0	798+81.6	1,280	
Protect in Place	Sprint & Verizon 4-2" conduits	786+00.0	798+81.6	1,280	
	I-15 N/o Kenwood Ave, 'A4' Line				
Relocate	SCG 36" Gas Line	28+00.0	28+00.0		Relocation necessary due to significant fill heights.
Protect in Place	SCE OH Line Xing	37+00.0	37+00.0		
	Cajon Rd N/o Devore Rd, 'CAJ' Line				
Relocate	1 SCE Pole, btw Cajon Blvd and I-15	156+00.0	156+00.0		Pole conflicts with toe of I-15 fill slope
Protect in Place	Sprint, VB, WT; 4-4" conduits	139+50.0	146+00.0	650	May require some manhole adjustments
Protect in Place	VB 3-4" empty conduits	117+30.0	139+50.0	2,220	
Relocate	VB 3-4" empty conduits	117+30.0	117+30.0		Extend case on both sides of I-15
Protect in Place	Level 3/TWT 12-2"	106+25.0	146+00.0	3,980	May require some manhole adjustments.
Protect in Place	SCE UG 2-5" & 6" Conduits	136+50.0	146+00.0	950	May require some manhole adjustments

UTILITY TRACKING REPORT (Last update: 5/3/2012)					
UTILITY DISPOSITION	**UTILITY**	**APPROX. STATION FROM**	**APPROX. STATION TO**	**APPROX. LENGTH (LF)**	**NOTES**
Protect in Place	14" Oil Line - Kinder Morgan	75+00.0	146+00.0	7,300	
Protect in Place	14" Oil Line - Kinder Morgan	60+80.0	75+00.0		May require retaining wall at toe of slope along 'CD' Line
Protect in Place	8" Oil Line - Kinder Morgan	119+80.0	146+00.0	2,620	
Relocate	SCE - Relocate multiple poles outside of R/W	128+00.0	136+00.0		Poles are between Cajon Blvd and I-15. See relocation plans for SCE xing of I-15.
Protect in Place	SBMW - 16" Water line	79+00.0	93+00.0	1,650	Some adjustments to manholes, valve boxes required.
Relocate	SBMW - 16" Water line	57+00.0	79+00.0	2,210	Relocate into Cajon Blvd
Protect in Place	SBMW - 16" Water line	46+00.0	57+00.0	1,100	Some adjustments to manholes, valve boxes required.
Protect in Place	SBMW - 12" Water line	46+00.0	52+50.0	650	
Protect in Place	Verizon FO line	49+00.0	59+00.0	1,230	
Protect in Place	Verizon telephone line	49+00.0	59+00.0	1,230	
Protect in Place	SBMW - 24" Water line	48+00.0	55+00.0	700	
Protect in Place	SCE 1-5" Conduit	49+00.0	58+00.0	1,220	
	I-15, S of 15/215 IC, 'A1' line				
Protect in Place	SCE OH Lines Xing I-15	762+50.0	762+50.0		
Protect in Place	TWT, Verizon and VB lines in Glen Helen Parkway	780+00.0	780+00.0		
Extend Casings	SCG 2 36" Gas lines Xing under I-15	814+00.0	816+00.0		May need to extend casings
Protect in Place	VB 1-2" Conduit in Glen Helen Road	826+50.0	826+50.0		
Protect in Place	Verizon OH TV line on Glen Helen Road	826+50.0	826+50.0		
Protect in Place	Verizon 1-3" Telephone in Glen Helen Road	827+00.0	827+00.0		
Protect in Place	SCE 1-5" Conduit in Glen Helen Road	827+00.0	827+00.0		
Protect in Place	SCE OH line on Glen Helen Road and along I-15 (NB)	827+00.0	836+30.0		
Extend Casing	Kinder Morgan 8" oil line in 24" STL Casing E/o RR Xing	843+00.0	843+00.0	200	At RR Crossing
	Cajon Junction, 'CJNCT' Line				
Relocate	DWC 2" Water (South side), continues past end of street	10+00.0	20+11.94 and beyond	1,720	
Abandon	DWC 2" Water (North side)	10+00.0	18+00.0	2,210	
Protect in Place	SCE, V OH Electric, Telephone	10+00.0	20+11.9	1,340	
Relocate	SCE, V OH Electric, Telephone, next to 'CD' Line (5 poles)				Near Station 923+00 of 'CD' Line.
Protect in Place	Verizon Fiber Optic	10+00.0	20+11.94 and beyond	1,340	
Relocate	Verizon Fiber Optic, next to 'CD' Line			55	Near Station 923+00 of 'CD' Line. Relocate into new driveway.
	Cajon Rd S/o Devore Rd. 'CAJ' Line				
Relocate	SCE, Verizon OH, 5 wood poles & anchors	45+50.0	47+50.0		Relocate outside of planned intersection
Relocate	SCE, Verizon OH, 1 pole, N side of street	43+50.0	43+50.0		

