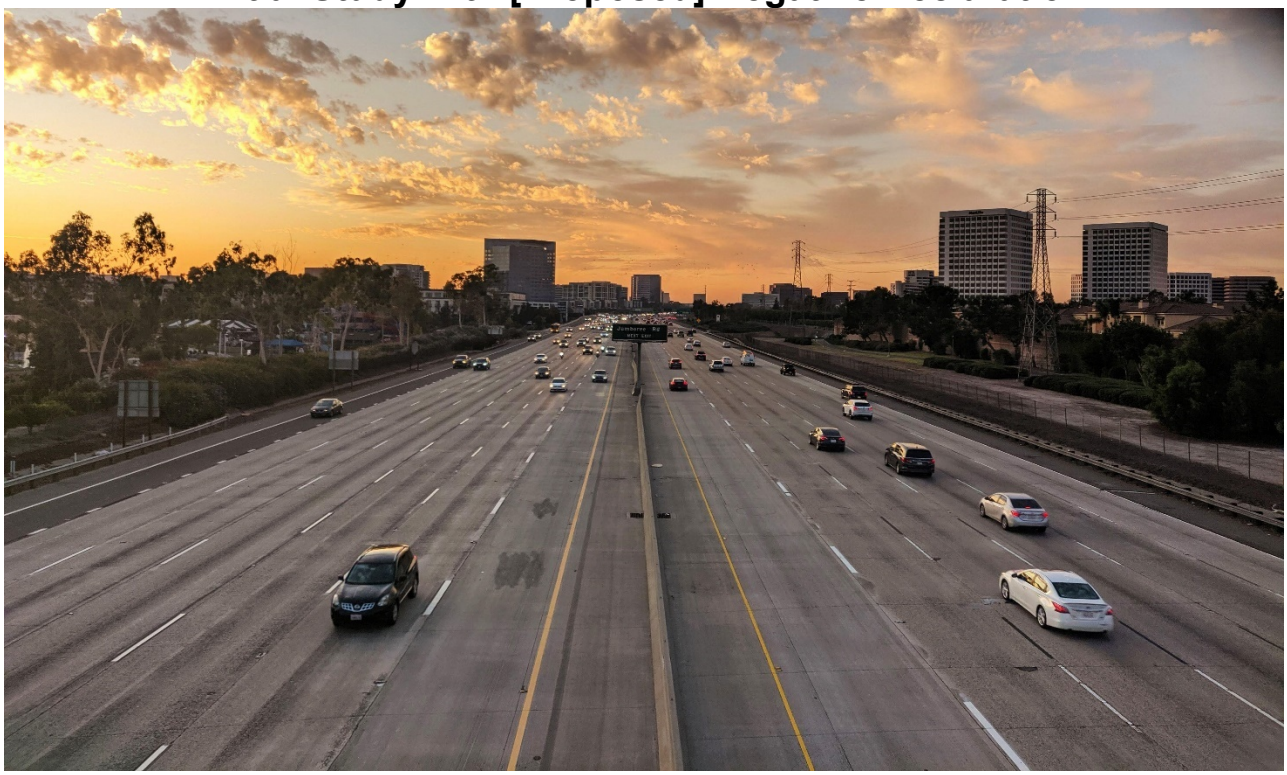
I-405 Multi-Asset Project

ORANGE COUNTY, CALIFORNIA
DISTRICT 12 – ORA – 405 (PM 0.2/11.4)
EA 0Q970 / EFIS 1218000010

Initial Study with [Proposed] Negative Declaration



Prepared by the
State of California, Department of Transportation

June 2021

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General Information About this Document

What's in this document:

The California Department of Transportation (Caltrans), has prepared an Initial Study (IS), which examines the potential environmental impacts for the proposed project located in Orange County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts for each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document and related technical studies are available for review at the Caltrans District 12 office, located at 1750 East 4th Street, Suite 100, Santa Ana, CA 92705. The document is also available for review at the following location during normal business hours:
    - Mesa Verde Library, 2969 Mesa Verde Drive, Costa Mesa, CA 92626
    - University Park Library, 4512 Sandburg Way, Irvine, CA 92612
- Attend virtual public hearing (open house format)
    - Time: July 7, 2021 from 6:30PM – 8:30PM
    - Virtual Public Hearing link: **http://www.I-405MultiAssetProject.com**
- Project information is available at: **https://dot.ca.gov/caltrans-near-me/district-12/district-12-current-projects/I-405-Multi-Asset-Project**
- We'd like to hear what you think. If you have any comments regarding the proposed project, please attend the virtual public hearing (open house format) and/or send your written comments to Caltrans by the deadline.
    - Complete online comment form at: **http://www.I-405MultiAssetProject.com**
    - Send comments via postal mail to:

      Iffat Qamar, Associate Environmental Planner

      Caltrans District 12, Division of Environmental Analysis
      1750 East 4th Street, Suite 100
      Santa Ana, California 92705
    - Be sure to send comments by the deadline: July 21, 2021

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans District 12, Division of Environmental Analysis, 1750 East 4th Street, Suite 100, Santa Ana, California 92705, Attn: Iffat Qamar; (657) 328-6160 (voice), or use the California Relay Service, 1 (800) 735-2929 (TTY), 1 (800) 735-2922 (voice), or 711.

SCH#_____

12-ORA-I-405, PM 0.2/11.4
0Q970 (EFIS 1218000010)

To extend life expectancy of pavement, improve safety and efficiency for all modes of travelers, as well as maintenance crews, enhance traffic operation, manage congestion, and provide ability to collect, analyze, and utilize data for systems performance along the I-405 at Post Mile 0.2/11.4 in Orange County, California

INITIAL STUDY WITH [PROPOSED] NEGATIVE DECLARATION

Submitted pursuant to (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agency:

California Transportation Commission

Date

Chris Flynn
Deputy District Director
California Department of Transportation
CEQA Lead Agency

The following person may be contacted for more information about this document:

Iffat Qamar, PhD., Associate Environmental Planner
California Department of Transportation, District 12 Division of Environmental Analysis
1750 East 4th Street, Suite 100
Santa Ana, California 92705
(657) 328-6160

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SCH #: TBD

PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) District 12 proposes to extend life expectancy of pavement, improve safety and efficiency for all modes of travelers, as well as maintenance crews, enhance traffic operation, manage congestion, and provide ability to collect, analyze, and utilize data for systems performance along the I-405 at Post Mile 0.2/11.4 in Orange County, California.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans's intent to adopt a ND for this project. This does not mean that Caltrans's decision regarding the project is final. This ND is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project; and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no impact on:

Agricultural and Forest Resources, Mineral Resources, Population and Housing, and Land Use and Planning.

In addition, the proposed project would have less than significant impact on:

Aesthetics, Air Quality, Cultural Resources, Noise, Biological Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Recreation, Transportation, Utilities and Service Systems, Tribal Cultural Resources, and Wildfire.

DRAFT

_____ _____

Chris Flynn
Deputy District Director
District 12
California Department of Transportation

Date

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Chapter 1—Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes the Interstate 405 (I-405) Multi-Asset Project (project) from Interstate 5 (I-5) to Harbor Boulevard (12-ORA-405, PM 0.2/11.4) to extend the life expectancy of the pavement, improve safety for all modes of travelers (as well as maintenance crews), enhance traffic operation, manage congestion, and provide the ability to collect, analyze, and utilize data for efficient system performance along the I-405 corridor within the project limits. The total length of the project is 11.2 miles (mi). The Project is located in the Cities of Irvine and Costa Mesa as well as a portion of an unincorporated area of Orange County. The Project Location Map is provided on Figure 1.1.

Caltrans is the Lead Agency for the National Environmental Policy Act (NEPA). The anticipated environmental determination is a Categorical Exclusion (CE). Caltrans is also the Lead Agency for the California Environmental Quality Act (CEQA). An Initial Study (IS), leading to a Negative Declaration (ND), is the anticipated CEQA document. The project has two (2) alternatives: Alternative 1 is the Programmable Project Alternative (also referred to as the Build Alternative), and Alternative 2 is the No Build Alternative.

This proposed project is included in the Southern California Association of Governments (SCAG) 2020/2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2020/2045 Federal Transportation Improvement Program (FTIP) (Regional Transportation Improvement Program [RTIP]/FTIP ID #ORA001103) listed as Rehabilitation Pavement (see Appendix C). The FTIP is included by reference in the Certified Federal Statewide Transportation Improvement Program (FSTIP). This project is funded through Senate Bill 1 (SB-1, Roads Repair and Accountability Act of 2017) and will be programmed in the 2022/2023 Fiscal Year (FY). The capital cost for construction and right-of-way are estimated to be approximately $172 million dollars.

1.1.1 Background

I-405 is a controlled access freeway and a major north-south interstate highway running along the western portion of the greater Los Angeles area from San Fernando in the north to Irvine in the south. It traverses 48 mi of Los Angeles County and 24 mi of Orange County. Within the project limits, there are 8 to 10 general purpose (GP) lanes, 2 high-occupancy vehicle (HOV) lanes, 9 local interchanges, and 4 freeway-to-freeway interchanges at I-5, State Route 133 (SR-133), State Route 55 (SR-55), and State Route 73 (SR-73).

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Figure 1.1 Project Location Map



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I-405 is part of the National Highway System (NHS) that provides access between cities in Orange and Los Angeles Counties. I-405 is used for commuting and intraregional travel along with direct and indirect access to employment centers, recreational attractions, shopping malls, medical centers, universities, airports, and other land uses. I-405 was added to the State Highway System in 1933 and to the California Freeway and Expressway System in 1959. Construction of the freeway within the proposed project limits was completed in 1969. The original construction provided four GP lanes in each direction. HOV lanes were added in 1991.