UTILITY TRACKING REPORT (Last update: 5/3/2012)					
UTILITY DISPOSITION	**UTILITY**	**APPROX. STATION FROM**	**APPROX. STATION TO**	**APPROX. LENGTH (LF)**	**NOTES**
Relocate	SCE, 6 poles, N side of street	39+00.0	41+00.0		Line heads toward fwy, paralleling gas line. Relocate outside new R/W or may just remove.
Protect in Place	SBMW 16" Water Steel	33+09.0	49+00.0	1,600	
Protect in Place	DWC 8" Water	40+50.0	49+00.0	860	
Protect in Place	SBMW 12" Water	37+50.0	49+00.0	1,150	Crosses Cajon Blvd at 37+50 and reduces to 6" line
Protect in Place	SBMW 24" Water DIP	33+09.0	49+00.0	1,600	
Protect in Place	Verizon Telco OH (S side of street)	38+50.0	44+50.0	600	
Protect in Place	Charter fiber optic OH (S side of street)	33+09.0	49+00.0	1,600	
Protect in Place	Verizon fiber optic (2 conduits), S side of street	33+09.0	49+00.0	1,600	
Protect in Place	SCG 16" Gas	33+09.0	38+20.0	520	
Relocate	SCG 6" Gas	38+00.0	41+00.0	470	Move outside of new R/W. Extend casing at I-215 freeway. Relocate reg. station at end of new ramps. May relocate into new Devore OC.
Protect in Place	SCG 4" Gas	33+09.0	38+20.0	520	
Protect in Place	6" Water	33+09.0	37+50.0	492	
	I-215 South of I-15, 'B1' Line				
Relocate	MCI 2-4" conduits in 30" sleeve	897+50.0	897+50.0	130	Extend casing on each side of freeway
Relocate	Sprint & Verizon, 4-2" Conduits in 30" sleeve	898+00.0	898+00.0	130	Extend casing on each side of freeway
Relocate	SCE pole, Xing I-215	897+50.0	897+50.0		Move poles on each side outside of R/W.
Relocate	SCE pole, S side of freeway	867+70.0	867+70.0		Relocate pole outside of new R/W

Notes

- Distances and stations are approximate. Design-Builder to verify exact locations.
- Stations reference to the alignment called out by the heading of a section, as found on the Preliminary Engineering Drawings
- Abbreviation definitions are found on the utility plan sheets

EXHIBIT 13-C

Transverse Reinforcement Requirements for Columns and Piles

Element Name	Seismic Type	Transverse Reinforcement Type
Bridge columns, pile extensions, and piles with cage diameter > 24 inches	Seismic Critical	Hoops
Bridge columns, pile extensions, and piles with cage diameter ≤ 24 inches	Seismic Critical	Spirals
Piles/pile shafts in liquefiable soils	Seismic Critical	Hoops
Prismatic or enlarged pile shaft (diameter > 24 inches) supporting a column	See MTD 20-9	Hoops

Index of Reference Information Documents

A "W" under available column indicates documents that can be found on the Internet, an "E" indicates the document will be provided electronically, and "CO" indicates the Design-Builder shall obtain the document. Web sites are not guaranteed but are supplied for information. It is ultimately the Design-Builder's responsibility to locate the documents.

Title	Available
EXISTING INFORMATION	
As-Built Plans	
As-Built Plans.zip – Zipped folder containing the following:	E
I-15	
SBd 15-Index.pdf – Index of As-Built Plans along I-15	E
I-15.zip – Zipped folder containing As-Built Plans for various projects along I-15 in PDF format	E
I-215	
SBd 215-Index.pdf – Index of As-Built Plans along I-215	E
I-215.zip – Zipped folder containing As-Built Plans for various projects along I-215 in PDF format	E
Structures	
Structures.zip - Zipped folder containing As-Built Plans for the following:	E
54-0525 Devore Rd OC.pdf – Devore Rd Overcrossing	E
54-771 Center Conn UC.pdf – I-15 to I-215 Connector	E
54-772 Kenwood Ave UC.pdf – Kenwood Ave Undercrossing	E
54-0779 Glen Helen Pkwy UC.pdf – Glen Helen Pkwy Undercrossing	E

Title	Available
54-0780 Glen Helen Rd UC.pdf – Glen Helen Road Undercrossing	E
54-0781 Cajon Creek.pdf – Cajon Creek Bridges Rehabilitation	E
54-0782 N215-S15 Conn UC.pdf – NB I-215 to SB I-15 Connector	E
54-0783 15,215 Sep.pdf – 15/215 Separation	E
54-0818 Devore OH.pdf – Devore Rd Overhead	E
54-0844 Devore Rd OC,215S Coll.pdf – Devore Rd/S215 Collector Overcrossing	E
Survey	
Mainline Local Roads Alignments.zip – Zipped folder containing survey information on the Connectors, Local roads and the Mainline Alignments	E
RR Ties to Bridge.zip – Zipped folder containing DGN Files for Railroad Ties to Bridges	E
Utilities	
Utility Plans-pdf_w_layers.zip – Zipped folder containing Key Maps, Index & Utility Plans	E
Utility Correspondence.zip – Zipped folder containing various correspondence with utility companies	E
SCE Relocation 1.pdf –Southern California Edison relocation plan	E
SCE Relocation 2.pdf – Southern California Edison relocation plan	E
RID Sample Utility Agreement.pdf	E
Devore Water Line Guidelines.pdf – General guidelines for water line construction	E
Submittal Requirements for Joint Relocations.pdf – Requirements for relocation of Southern California Edison facilities	E
CSFM.pdf – CalFire Information Bulletin 03-001 Encroachments into or on Pipeline Easements	E

Title	Available
LO-M 200-29.pdf – Kinder Morgan Guidelines for Design and Construction near Hazardous Liquid Operated Facilities	E
Utility Contacts List.pdf – Contact list for utility companies with facilities within the project limits.	E
DWC Preliminary Relocation Plan.pdf – Devore Water Company proposed relocation	E
PROJECT STUDIES	
Environmental	
Final ED 2-29-12.pdf – Initial Study with Mitigated Negative Declaration / Environmental Assessment with Finding of No Significant Impact dated February 29, 2012	E
Final ED Appendices 2-29-12.pdf	E
Design	
Project Study Report.pdf	E
Approved Project Report.pdf	E
Modified Access Report – Zipped folder containing files for the Modified Access Report (MAR) and Attachments A-H	E
ValueAnalysisL80025.125_I15&I215_Connectors.pdf	E
I15-215DevoreIC-SlipRampConsideration-FHWASubmittal_03-18-10.pdf – Justification for the use of slip ramps	E
TECHNICAL REPORTS	
Environmental	
VIA approved_01-28-11.pdf – Visual Impact Assessment	E
ADL_Study_within_existRW_PAED Phase.pdf – Aerial Deposited Lead Study	E

Title	Available
HazWaste_ISA.pdf – Hazardous Waste Initial Site Assessment	E
HW ISA Appendices.pdf – Hazardous Waste Initial Site Assessment Appendices	E
Asbestos Containing Materials Report_Bridges_05032011.pdf – Asbestos Containing Materials Survey Report	E
Section 404 Permit Options.pdf -- U.S. Army Corp of Engineers Section 404 Permit Options	E
Biological Assessment.pdf – Interstate 15/Interstate 215 Interchange Biological Assessment	E
BO__revision.pdf – U.S. Fish and Wildlife Biological Opinion	E
APE_SurveyArea_working_06-07-12combined.pdf – Map showing Area of Potential Effects study area	E
Geotechnical Studies & Archives	
Geotech-Archives.zip – Zipped folder containing archived geotechnical records for various structures	E
Fault Rupture Study.zip – Zipped folder containing files for the Fault Rupture Study that was performed for this project including the Final Foundation Design Recommendations for Kenwood Ave UC	E
Hydraulics	
Cable Creek Location Hydraulic Study.pdf	E
Cajon Creek Location Hydraulic Study.pdf	E
Cajon Creek CSU Long Beach Study.pdf	E
Existing_Drainage.pdf	E
Preliminary Drainage Report.pdf	E
WildlifeMitigation.zip – Wildlife mitigation wall and tunnel/culvert at Pittman Canyon and Matthews Ranch Road	E
Existing Drainage Photos.zip – Zipped folder containing photos of existing drainage systems	E