1.1.2 Purpose and Need

Purpose

1. Extend the service life of the existing pavement and improve the ride quality, pavement serviceability, and safety characteristics according to the pavement preservation program of the Federal guidelines
2. Replace bridge approach and departure slabs, and upgrade bridge railing at various locations
3. Remove and replace plant materials that are deficient and deteriorated
4. Minimize exposure of highway workers to traffic and reduce recurrent maintenance activities
5. Provide safe access by relocating electrical fixtures away from the recovery zone
6. Incorporate Intelligent Transportation Systems (ITS) elements for traffic system management
7. Improve operations for motorists and pedestrians
8. Upgrade safety devices to current standards
9. Improve mobility by adding a park-and-ride facility

Need

1. **Pavement Rehabilitation:** Deteriorating pavement showing surface distress, slab displacement, and cracking
2. **Bridge Health:** Cracked and settled bridge departure and approach slabs, out-of-date bridge railing
3. **Roadside Rehabilitation:** Outdated planting and irrigation system
4. **Roadside Safety Improvement:**
   a. Exposure of maintenance crews to live traffic
   b. Existing unpaved areas, graffiti, minimal maintenance access, and outdated irrigation facilities adjacent to the **shoulder**
5. **Transportation Management System:** Lack of traffic system management connectivity
6. **Operational Improvements:** Ramp queuing, mainline delay, and non-standard access for pedestrians.
7. **Collision Severity Reduction:** Non-standard existing safety devices
8. **Lighting Rehabilitation**

9. **Park-and-Ride Facility:** Lack of public park-and-ride facility along I-405 while share driving is in high demand; subject area is the best-chosen location to serve surrounding communities

1.1.3 Existing and Projected 2026 and 2046 VMT, VHD, and Travel Time

The project's vehicle miles traveled (VMT) traffic data in both southbound (SB) and northbound (NB) directions is provided in Tables 1.1 and 1.2, respectively. Since project improvements are proposed up to MacArthur Boulevard only, the data have been derived accordingly rather than to the end of the project limits, which is Harbor Boulevard.

Table 1.1 Northbound I-405 VMT, VHD, and Travel Time

Location	Existing (2020)		Opening Year (2026)		Design Year (2046)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
I-5 to MacArthur Boulevard – VMT	196,131	211,549	202,643	218,322	224,202	254,126
I-5 to MacArthur Boulevard – VHD	1452	1154	1469	1212	1981	1404
I-5 to MacArthur Boulevard – Peak average travel time (minutes)	10.0	9.2	10.1	9.2	10.5	9.2

I-5 = Interstate 5
I-405 = Interstate 405
VHD = vehicle hours of delay
VMT = vehicle miles traveled

Table 1.2 Southbound I-405 VMT, VHD, and Travel Time

Location	Existing (2020)		Opening Year (2026)		Design Year (2046)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
I-5 to MacArthur Boulevard - VMT	178,859	288,486	184,287	297,480	209,407	320,686
I-5 to MacArthur Boulevard - VHD	659	1823	685	2038	1386	2674
I-5 to MacArthur Boulevard - Peak average travel time (minutes)	8.6	9.8	8.6	10.0	9.8	10.6

I-5 = Interstate 5
I-405 = Interstate 405
VHD = vehicle hours of delay
VMT = vehicle miles traveled

1.2 Project Description

Alternative 1, the Programmable Project Alternative (also referred to as the Build Alternative), proposes to extend the life expectancy of the pavement, improve safety for all modes of travelers (as well as maintenance crews), enhance traffic operation, manage congestion, and provide the ability to collect, analyze, and utilize data for efficient system performance along the I-405 corridor within the project limits.

The main components of Alternative 1 (Build Alternative) are Pavement Class I, Bridge Health, Roadside Rehabilitation, Roadside Safety Improvement, Lighting Rehabilitation, Transportation Management Systems (TMS), Operational Improvements, Collision Severity Reduction, and a Park-and-Ride Facility. These details are also depicted on the Asset Location Map on Figure 1.2.

Under Alternative 1 (Build Alternative), the project work activities include the following:

1. **Pavement Class I:**
   a. Remove and replace concrete slabs in the northbound direction between University Drive and Culver Drive.
   b. Grind and groove concrete pavement in both directions.
   c. Remove and replace loop detectors in kind on freeway pavement.
   d. Cold plane existing pavement on the I-405 mainline, selected shoulders, ramps, and connectors.
   e. Remove and replace loop detectors at on-/off-ramps.
   f. Upgrade curb ramps to current Americans with Disabilities Act (ADA) standards.
   g. Install nine (9) traffic census stations.

2. **Bridge Health:**
   a. *San Diego Creek Bridge:* Remove and replace approach/departure slabs on all travel lanes (both directions) (Bridge #55-0285).
   b. *NB I-405/SB SR-55 Connector Bridge:* Remove and replace approach/departure slabs (Bridge #55-0436G).
   c. *Northbound Direction on MacArthur Boulevard Overcrossing:* Remove and replace departure slabs (Bridge #55-0440R).
   d. *San Diego Creek Channel:* Remove and replace only the NB I-405 departure slab (Bridge #55-0451).
   e. *Santa Ana Delhi Channel Bridge:* Upgrade railing and modify utility conduit on SB I-405 (Bridge #55-0484).
   f. *San Diego Creek Channel:* Upgrade concrete barrier at SB I-405 before the Irvine Center Drive off-ramp (Bridge #55-0451).

3. **Roadside Rehabilitation:**
   a. Improve planting and irrigation system deficiencies from Irvine Center Drive to San Diego Creek, and from Von Karman Avenue to Bear Street.

4. **Roadside Safety Improvement:**
   a. Relocate irrigation facilities at the Jeffrey Interchange and Bristol Street Interchange and improve workers' safe access from Irvine Center Drive to San Diego Creek.

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Figure 1.2 Asset Location Map (Sheet 1 of 9)



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Date Printed 5/14/2021

DISTRICT 12
Division of Environmental Analysis

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Legend

- Project Limits
- Pavement Class 1 & Bridge Health
- Park and Ride Lot

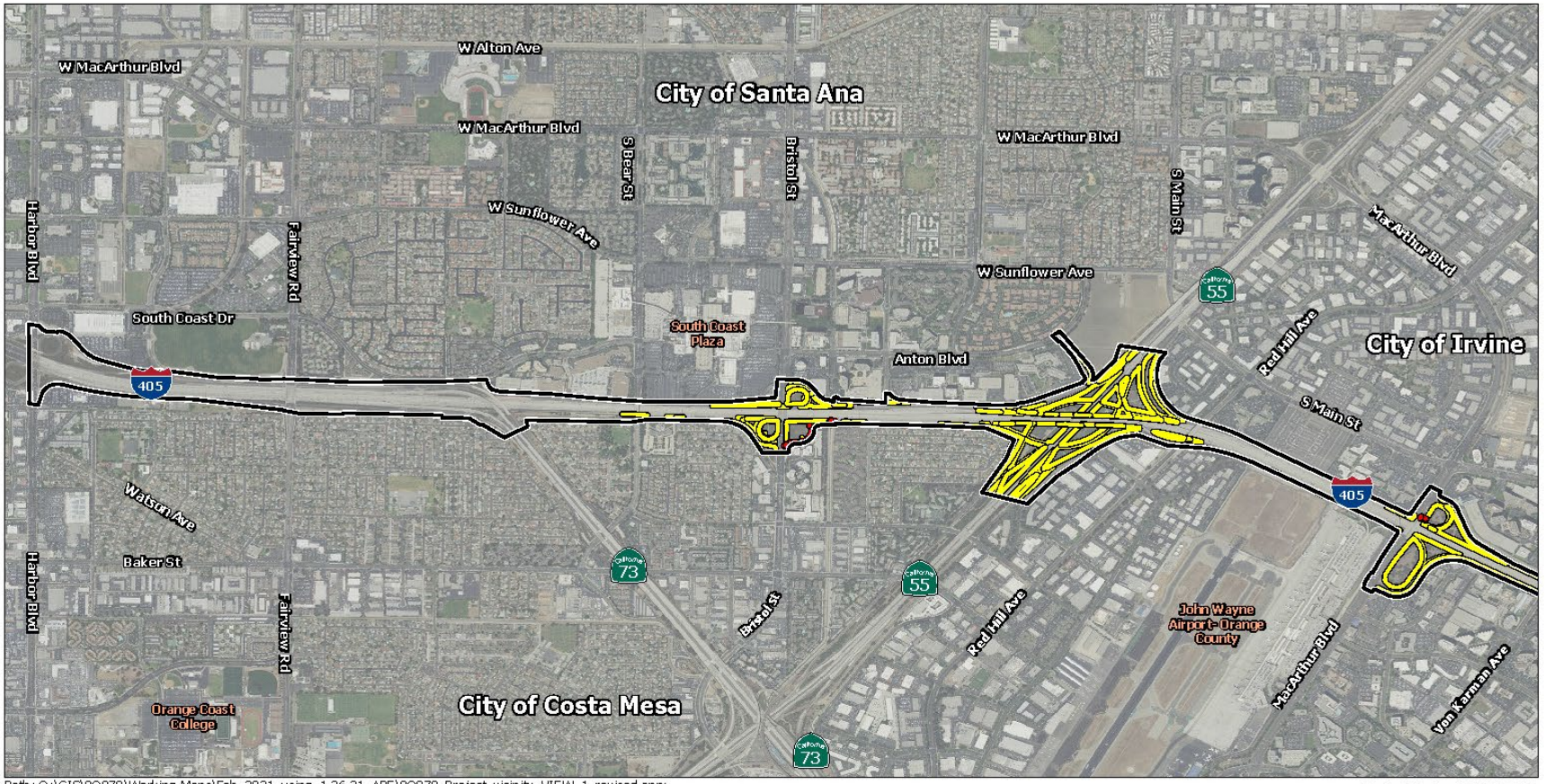


I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 2 of 9)



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Legend
- Project Limits
- Retaining and Sound Walls
- Operational Improvements and Collision Reduction



I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 3 of 9)



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Legend

- Project Limits
- Roadside Rehabilitation and Safety Improvement
- Lighting and Transportation Management System