Title	Available
Material Engineering	
LCCA_PAED phase.pdf – Life Cycle Cost Analysis for the PAED phase	E
Preliminary Materials Report.pdf	E
Operations	
TOA Report_January 2010.pdf – Traffic Operations Analysis (TOA)	E
TOA Appendices_January 2010.pdf – TOA Appendices	E
Existing.zip – Zip file containing traffic model files for existing	E
NoBuild.zip – Zip file containing traffic model files for No Build Alternative	E
PR Alt3Mod.zip – Zip file containing traffic model files for Alternative 3	E
Roadway – Preliminary Geotechnical Report	
Roadway PGR.pdf – Preliminary Geotechnical Report (PGR)	E
Addendum-No-1-PGR.pdf – Addendum No. 1 to PGR	E
Right of Way	
Devore r-w data sheet 11-16-11 signed part 1 of 2.pdf	E
Devore r-w data sheet 11-16-11 signed part 2 of 2.pdf	E
County Maps for Glen Helen Park Boundaries.pdf	E
GHR Park Development Plan_Parking Lot_1993.pdf	E
R_W Activities Plan RID.pdf – Right of Way Activities Plan showing target completion dates	E

Title	Available
Stormwater	
Stormwater Data Report_PAED Phase.pdf – Stormwater Data Report for the PA&ED phase	E
Structures – Advance Planning Studies	
Structures.zip - Zipped folder containing the following Advance Planning Studies:	
CC_FINAL APS Report.pdf – Cajon Creek Bridge (Widen)	E
DOH_FINAL APS Report.pdf – Devore Overhead (Widen)	E
DROC_FINAL APS Report.pdf – Devore Road Overcrossing (Replace)	E
GHP_FINAL APS Report.pdf – Glen Helen Parkway Undercrossing (Widen)	E
GHR_FINAL APS Report.pdf – Glen Helen Road Undercrossing (Widen)	E
INT_FINAL APS Report.pdf – I-15/I-215 Interchange Bridges	E
KA_FINAL APS Report.pdf – Kenwood Avenue Interchange Bridges	E
MRR_FINAL APS Report.pdf – Matthews Ranch Road Undercrossing (Lengthen)	E
Structures – Preliminary Geotechnical Reports	
SPGR.zip - Zipped folder containing the following Preliminary Geotechnical Reports:	E
Cajon_Creek_Bridges_3A_Widening_SPGR_9-10-10.pdf	E
Devore_OH_3A_SPGR_9-10-10.pdf	E
Devore_Rd_OC_3A_Replace_SPGR_9-10-10.pdf	E
Glen_Helen_PKWY_UC_3A_SPGR_9-10-10.pdf	E

Title	Available
Glen_Helen_ROAD_UC_3A_SPGR_9-10-10.pdf	E
I-215_Devore_Rd_UC_No_3A-8_SPGR_9-10-10.pdf	E
Kimbark_Canyon_Bridge_No_3A-13_SPGR_9-10-10.pdf	E
Matthews_Ranch_Rd_UC_3A_Widening_SPGR_9-10-10.pdf	E
NB_15_Truck_BP_at_Kenwood_Ave_3A-11_SPGR_9-10-10.pdf	E
Route_215-15_Separation_3A_Widening_SPGR_9-10-10.pdf	E
SB_15_Truck_BP_at_Kenwood_Ave_3A-10A_SPGR_9-10-10.pdf	E
SB_215_ML_Over_Kenwood_Ave_3A-10_SPGR_9-10-10.pdf	E
SB_I-215_Connector_No_3A-9_SPGR_9-10-10.pdf	E
West_Connector_UC_3A_Widening_SPGR_9-10-10.pdf	E
W-S_Connector_UC_No_3A-7_SPGR_9-10-10.pdf	E
MISCELLANEOUS	
Conceptual Plan Review From County.pdf – Conceptual Plan Drawing Review Comments from San Bernardino County	E
Fee Schedule 2011-2012-FCD.pdf – San Bernardino County Control District Schedule of Fees	E
Letter to County_07292011.pdf – Letter to San Bernardino County dated July 29,2011	E
SBdCounty_CuldeSac_Details01.pdf – San Bernardino County Cul-de-sac design details	E
SBdCounty_CuldeSac_Details02.pdf – San Bernardino County Offset Cul-de-sac design details	E

Title	Available
Transportation Fee Schedule - 07 27 2006.pdf – Department of Public Works Schedule of Fees for Transportation Permits	E
EZ Guide_2006.pdf – Quick Reference Guide to Plan Preparation and CADD	E
why_fact_sheets_fail.pdf	E
CONCEPTUAL PLANS	
Geometric Approval Drawings (Also available in DGN format)	
GAD-Cut-Sheets.zip – Devore Reconstruction Key Map & Proposed Project Layout Plan Sheets	E
Profiles.zip – Conceptual Profile Sheets	E
Superelevation Diagrams.zip – Conceptual Superelevation Diagrams	E
Overhead Signing Concept Plan.pdf – Overhead Signing Concept Plan	E
Miscellaneous Plans	
Miscellaneous Conceptual Plans.zip – Zipped folder containing the following files	E
Aerial.pdf – Aerial map of project vicinity	E
Centerline Callout.pdf – Alignment naming	E
Daylight_Lines.pdf – Cut/Fill lines based on conceptual drawings	E
Existing_Drainage_line.pdf – Existing drainage facilities	E
Existing_Right-of-Way.pdf – Existing right of way lines	E
ITS Elements.pdf – Existing ITS Elements	E

Title	Available
Overall Plan.pdf – Overall project plan strip map	E
Plan.pdf – Project strip map	E
Prop_Local-Right-of-Way.pdf – Proposed local right of way lines	E
Prop_Right-of-Way.pdf – Proposed project right of way lines	E
Proposed Drainage_lines.pdf – Conceptual drainage plans	E
Retaining Walls.pdf – Conceptual retaining walls	E
Typical Cross Section.pdf – Typical Cross Sections	E
GlenHelenPkwyProjecta.pdf – Plans for Glen Helen Parkway Project	E
Arrayo Toad.dgn – Arrayo Toad habitat	
SBKR Critical Habitat.dgn – Critical Habitat for San Bernardino Kangaroo Rat	
SBKR Habitat.dgn – Habitat for San Bernardino Kangaroo Rat	
General Bridge Plan	
General Bridge Plans.zip – Zipped folder containing the following folder and plans	E
Structure Call-outs.pdf – Bridge Name Call-outs	E
General Bridge Plans_Alt3A.pdf – General Bridge Plans	E
Devore_OH_Widen_1of2_updated-080411.pdf – Devore Overhead-Revised	E
Devore_OH_Widen_2of2_updated-080411.pdf – Devore Overhead-Revised	E
03_PR-3A-9_1.pdf – SB I-215 Connector over I15 Planning Study 1 of 2	E

Title	Available
04_PR-3A-9_2.pdf – SB I-215 Connector over I15 Planning Study 2 of 2	E
Railroad Submittals	
BNSF Conceptual Approval Package.zip – Package submitted to BNSF to obtain conceptual approval	E
UPRR Conceptual Approval Package.zip – Package submitted to UPRR to obtain conceptual approval	E
Railroad Agreements.zip – Current and sample railroad agreements	E
DTM Files	
InRoadsFiles.zip – Zipped folder containing various Inroads DTM files	E
SNBG0703 Alt 3A GAD Mainlines.ird – Roadway modeler files for mainline	
SNBG0703 Alt 3A GAD Ramps.ird – Roadway modeler files for ramps	
Devore.itl – template files	