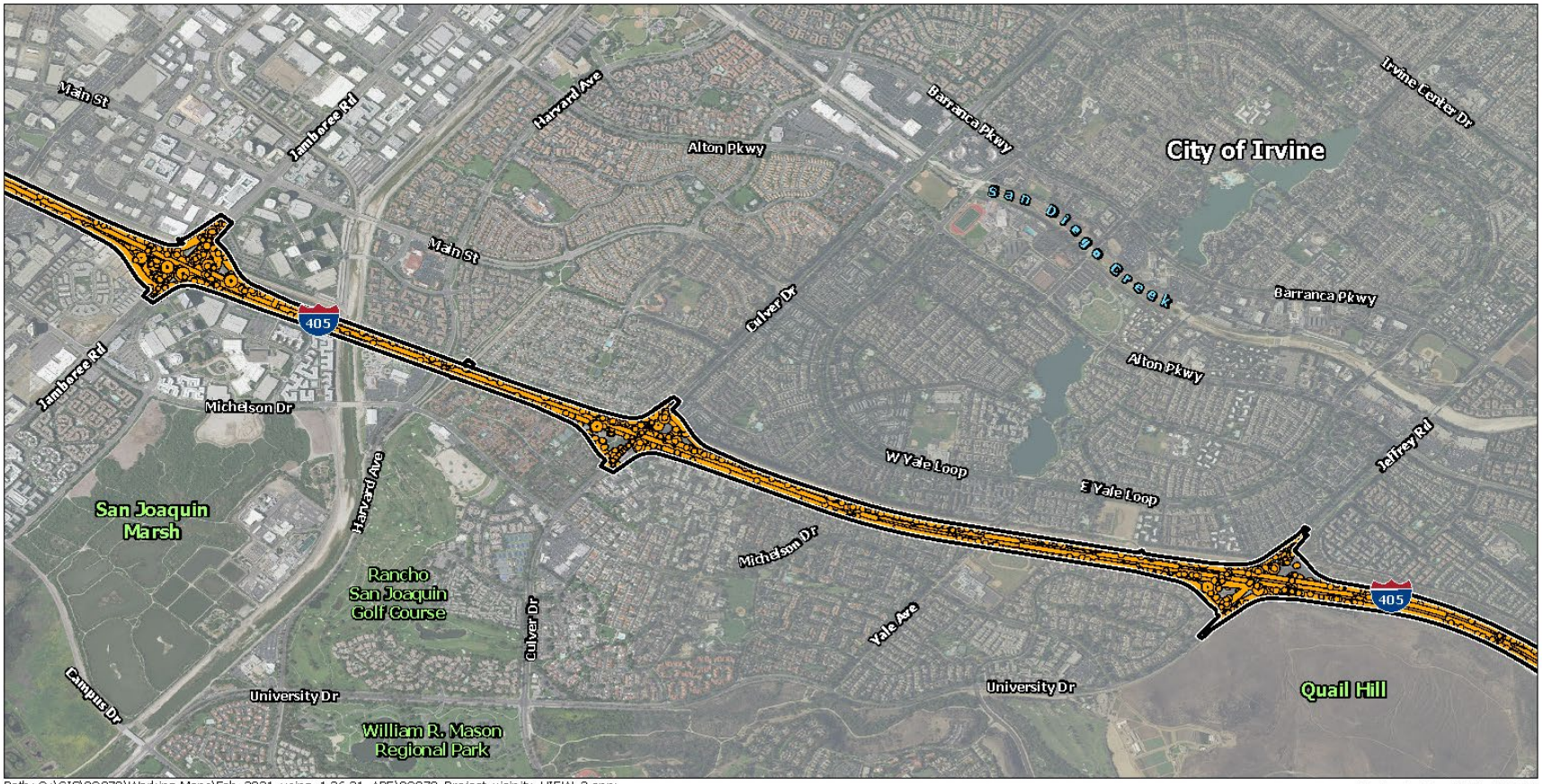


I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 4 of 9)



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Legend
- Project Limits
- Pavement Class 1 & Bridge Health

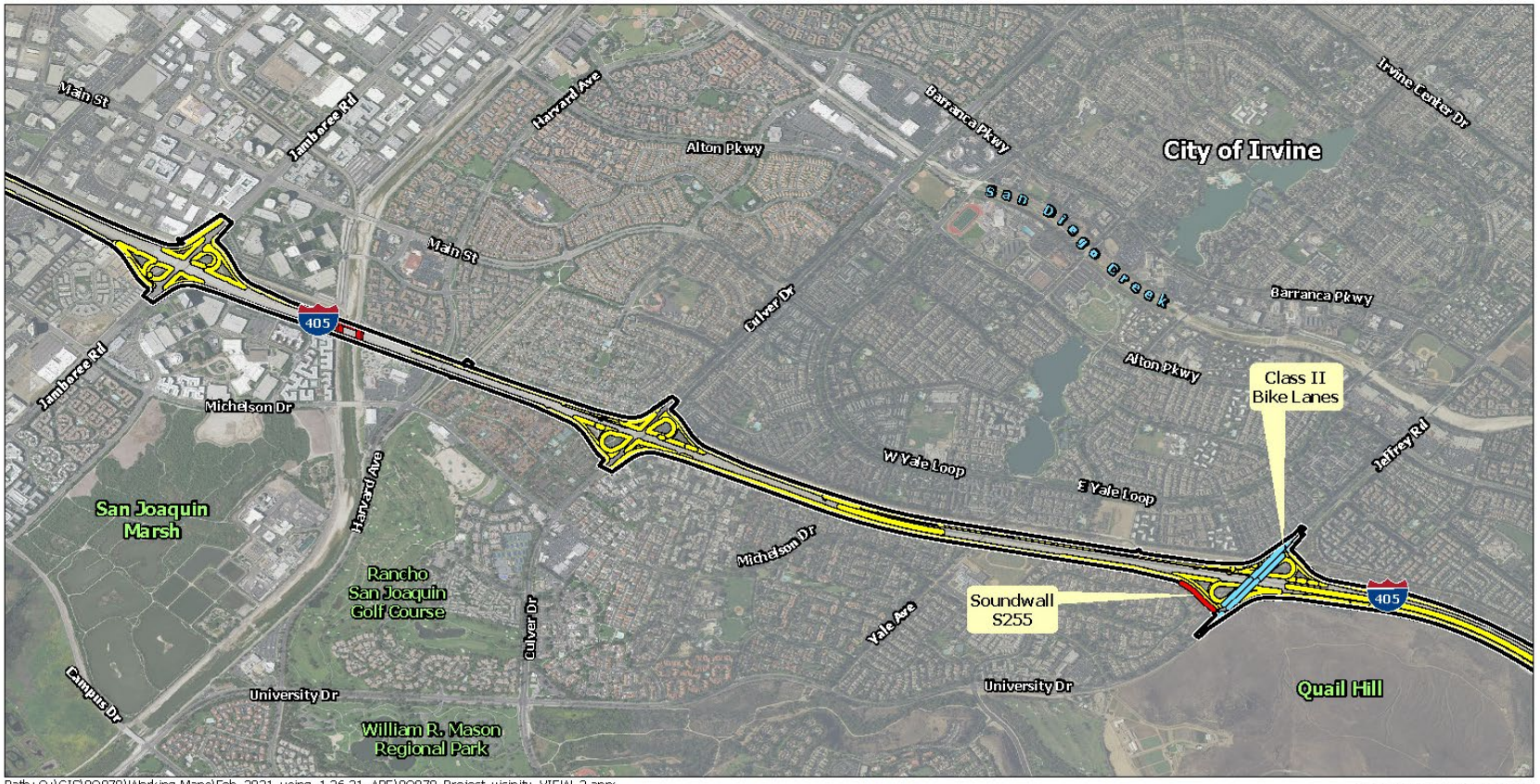


I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 5 of 9)



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DISTRICT 12
Division of Environmental Analysis

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Scale: 1:19,000

Legend

- Project Limits
- Retaining and Sound Walls
- Operational Improvements and Collision Reduction
- Jeffrey Rd/University Dr Class II Bike Lanes

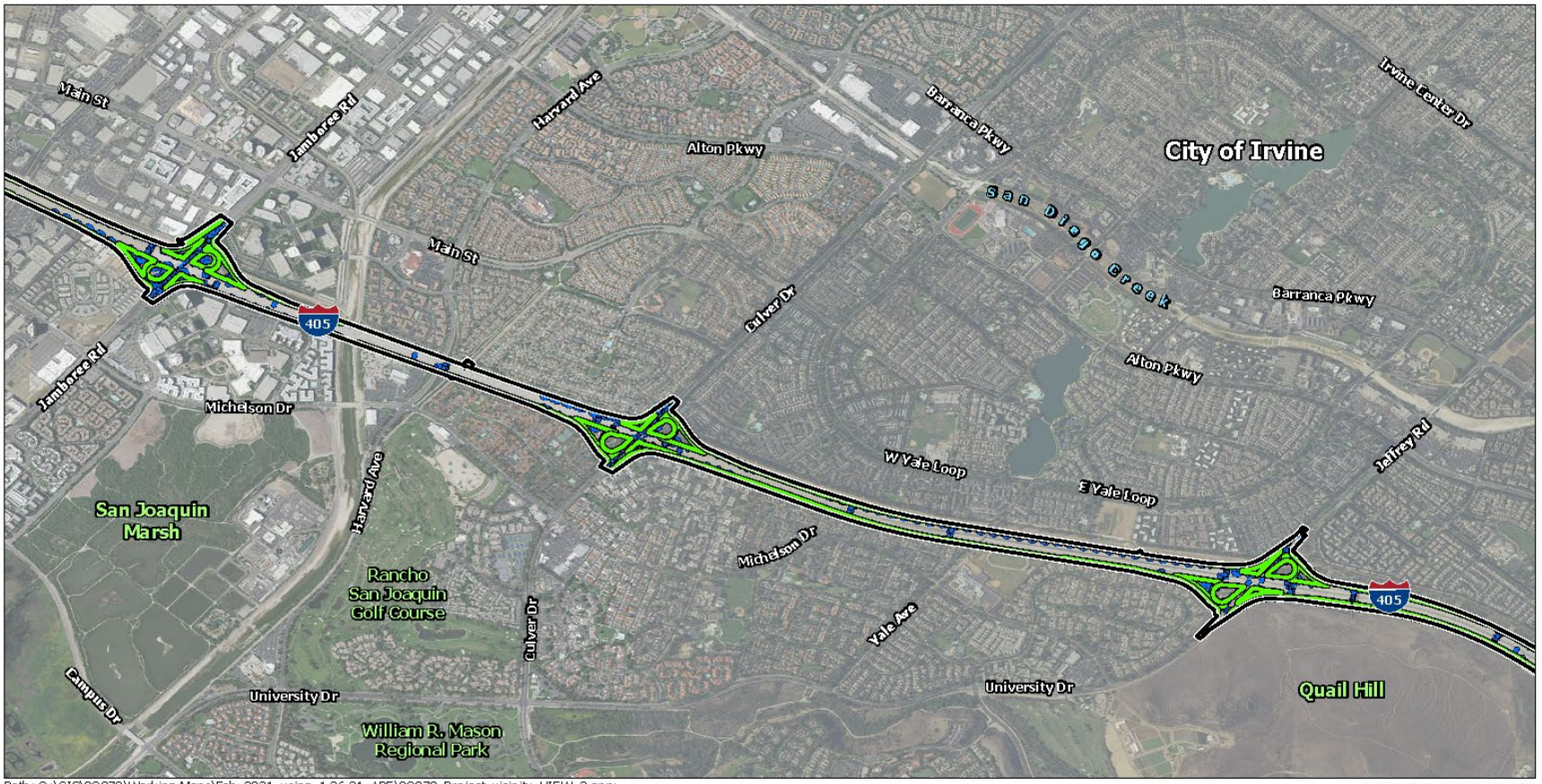


I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 6 of 9)



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Legend

- Project Limits
- Roadside Rehabilitation and Safety Improvement
- Lighting and Transportation Management System



I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 7 of 9)



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Legend
- Project Limits
- Pavement Class 1 & Bridge Health



I-405 Multi Asset Project
Asset Location map
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Figure 1.2 Asset Location Map (Sheet 8 of 9)



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DISTRICT 12
Division of Environmental Analysis

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Legend

- Project Limits
- Retaining and Sound Walls
- Operational Improvements and Collision Reduction
- Irvine Center Dr Class II Bike Lanes

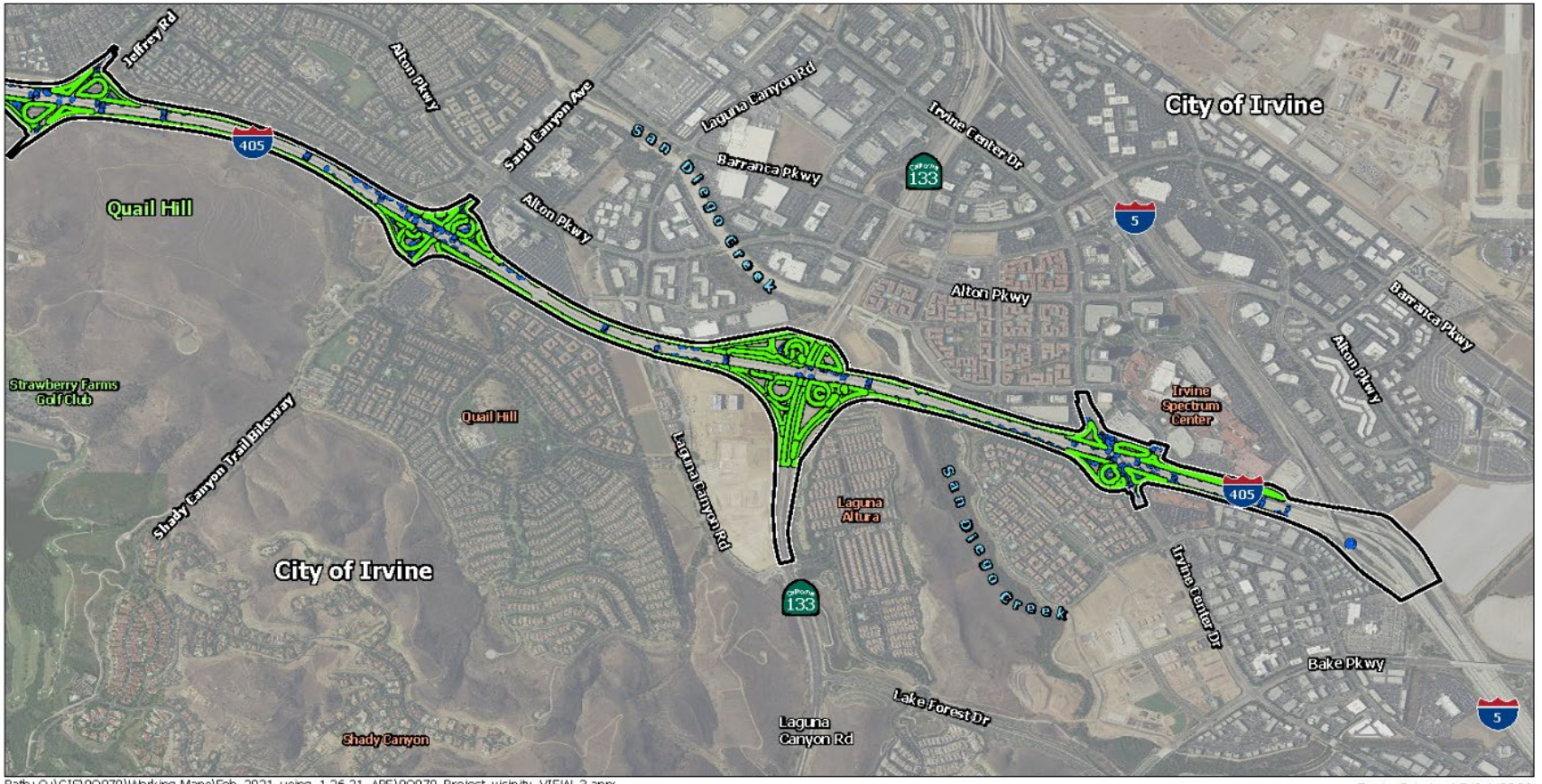


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Figure 1.2 Asset Location Map (Sheet 9 of 9)



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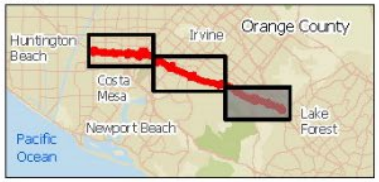
DISTRICT 12
Division of Environmental Analysis

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Legend

- Project Limits
- Roadside Rehabilitation and Safety Improvement
- Lighting and Transportation Management System



I-405 Multi Asset Project
Asset Location map
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b. Provide proper safe maintenance vehicle access features at the SR-133 Junction and Sand Canyon Avenue Interchange roadside areas.
c. Remove existing trees that are located within a safety recovery zone.
d. Install new irrigation service for the new irrigation controller cabinets on I-405 and SR-133.

5. Lighting Rehabilitation:

a. Cover existing soffit lights with steel plates. Install wall-mounted light fixtures and conduit if needed at various locations.
b. Remove and replace all existing conduits, bases, and light poles at NB I-405/SB SR-133 connector.

6. Transportation Management Systems:

a. Install cameras, camera poles, and central locking systems at on-ramps and merging areas to monitor freeway entrances.
b. Install cameras and camera poles at off-ramps for wrong-way detection.
c. Install video camera and radar detection on existing traffic signal at intersections.
d. Install smart lighting device on all existing light poles (up to 200 poles) in both directions and on all new light poles.
e. Upgrade 12 existing surveillance cameras.
f. Upgrade 5 existing changeable message signs (CMSs) at Irvine Center Drive, Bristol Street, and Harvard Avenue in the northbound direction, and University Drive/Jeffrey Road and Von Karman Avenue in the southbound direction.
g. Install new CMS sign at NB I-405 at Bristol Street.
h. Remove the antenna system at select locations.

7. Operational Improvements:

a. Construct 1,600 feet (ft) of acceleration lane and an additional lane on the NB I-405 on-ramp from SB Culver Drive.
b. Construct 4,250 ft of auxiliary lane and an additional lane on the NB I-405 on-ramp from SB Jeffrey Road.
c. Provide a 1,850 ft auxiliary lane from the NB I-405 off-ramp to Sand Canyon Avenue to the NB I-405 on-ramp from Sand Canyon Avenue (loop on-ramp).
d. Widen the SB I-405 off-ramp to Sand Canyon Avenue to provide an additional 600 ft of left-turn lane and ramp termini to provide two (2) left-turn lanes and one (1) right-turn lane.
e. Construct standard deceleration lane for the SB I-405 off-ramp to Irvine Center Drive and add a right-turn lane at the ramp termini.
f. Widen the SB I-405 off-ramp to Jamboree Road to provide an additional lane at the ramp termini to provide two (2) left-turn lanes, two (2) right-turn lanes, and optional left- and right-turn lanes.

g. Restripe Irvine Center Drive with a Class II Bike Lane within Caltrans right-of-way.
h. Restripe University Drive/Jeffrey Road with a Class II Bike Lane within Caltrans right-of-way.

8. Collision Severity Reduction:

a. Upgrade metal beam guard rails (MBGRs) to a Midwest Guardrail System.
b. Remove the curb and gutter.
c. Pave the median area at SB I-405 direction between Irvine Center Drive and San Diego Creek Trail Bridge, and between Jeffrey Road and Culver Drive.
d. Remove trees that are greater than 4 inches in diameter in the clear recovery zone.

9. Park-and-Ride Facility:

a. Construct a park-and-ride facility at SB I-405 and Bristol Street.
b. The Park-and-Ride facility will be designed to maximize use of the existing contours of the park-and-ride site.
c. Access to the park-and-ride facility will be separated from the I-405 mainline by using new features including chain-link fence and curbs.
d. The facility will be accessible only from Bristol Street.
e. Includes 150 regular and six (6) access car spaces.
f. Construct a 5 ft wide, ADA-compliant sidewalk along the driveway from the parking lot to Bristol Street. The access parking spaces will be located adjacent to the sidewalk.
g. Construct a pedestrian stairway as an additional access to provide shoppers with convenient access.
h. Install miscellaneous features, including an entrance monument, a bike rack or bike locker, benches, trash cans, and security lighting.
i. The layout of the park-and-ride facility will be able to accommodate solar panels and electric vehicle (EV) chargers.
j. Construct retaining walls adjacent to the maintenance access.
k. Construct drainage inlets and pipes as needed to provide proper drainage for the facility.
l. Install new lighting.
m. The facility will be accessible to two bus routes (55 and 57) that travel on Bristol Street, the closest stops of which are located near Anton Boulevard and at Paularino Avenue.

10. Retaining Walls and Sound Wall:

a. The project will construct one (1) sound wall (i.e., S255), which will be constructed at the SB I-405 between Jeffrey Road/University Drive to about 2,700 ft south of the Yale Pedestrian Bridge, and would be situated on Caltrans right-of-way along the SB I-405 off-ramp to University Drive. The sound wall will have a length of approximately 662 ft and will connect to the existing end of sound wall S271, which

has a height of 14 ft at that location. The proposed sound wall would provide feasible noise abatement for the frequent outdoor use areas of 15 multi-family residences, will have a height of 16 ft, and will provide the Caltrans' acoustical noise reduction design goal of 7 decibels (dB) at one or more receptors.

b. The project will construct six (6) retaining walls:

1. Retaining Wall 660 – SB off-ramp at Irvine Center Drive
2. Retaining Wall 90 – NB on-ramp at Sand Canyon Avenue
3. Retaining Wall 43 – NB on-ramp Jeffrey Road
4. Retaining Wall 266 – On mainline shoulder, between NB Jeffrey Road on-ramp and Yale Avenue pedestrian overcrossing
5. Retaining Wall 1 – Park and Ride
6. Retaining Wall 2 – Park and Ride

1.2.1 Transportation System Management (TSM) and Transportation Demand Management (TDM)

TSM strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also promotes automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes (e.g., pedestrian, bicycle, automobile, rail, and mass transit).

TDM focuses on regional means of reducing the number of vehicle trips and VMT as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals.

For this project, the TSM/TDM alternative is not considered a viable stand-alone option because it does not fulfill the project purpose. The following elements, however, have been incorporated into Alternative 1 (as discussed above under 1.2, Project Description):

- Auxiliary lanes
- Bicycle and pedestrian improvements
- Upgrading traffic signals

- Some ITS elements, including fiber optic and other communication systems for improved connectivity and remote management
- CMS
- Installing non-Pan-Tilt Zoom (PTZ) cameras at on- and off-ramps
- Installing video cameras and radar detection
- Installing smart lighting devices
- Upgrading surveillance cameras and closed-circuit television coverage

The project also proposes a TDM feature and a park-and-ride facility with bicycle parking spaces and lockers.

1.2.2 Right-of-Way Acquisitions

This project requires 4,121 square feet (sf) of right-of-way fee acquisition and 24,237 sf of temporary construction easement (TCE). Six (6) parcels will be impacted by partial fee acquisition or TCE. The following locations are subject to fee acquisitions and TCEs:

- NB I-405 on-ramp from SB Culver Drive:
  - 1,770 sf fee; 9,269 sf TCE
- NB I-405 on-ramp from SB Jeffrey Road:
  - 498 sf fee; 12,236 sf TCE
- SB I-405 off-ramp to Irvine Center Drive:
  - 1,853 sf fee; 2,732 sf TCE

1.2.3 Mandatory Design Exception – Alternative 1

The following non-standard existing geometric features will remain unchanged:

a. Median widths from I-5 to south of Irvine Center Drive
b. Stopping sight distance (SSD) and horizontal clearance on I-405/SR-133 connectors, I-405/SR-55 connectors, and I-405/SR-55 HOV direct connectors
c. Continuous inside shoulder width and horizontal clearance from the Jamboree Road Overcrossing to the Harbor Boulevard Overcrossing
d. Inside shoulder widths and horizontal clearance at the following overcrossing bridge columns:

- Irvine Center Drive
- NB SR-133/NB I-405 connector
- SR-133
- Laguna Canyon Road
- Culver Drive
- Harvard Avenue
- Jamboree Avenue
- Red Hill Avenue
- NB I-405/NB SR-55 HOV connector
- SB SR-55/SB I-405 connector
- SB I-405/NB SR-55 connector
- SR-55
- NB I-405/SB SR-55 connector
- SB SR-55/NB I-405 connector

- Von Karman Avenue
- MacArthur Boulevard
- NB SR-55 on-ramp from John Wayne Airport
- SB SR-55/NB I-405 HOV connector
- Bristol Street
- Bear Street

1.3 Other Project Elements (Standardized Project Measures)

The Build Alternative contains several standardized project measures that are employed on most, if not all, Caltrans projects. The use of these measures with the Build Alternative is described in more detail in Chapter 2 of this Initial Study as Project Features (PFs), which are numbered. For example, a Project Feature applicable to water quality would be titled and listed as PF-WQ-1.

1.3.1 Air Quality

1.3.1.1 Caltrans Standard Specifications in Section 14-9: Air Quality

PF-AQ-1 All air quality minimization measures are included in the California Department of Transportation (Caltrans) Standard Specification (2018) for Construction, Sections 14.9-02, Air Quality. The construction contractor must comply with the Standard Specifications, which also require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

1.3.2 Biological Resources

1.3.2.1 Caltrans Standard Specifications in Section 14-6.03B: Bird Protection

PF-BIO-1 **Avoidance of Breeding Season and Nesting Bird Surveys.** Project activities shall occur outside the nesting season (February 1–September 30) to the fullest practicable extent, particularly at bridges that span San Diego Creek. If project activities with potential to indirectly disturb suitable avian nesting habitat within 500 feet (ft) of the work area would occur during the nesting season (as determined by a qualified biologist), a qualified biologist with experience in conducting breeding bird surveys will conduct a nesting bird survey no more than 3 days prior to the initiation of project activities to detect the presence/ absence of migratory and resident bird species occurring in suitable nesting habitat. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction will not be conducted in this zone until the biologist determines

that the young have fledged or the nest is no longer active. Work may only occur during the breeding season if nesting bird surveys indicate the absence of any active nests within the work area. Without the written approval of the California Department of Fish and Wildlife (CDFW) and/or the United States Fish and Wildlife Service (USFWS), no work shall occur if listed or fully protected bird species are found to be actively nesting within 500 ft of the bridge structures subject to construction activities.

1.3.3 Community Impacts

1.3.3.1 Caltrans Standard Specifications Section 5-1.39: Restore Damaged Work

PF-CI-1 Before Contract acceptance, restore damaged work to the same state of completion as before the damage.

1.3.3.2 Caltrans Compliance with Standard Procedures for Relocation Assistance and Property Acquisition

PF-CI-2 The California Department of Transportation (Caltrans) will comply in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

1.3.3.3 Caltrans Standard Specifications Section 7-1.03: Avoid Inconvenience to the Public and Abutting Property Owners During Construction

PF-CI-3 Construction activities must not inconvenience the public or abutting property owners. Schedule and conduct work to avoid unnecessary inconvenience to the public and abutting property owners.

1.3.4 Cultural Resources

1.3.4.1 Caltrans Standard Specification 14-2.03A: Discovery of Cultural Materials

PF-CUL-1 If cultural materials are discovered during construction activities, the construction contractor will divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, coordination will be maintained with the California Department of Transportation (Caltrans) District 12 Environmental Branch Chief or the District 12 Native American Coordinator to determine an appropriate course of action.

1.3.4.2 Caltrans Standard Specification Section 14-2.03A: Discovery of Human Remains

PF-CUL-2 If human remains are discovered during construction activities, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the Orange County Coroner shall be contacted. If the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who pursuant to California Public Resources Code (PRC) Section 5097.98 will then notify the Most Likely Descendant (MLD). At that time, the persons who discovered the remains will contact the Caltrans District 12 Environmental Branch Chief or the District 12 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC 5097.98 are to be followed as applicable.

1.3.5 Geology/Soil/Seismicity/Topography

1.3.5.1 Caltrans Standard Specifications 48-2.02.B and Section 19: Earthwork General

PF-GEO-1 The project will comply with the most current California Department of Transportation (Caltrans) procedures and design criteria regarding seismic design to mitigate any adverse effects related to seismic ground shaking. Earthwork will be performed in accordance with Caltrans Standard Specifications, Section 19, which requires standardized measures related to compacted fill, over-excavation, and re-compaction, among other requirements. Moreover, Caltrans *Highway Design Manual* (HDM) Topic 113, requires the project engineer to review a Geotechnical Design Report, if any, to ascertain the scope of geotechnical involvement for a project.

1.3.6 Greenhouse Gas (GHG) Emissions

1.3.6.1 Caltrans Standard Specifications 7-1.02c

PF-GHG-1 **Emissions Reduction.** Comply with California Department of Transportation (Caltrans) Standard Specifications Section 7-1.02C. Submit to the Department the following certification before performing the work: *I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before*

commencing the performance of the work and maintain compliance throughout the duration of this Contract.

1.3.7 Hazardous Materials

1.3.7.1 Caltrans Standard Specification 14-10

PF-HAZ-1 An aerially deposited lead (ADL) investigation is being performed for the project. Based on the findings, appropriate Special Provisions will be implemented.

1.3.7.2 Caltrans Standard Specification 14-11.12

PF-HAZ-2 Should construction activities result in the disturbance of traffic striping and pavement marking materials, the generated wastes would be disposed of at an appropriate permitted disposal facility as determined by a lead specialist.

1.3.7.3 Caltrans Standard Specification 13-4.03 E (2) and Unknown Hazards Procedures in Caltrans Construction Manual (July 2017)

PF-HAZ-3 During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources. If hazardous material contamination or sources are suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the California Department of Transportation (Caltrans) Construction Manual.

PF-HAZ-4 The asbestos-containing material (ACM) survey has already been performed and, according to the results of this survey, the handrail shims of the following three bridges contain asbestos that should be disposed of appropriately per Caltrans Standard Specifications. The three bridges are:

- San Diego Creek Bridge (55-0285)
- Paularino Avenue Bridge (55-0436G)
- San Diego Creek Channel Bridge (55-0451)

1.3.8 Water Quality and Storm Water Runoff

1.3.8.1 Caltrans Standard Specification 13-1.01D (2): Regulatory Requirements

PF-WQ-1 The project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction.

1.3.8.2 Caltrans Standard Specification 13-3.01D (2): Regulatory Requirements

PF-WQ-2 The project will comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ, NPDES No. CAS000002, and any subsequent permits in effect at the time of construction.

1.3.8.3 Caltrans Standard Specification 13-3: Storm Water Pollution Prevention Plan

PF-WQ-3 The project will comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants (e.g., sediment control, catch basin inlet protection, construction materials management and non-storm water BMPs). All work must conform to the Construction Site BMP requirements specified in the latest edition of the Storm Water Quality Handbooks: Construction Site Best Management Practices Manual to control and minimize the impacts of construction and construction-related activities, material, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs.

PF-WQ-4 Design Pollution Prevention BMPs will be implemented, such as preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow

conveyance systems such as ditches, berms, dikes and swales, over-side drains, flared end sections, and outlet protection/ velocity dissipation devices.

PF-WQ-5 California Department of Transportation (Caltrans) approved treatment BMPs will be implemented consistent with the requirements of NPDES Permit and WDRs for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction. Treatment BMPs may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, dry weather flow diversion, Gross Solids Removal Devices (GSRDs), media filters, bioretention, Open Graded Friction Course, and wet basins.

PF-WQ-6 Caltrans Full Trash Capture Devices will be implemented within Significant Trash Generating Areas (STGA) and park-and-ride lots consistent with the Caltrans Statewide Trash Implementation Plan to meet the State Water Resources Control Board (SWRCB) Trash Provisions (Resolution No. 2015-0019).

PF-WQ-7 If dewatering is required, construction site dewatering must comply with the General WDRs for discharges to surface waters resulting from DE MINIMUS discharges, groundwater dewatering operations, and/or groundwater cleanup/remediation operation at sites within the Newport Bay Watershed (Order No. R8-2019-0061, NPDES No. CAG918002), and any subsequent updates to the permit at the time of construction. The permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and discharges must comply with the WDRs issued by the Santa Ana Regional Water Quality Control Board (RWQCB).

1.3.9 Noise

1.3.9.1 Caltrans Standard Specifications Section 14.8-02: Noise Control

PF-N-1 Implementation of PF-N-1 requires construction to be conducted in accordance with California Department of Transportation (Caltrans) provisions in Section 14-8.02. Do not exceed 86 A-weighted decibel (dBA) maximum instantaneous noise level (L_{max}) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. A sound wall will be constructed.

1.3.10 Traffic

1.3.10.1 Caltrans Standard Specifications Section 12-4: Maintaining Traffic

PF-TRA-1 A Transportation Management Plan (TMP) shall be included in the design plans for implementation by the construction contractor prior to and during construction of any improvements. The TMP shall consist of prior notices, adequate sign posting, detours (including 30- to 90-day closure of the Freeway Trail at the Jeffrey Road and Culver Drive on-ramps), phased construction, and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (e.g., prior notices, sign posting, detours) as determined appropriate by the California Department of Transportation (Caltrans). Adequate local emergency access shall be provided at all times to adjacent uses. Proper detours and warning signs shall be established to ensure public safety. The TMP shall be devised so that construction shall not interfere with any emergency response or evacuation.

1.3.11 Utilities

1.3.11.1 Caltrans Standard Specifications Section 87-1.03L: Utility Service

PF-UES-1 During final design, relocation plans for any utilities that will potentially need to be relocated, removed, or protected-in-place will be prepared in consultation with the affected utility relocation providers/owners. If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way or other existing public rights-of-way and/or easements. If relocation outside of existing rights-of-way or additional public rights-of-way and/or easements required for the project are necessary, the final design will focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction, the construction contractor will implement the components of the utility relocation plans provided in the project specifications. Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and will inform affected utility users in advance of the date and timing of potential service disruptions.

1.3.12 Project Schedule and Construction

The Final Environmental Document is anticipated to be approved between October 2021 and February 2022. Project design is anticipated to be completed in Fall 2022. Construction, which will occur in stages, is anticipated to begin in Winter 2023/2024 and end in Fall 2026. Connector and ramp shoulder widening, median barrier upgrades, and construction of a Midwest Guardrail System and concrete barriers are expected to be constructed behind temporary railing (Type K). Because of limited pavement widths, both left and right sides of the connectors cannot be closed concurrently; therefore, each side will require separate stages of construction.

There will be complete closure (for 30 to 90 days) during construction for the following ramps. Proposed detours are provided in Appendix E.

- SB Irvine Center Drive off-ramp
- NB Jeffrey Road on-ramp
- NB Culver Drive on-ramp
- SB Jamboree Road off-Ramp
- NB Sand Canyon Avenue on-ramp
- SB Sand Canyon Avenue off-Ramp

In addition, Freeway Trail and Bikeway within the study area will result in temporary closure for 3 to 6 months during construction. The Freeway Trail, as its name implies, parallels the I-405 on its brief route through Irvine.

A Transportation Management Plan (TMP) has been prepared and will be updated during the design phase to minimize potential impacts on emergency services, commuters, and the surrounding communities during construction. The TMP, when implemented, would result in minimized project-related traffic delay and accidents by the effective application of traditional traffic mitigation strategies and innovative combinations of public and motorist information, demand management, incident management, system management, and alternative route and construction strategies. In addition, the TMP will include strategies and measures to avoid and minimize disruption to local access, roadways, and bike and pedestrian facilities during construction. Most of the construction activities will require night work to avoid traffic delays. If daytime work has to be done, it will be behind temporary K-rail.

1.3.13 Alternative 2 – No Build Alternative

Under the No Build alternative, the project purpose and need will not be addressed, and it will retain the existing roadway condition. However, it does not preclude the construction of future improvements. Alternative 2 will not address the need of the project, and throughout the limits it would have deteriorated pavements, cracked bridge slabs and nonstandard railings, damaged existing plantings and irrigation systems, unpaved shoulder areas,

graffiti, and minimal maintenance access, disconnected network of traffic system management, queued ramps, delayed mainline, and nonstandard pedestrian accesses, and nonstandard safety devices.

1.3.14 Final Decision-Making Process

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, if no unmitigable significant adverse impacts are identified, Caltrans will prepare either an ND (which has been proposed for this project) or a Mitigated Negative Declaration (MND).

The permits, reviews, and approvals listed in Table 1.3 would be required for project construction.

Table 1.3 Permits and Approvals Needed

Agency	PLAC	Status
Santa Ana RWQCB	Section 401 Water Quality Certification	Project Registration Documents/Notice of Intent submitted to SWRCB prior to start of construction
SWRCB	NPDES Construction General Permit issued	Issued to Caltrans Sept. 2012
SWRCB	Caltrans Statewide NPDES Permit issued by the SWRCB	Coordination with the agency will occur during PS&E
Santa Ana RWQCB	Santa Ana RWQCB WDR/Dewatering Permit (if necessary/Order No. R8-2019-0061, NPDES No. CAG918002)	Coordination with the agency will occur during PS&E
USACE	Section 404 Clean Water Act	Coordination with the agency will occur during PS&E
CDFW	California Fish and Game Code 1602, Lake or Streambed Alteration Agreement	Coordination with the agency will occur during PS&E
City of Irvine	Section 4(f) De Minimis Concurrence	Obtain Concurrence from the City of Irvine before Final Environmental Document
OCFCD	Encroachment Permit	Coordination with the agency will occur during PS&E

CDFW = California Department of Fish and Wildlife
NPDES = National Pollutant Discharge Elimination System
OCFCD = Orange County Flood Control District
PLAC = Permits, Licenses, Agreements, and Certifications
PS&E = Plans, Specifications, and Estimates
RWQCB = Regional Water Quality Control Board
SWRCB = State Water Resources Control Board
USACE = United States Army Corps of Engineers
WDRs = Waste Discharge Requirements

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Chapter 2—CEQA Checklist

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 2-4 for additional information.

- ☒ Aesthetics
- ☒ Air Quality
- ☒ Cultural Resources
- ☒ Geology/Soils
- ☒ Hazards and Hazardous Materials
- ☐ Land Use/Planning
- ☒ Noise
- ☒ Public Services
- ☒ Transportation
- ☒ Utilities/Service Systems
- ☒ Mandatory Findings of Significance
- ☐ Agriculture and Forestry
- ☒ Biological Resources
- ☒ Energy
- ☒ Greenhouse Gas Emissions
- ☒ Hydrology/Water Quality
- ☐ Mineral Resources
- ☐ Population/Housing
- ☒ Recreation
- ☒ Tribal Cultural Resources
- ☒ Wildfire

DETERMINATION

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Print Name	Signature	Date

INTRODUCTION

The California Environmental Quality Act (CEQA) requires the California Department of Transportation (Caltrans) to identify each “significant effect on the environment” resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated, if feasible. In addition, the *State CEQA Guidelines* list a number of “mandatory findings of significance" that also require the preparation of an EIR. There are no types of actions under the National Environmental Policy Act (NEPA) that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapter 1 for a detailed discussion of these features.

2.1 Aesthetics

Except as provided in Public Resources Code (PRC) Section 21099, would the project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less Than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

2.1.1 Discussion

The potential for the proposed project to result in adverse impacts related to Aesthetics is assessed in the following discussion. A Scenic Resource Evaluation and Visual Impact Assessment was prepared in January 2021 and a Supplemental in February 2021.

CEQA establishes that it is the policy of the State to take all action necessary to provide the people of the state "with enjoyment of *aesthetic,* natural, scenic and historic environmental qualities." (PRC Section 21001[b])

a) **No Impact.** According to the City of Irvine, City of Costa Mesa, and County of Orange General Plans there are no scenic viewpoints identified within or near the project location along Interstate 405 (I-405). Neither does the project interfere with the existing view corridors. Thus, there are no impacts to scenic vistas and no mitigation would be required.

b) **No Impact.** According to the Caltrans Officially Designated Scenic Highway map[1], the stretch of I-405 in Orange County is not an officially designated scenic highway. Since the project corridor is not within the designated scenic highway and the project would not adversely affect any "Designated Scenic resource" as defined by CEQA statutes and guidelines or by Caltrans policy, there are no impacts to scenic resources, and no mitigation is required.

c) **Less than Significant Impact.** The visual character will remain similar to conditions before construction improvements. The project does not propose new dominant elements or changes to existing major aesthetics features. Some project improvements would have low impacts to the surrounding communities, including tree removal within the safety recovery zone, new retaining walls due to ramp widening, solar panels on a new park-and-ride facility, etc. To minimize potential visual impacts, the retaining wall will receive aesthetic treatments to blend in with the surrounding area, and the project will provide rehabilitation planting on disturbed slopes. The overall change to visual character or quality remains low.

d) **No Impact.** No light and glare will be produced by the project improvements except by the park-and-ride lot proposed at the south side of I-405 and east side of the Bristol Street Overcrossing. The solar panels will be installed on the elevated rack above the parking space. The sun reflection from the south-facing panels will not create any light and glare to highway traffic or the adjacent building. Other east/west panels can be tilted to avoid reflection. The solar panels will not receive direct light from both highway and streetlights in the night; therefore, there are no impacts and no mitigation is required.

2.1.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

[1] California Department of Transportation, California Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways, accessed March 2021.

2.2 Agriculture and Forest Resources

Would the project:

Question	CEQA Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact

2.2.1 Discussion

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses. In addition to County of Orange (County) and City of Irvine and City of Costa Mesa General Plans and Zoning Maps, the following information and data sources were also consulted: California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

a) **No Impact.** There is no land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the project area. The study area (I-405 alignment through Costa Mesa and Irvine and a portion of unincorporated Orange County) and surrounding environment is classified as “urban and built-up land”. The proposed

project occurs almost entirely within the existing I-405 alignment. Only very minor new right-of-way is required. A small 30-acre (ac) urban farm, known as Tanaka Farms, is situated immediately adjacent to I-405 and Jeffrey Road/University Avenue in Irvine. However, the Tanaka Farms property is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and no right-of-way from the Tanaka Farm property is needed for the project. The proposed project will *not* acquire or convert new right-of-way designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Thus, no impacts are anticipated; therefore, no avoidance, minimization, or mitigation measures are required.

b) **No Impact.** As discussed in (a) above, since the proposed project will *not* acquire or convert new right-of-way designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, there will not be any conflict with existing zoning for agricultural use or a Williamson Act contract. No impacts are anticipated; therefore, no avoidance, minimization, or mitigation measures are required.

c) **No Impact.** Since the proposed project would not acquire forest land or timberland, there would be no conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned as Timberland Production (as defined by Government Code section 51104(g))

   The closest forest or timberlands, which is the Cleveland National Forest, is more than 8 miles (mi) from the project site. No impacts are anticipated; therefore, no avoidance, minimization, or mitigation measures are required.

d) **No Impact.** The proposed project would not acquire or convert forest land to non-forest use. Therefore, there would be no impacts and, as a result, no avoidance, minimization, or mitigation measures are required.

e) **No Impact.** The proposed project would not involve other changes to the existing environment that, due to location or nature, could result in conversion of Farmland to a non-agricultural use. Therefore, there would be no impacts, and no avoidance, minimization, or mitigation measures are required.

2.2.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

2.3 Air Quality

Would the project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

2.3.1 Discussion

The potential for the proposed project to result in adverse impacts related to Air Quality is assessed in the following discussion. An Air Quality Report was completed in January 2021 and a memorandum was completed in February 2021 for the Air Quality Report – Traffic Data Revised.

a) **Less Than Significant Impact.** The project limits are located in the South Coast Air Basin (Basin) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with the Southern California Association of Governments (SCAG), local governments, and the private sector. The AQMP provides the blueprint for meeting State and Federal ambient air quality standards. The Build Alternative would improve vehicular traffic operations on the I-405. The Build Alternative is included in SCAG's 2020/2045 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS). The proposed project is listed in the 2021 Federal Transportation Improvement Program (FTIP), and the project was found to be conforming (see Sections 3.2.3 and 3.4.1, Air Quality Report, January 2021). Therefore, the Build Alternative would not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations.

b) **Less than Significant Impact.** The Build Alternative would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable Federal or

State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). Carbon dioxide (CO_2) in the Build Year 2046 (198,413 metric tons per year [MT/yr]) is less than in the Existing Year 2020 (241,979 MT/yr) and higher than No Build Year 2046 (19,787 MT/yr) (see Table 2.1). Thus, impacts for the Build Alternative would be less than significant.

Table 2.1 Modeled Annual CO_2e Emissions and Vehicle Miles Traveled by Alternative

Alternative	CO_2e Emissions (MT/yr)	Annual VMT[1]
Existing/Baseline 2020	241,979	641,556,186
Open to Traffic 2026		
No Build	212,860	668,511,132
Build Alternative	213,249	666,447,277
20-Year Horizon/Design Year 2046		
No Build	197,874	728,094,426
Build Alternative	198,413	709,889,966

Source: CT-EMFAC (2017), OCTAM 4.0 (2012 base year network and 2040 MPAH network)
[1] Annual VMT values derived from Daily VMT values multiplied by 347, per CARB methodology (CARB 2008: I-19).
CARB = California Air Resources Board
CO_2e = carbon dioxide, nitrous oxide, and methane
MPAH = Master Plan of Arterial Highways
MT/yr = metric tons per year
VMT = vehicle miles traveled

c) **Less than Significant Impact.** The Build Alternative would not expose sensitive receptors to substantial pollutant concentrations. Any impacts associated with the Build Alternative would be less than significant. No mitigation is required.

d) **Less than Significant Impact.** Temporary construction activities, including clearing, cut-and-fill activities, grading, and paving, could generate fugitive dust from soil disturbance and other emissions from the operation of construction equipment. The Build Alternative would comply with construction standards adopted by the SCAQMD as well as Caltrans standardized procedures for minimizing air pollutants during construction. Standardized Project Features (PF-AQ-1) would avoid and/or minimize air quality impacts resulting from construction activities. Objectionable odors are not currently present within the project limits, and construction activities (including the use of diesel equipment) would be temporary in nature and are not anticipated to emit significant odors. Similarly, impacts from the Build Alternative would be less than significant with the Project Features listed below. No mitigation is required.

2.3.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project feature will be implemented:

PF-AQ-1 All air quality minimization measures are included in the California Department of Transportation (Caltrans) Standard Specification (2018) for Construction, Section 14.9-02, Air Quality. The construction contractor must comply with the Standard Specifications, which also require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

2.4 Biological Resources

Would the project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	Less Than Significant Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less Than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

2.4.1 Discussion

The potential for the Build Alternative to result in impacts to biological resources was assessed in the *Natural Environment Study (Minimal Impacts)* (September 2020), *Supplemental Natural Environment Study (Minimal Impacts)* (February 2021), and *Supplemental No Effect Memorandum (April 2021)*. The following analyses are based on the information described in those technical studies.

a) **Less than Significant Impact.** The Biological Study Area (BSA) is primarily disturbed or developed. Much of the BSA consists of urban development and other disturbed sites adjacent to busy highways. Prominent drainage features within the BSA include San Diego Creek, San Diego Creek Channel, Santa Ana Delhi Channel, and San Joaquin Channel.

Undeveloped areas within the BSA include ornamental vegetation and areas along Quail Hill Preserve that provide habitat linkages to Bommer and Shady Canyons and Laguna Coast Wilderness Park to the south of the BSA. Natural areas supporting native vegetation occur beneath and adjacent to Bridge #55-0285 (San Diego Creek), along with several other scattered sites within the BSA.

Mapped vegetation communities and land cover types in the BSA include: agriculture; annual grassland; black willow riparian forest; buckwheat scrub; developed, disturbed, or barren areas; flood control channel; herbaceous riparian vegetation; mixed ornamental and sycamore woodland; open water; ornamental vegetation; ruderal; and willow riparian scrub. The area surrounding the BSA includes land uses that are residential, commercial, transportation, and limited undeveloped open space.

The following electronic databases and agency communication for species that could potentially occur within the vicinity of the BSA were reviewed:

- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) (September 2020, January 2021, and April 2021).
- National Oceanic and Atmospheric Administration (NOAA) (September 2020, January 2021, and April 2021).
- California Natural Diversity Database (CNDDB), Rarefind 5 (September 2020, January 2021, and April 2021).
- California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (September 2020, January 2021, and April 2021).

In addition, general biological field surveys in August and September 2020 and January 2021 were conducted to assess the biological condition of the BSA for the presence of various special-status biological resources, including plants and wildlife, and habitat suitability for special-status species. Bat suitability assessment surveys were conducted in August 2020 and January 2021, and nighttime bat emergence surveys were conducted in August 2020. A jurisdictional delineation was conducted in September 2020 with a follow-up

assessment conducted concurrently with the general biological field survey in January 2021.

Based on the database review, 51 special-status plant species and 66 special-status wildlife species were identified as potentially present within the BSA. Of the 51 special-status plant species identified, 10 are federally/State listed as threatened or endangered. Suitable habitat for the 10 federally/State listed as threatened or endangered plant species is absent within the BSA.

Of the 66 special-status wildlife species identified as potentially present within the BSA, 20 are federally/State listed as threatened or endangered. Suitable habitat for four federally/State listed as threatened or endangered wildlife species is present within the BSA, including California black rail (*Laterallus jamaicensis coturniculus*), coastal California gnatcatcher (*Polioptila californica*), bank swallow (*Riparia riparia*), and least Bell's vireo (*Vireo bellii pusillus*). Suitable habitat for the remaining 16 federally/State listed as threatened or endangered wildlife species is absent within the BSA. With the exception of coastal California gnatcatcher and least Bell's vireo, implementation of the project would not result in any substantial adverse effects to California black rail, bank swallow, their potential habitat, or those federally/State listed as threatened or endangered species lacking suitable habitat in the BSA. This is due in most part to the proximity to roadway infrastructure and residential and commercial development. Coastal California gnatcatcher and least Bell's vireo are discussed in detail below. The remaining 18 federally/State listed as threatened or endangered wildlife species identified as potentially present are not discussed further.

- **Coastal California Gnatcatcher:** Suitable habitat is present in the BSA for the federally threatened coastal California gnatcatcher. There are documented historical occurrences of coastal California gnatcatcher in the vicinity of Quail Hill Preserve between University Drive and Bridge #55-0451 (San Diego Creek). Some suitable foraging habitat is present within the BSA, and foraging and nesting habitat areas are present in close proximity to the BSA. Direct impacts to coastal California gnatcatcher are not expected to occur as a result of the project because no suitable coastal sage scrub habitat would be removed by the project. Indirect temporary effects to marginally suitable coastal sage scrub habitat may include increased noise, vibration, dust, and lighting during construction activities. To ensure this species will not be impacted, PF-WQ-3 and PF-BIO-1 will be implemented during construction.

  With implementation of PF-WQ-3 and PF-BIO-1, impacts to coastal California gnatcatcher would be less than significant.

- **Least Bell's Vireo:** Suitable habitat is present in the BSA for the federally threatened least Bell's vireo. There are documented historical occurrences of least Bell's vireo in riparian habitat on the southern side of Bridge #55-0285, which spans San Diego Creek, and on both sides of Bridge #55-0451, which spans San Diego Creek. Habitat directly under and immediately adjacent to these bridge structures is not likely to be used for nesting by least Bell's vireo due to elevated noise levels and other disturbances, although there is potential for nesting within the vicinity of these structures. One isolated occurrence record of least Bell's vireo within nonnative ornamental vegetation has been documented within the BSA near the northbound (NB) I-405 off-ramp to NB Jeffrey Road. Some suitable foraging and nesting habitat areas are present in close proximity to the BSA. Direct impacts to least Bell's vireo are not expected to occur as a result of the project because no suitable riparian habitat would be removed by the project. Indirect temporary effects to suitable riparian habitat in the vicinity may include increased noise, vibration, dust, and lighting during construction activities. To ensure this species will not be impacted, PF-WQ-3 and PF-BIO-1 will be implemented during construction.

  With implementation of PF-WQ-3 and PF-BIO-1, impacts to least Bell's vireo would be less than significant.

Of the remaining 87 non-federally/State-listed special-status species with the potential to occur in the BSA, 47 are considered absent based on lack of suitable habitat, 30 are considered to have a low probability of occurrence, and 10 are considered to have a moderate or greater probability of occurrence based on the presence of suitable vegetation and/or soils.

Those species with a moderate or greater probability of occurrence include southern tarplant (*Centromadia parryi* ssp. *australis*), red-diamond rattlesnake (*Crotalus ruber*), two-striped garter snake (*Thamnophis hammondii*), Cooper's hawk (*Accipiter cooperii*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophagia petechia*), northwestern San Diego pocket mouse (*Chaetodipus fallax*), Yuma myotis (*Myotis yumanensis*), and San Diego desert woodrat (*Neotoma lepida intermedia*). With the exception of Cooper's hawk, white-tailed kite, yellow-breasted chat, yellow warbler, and Yuma myotis, implementation of the project would not result in any substantial adverse effects to species with a moderate or higher probability of occurrence in the BSA or their potential habitat. This is due in most part to the proximity to roadway infrastructure and residential and commercial development. Cooper's hawk, white-tailed kite, yellow-breasted chat, yellow warbler, and Yuma myotis are

discussed in detail below. The remaining special-status species with potential to occur in the BSA are not discussed further.

- **Special-Status Bird Species:** Four non-listed special-status bird species with suitable nesting habitat have a moderate potential to be present in the BSA: Cooper's hawk, white-tailed kite, yellow-breasted chat, and yellow warbler. Potential effects to these four species as well as other nesting raptors and other migratory bird species may occur during the bird-breeding season (February 1 through September 30). Direct impacts may include removal of active nests located in shrubs and trees as a result of project implementation. Indirect temporary effects to active nests in the vicinity may include increased noise, vibration, dust, and lighting during construction activities.

  With implementation of PF-WQ-3 and PF-BIO-1, impacts to non-listed special-status bird species and other migratory birds would be less than significant.

- **Bat Species:** Two special-status bat species with suitable habitat have a moderate or higher potential to be present in the BSA: western mastiff bat (*Eumops perotis californicus*) and Yuma myotis. Yuma myotis was observed at Bridge #55-0522 (San Joaquin Channel) and Bridge #55-0484 (Santa Ana Delhi Channel) during nighttime emergency surveys conducted within the BSA. An additional two non-special-status bat species, Mexican free-tailed bat (*Tadarida brasiliensis*) and canyon bat (*Parastrellus hesperus*), were also identified during nighttime emergency surveys conducted within the BSA. Suitable roosting habitat was determined to have a high probability of bats roosting within Bridge #55-0522 (San Joaquin Channel), Bridge #55-0484 (Santa Ana Delhi Channel), and Bridge #55-0285 (San Diego Creek).

  Bat-roosting habitat will not be subject to direct impacts from construction activities. Construction activities at bridge and culvert structures consist of slab replacements, widening/extensions, and/or railing upgrades, which will occur along the edges of the structures, and the suitable roosting habitats are near the middle of each structure. In addition, because those activities will be performed over a short period of time, indirect impacts (i.e., noise and lighting) are expected to be minimal.

  With implementation of avoidance and minimization Measures BIO-1 through BIO-5, which are discussed below, impacts to special-status bat species and roosting bats would be less than significant.

b) **Less Than Significant Impact.** The BSA contains the following vegetation communities/land covers: agriculture; annual grassland; black willow riparian forest; buckwheat scrub; developed, disturbed, or barren areas; flood control channel; herbaceous riparian vegetation; mixed ornamental and sycamore woodland; open water; ornamental vegetation; ruderal; and willow riparian scrub. Willow riparian scrub, black willow riparian forest, herbaceous riparian vegetation, and oak cottonwood sycamore woodland are considered riparian habitat under Section 1602 of the California Fish and Game Code. None of the remaining vegetation communities/land covers are considered riparian habitat. Black willow riparian forest is also considered a sensitive natural community by the California Department of Fish and Wildlife (CDFW). None of the remaining vegetation communities/land covers are identified as sensitive natural communities by the CDFW, the CNDDB, or other local or regional plans.

   The project will not result in permanent or temporary impacts to riparian or sensitive natural communities present within the BSA.

c) **No Impact.** Since wetland waters were found to be absent from the BSA, there would be no impact to such resources. Because only 0.002 ac of permanent impacts and 0.017 ac of temporary impacts within concrete-lined nonwetland waters of the United States and CDFW streambed would occur, there would be no permanent loss of functions or values, and no compensatory mitigation is warranted (*Jurisdictional Delineation Report* 2020, *NESMI* 2020 and *Supplemental NESMI* 2021). Jurisdictional authorizations or permits from the USACE, the RWQCB, and the CDFW are required to be obtained prior to work within jurisdictional aquatic resources. All measures included in required regulatory permits will be implemented; therefore, no mitigation is required.

d) **Less Than Significant Impact.** Wildlife movement of species such as bobcats (*Lynx rufus*) and coyotes (*Canis latrans*) is expected within portions of the BSA, particularly the drainages such as San Diego Creek and undeveloped areas near the Quail Hill Preserve. No federal fisheries or essential fish habitat are located within the BSA. No existing barriers are present within the BSA, and no anadromous fish streams are present within the BSA. Implementation of the proposed project is not expected to permanently impact wildlife movement or decrease the functionality of any wildlife crossings. Active construction/ maintenance activities may temporarily deter wildlife movement in select areas near flood control channels due to increased noise and human activity, but wildlife is expected to continue to use corridors when construction work is not occurring, particularly at dawn and dusk. No permanent barriers would be placed within any known wildlife movement corridors. As such, implementation of the proposed project

is not expected to permanently impact wildlife movement or decrease the functionality of any wildlife crossings; therefore, there would be no project-specific mitigation required. Therefore, implementation of the project would have a less than significant impact on wildlife movement through the BSA.

The BSA contains potentially suitable habitat for migratory birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code. These species may nest in the trees and shrubs within the BSA. Impacts to nesting birds could occur in the form of direct mortality, particularly from the destruction of nests and mortality of young if construction occurs during the breeding season, or from habitat loss. In addition, indirect impacts may occur as a result of noise and increased human activity in the area. However, if construction activities are scheduled during the breeding season, preconstruction nesting bird surveys would be required in order to prevent any impacts to nesting birds, as specified in Project Feature PF-BIO-1. Therefore, with implementation of PF-BIO-1, potential construction-related impacts to nesting birds would be less than significant levels.

e) **No Impact.** There are no known local policies or ordinances (e.g., tree protection regulations) applicable to the project. Therefore, the project would not conflict with such policies, and no impacts would result.

f) **No Impact.** Portions of the BSA are within the Non-Reserve Open Space designation of the Orange County Central-Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). These plans represent collaborative planning efforts among a variety of parties, including landowners, developers, local governments, and resource agencies. The NCCP/HCP covers a variety of habitat types and plant and animal species, designates conservation areas, and provides regulatory processes for plan signatories (and in some cases, non-participating landowners such as Caltrans) for projects impacting covered resources within specific land designations. The project will comply with the requirements in the NCCP/HCP as required. Therefore, the project would not conflict with the NCCP/HCP, and no impacts would result.

2.4.2 Avoidance, Minimization, and/or Mitigation Measures

In addition to the project feature PF-WQ-3 (See Section 2.10 below) and PF-BIO-1 as stated below, the following avoidance and minimization measures will be implemented.

PF-BIO-1 **Caltrans Standard Specification Section 14-6.03B: Bird Protection; Avoidance of Breeding Season and Nesting Bird Surveys.** Project activities shall occur outside the nesting season (February 1–September 30) to the fullest practicable extent, particularly at bridges that span San Diego Creek. If project activities with potential to indirectly disturb suitable avian nesting habitat within 500 feet (ft) of the work area would occur during the nesting season (as determined by a qualified biologist), a qualified biologist with experience in conducting breeding bird surveys will conduct a nesting bird survey no more than 3 days prior to the initiation of project activities to detect the presence/absence of migratory and resident bird species occurring in suitable nesting habitat. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction will not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active. Work may only occur during the breeding season if nesting bird surveys indicate the absence of any active nests within the work area. Without the written approval of the California Department of Fish and Wildlife (CDFW) and/or the United States Fish and Wildlife Service (USFWS), no work shall occur if listed or fully protected bird species are found to be actively nesting within 500 ft of the bridge structures subject to construction activities.

BIO-1 **Pre-Construction Bat Surveys.** At bridge and culvert structures where construction activities will occur on that structure, and where there is also potential for maternity roosting, nighttime bat surveys should be performed by a qualified bat biologist during the peak period (June or July) of the bat maternity season (April 1–August 31) to confirm whether maternity colonies are present. These surveys should be performed by a qualified bat biologist at least 1 year in advance of construction so that appropriate site-specific and species-specific minimization measures can be developed in coordination with the California Department of Fish and Wildlife (CDFW) and a qualified bat biologist.

BIO-2 **Avoidance of the Bat Maternity Season.** Within 500 feet of structures where maternity roosting is confirmed, demolition and pile-driving activities shall avoid the recognized bat maternity season (April 1–August 31) to prevent potential mortality of flightless young bats. Any such construction activities at structures housing maternity colonies shall be coordinated with

a qualified bat biologist and the CDFW prior to work within the bat maternity season.

BIO-3 **Humane Eviction and Exclusion.** Direct impacts to bats and bat-roosting habitat are not anticipated from the proposed project. If direct impacts to bat-roosting habitat are anticipated, humane evictions and exclusions of roosting bats should be performed under the supervision of a qualified bat biologist in the fall (September or October) prior to any work activities that would result in direct impacts or direct mortality to roosting bats. This action will be performed in coordination with the CDFW. To avoid potential mortality of flightless juvenile bats, evictions and exclusions of bats cannot be performed during the maternity season (April 1–August 31). Winter months are also inappropriate for bat eviction because not all individuals in a roost will emerge on any given night. In addition, long-distance movements to other roost sites are more difficult during the winter when prey availability is scarce, resulting in high mortality rates of evicted bats.

BIO-4 **Construction Impact Minimization Measures for Bats.** The following measures should be implemented to minimize project-related direct and indirect impacts to roosting and foraging bats:

a. If night work (i.e., between dusk and dawn) is anticipated within 100 feet of structures where bat roosting is confirmed, night lighting shall be used only in areas of active work and shall be focused on the direct area(s) of work and away from the culvert entrances to the greatest extent practicable.

b. Air space access to and from the roost features of the structures shall not be obstructed except in direct work areas, and construction personnel shall not be present in non-active areas beneath the structures or near the entrances to the structures.

c. To the extent practicable, internal combustion equipment such as generators and vehicles are not to be parked or operated beneath or adjacent to the structures unless they are required for project-related work on that structure.

d. The proposed project includes the relocation of light poles in various areas. Siting of these light poles should avoid overspill into bat-roosting sites to avoid permanent impacts to roosting and foraging bats.

e. If swallow nests are removed to prevent swallows from nesting in the project area during construction activities, the nests should be inspected for roosting bats by a CDFW-approved bat biologist and removed in the fall (September or October) in a manner that ensures they do not fall to the ground before lack of occupancy has been established.

f. To the greatest extent feasible, tree trimming/removal activities shall be performed outside the bat maternity season (April 1–August 31) to avoid direct impacts to non-volant (flightless) young that may roost in trees within the Biological Study Area (BSA). This period also coincides with the typical bird nesting season. If trimming or removal of trees during the bat maternity season cannot be avoided, a qualified biologist shall monitor tree trimming and removal activities.

BIO-5 **Compensation for Direct Impacts to Bats.** If permanent, direct impacts to bat-roosting habitat are anticipated and/or a humane eviction/exclusion is performed, alternate roosting habitat shall be provided to ensure no net loss of bat-roosting habitat. The design, numbers, and locations of these roost structures should be determined in consultation with a qualified bat biologist. This action shall be coordinated with the California Department of Transportation (Caltrans), the CDFW, and a qualified bat biologist to ensure that the installed habitat will provide adequate mitigation for impacts.

With implementation of project features and the avoidance and minimization measures identified above, the potential for adverse effects to bat species and bat colonies will be reduced to the greatest extent feasible. Compensatory mitigation (avoidance and minimization Measure BIO-5) would only be required, based on consultation with the CDFW, if a maternity roost would be impacted by the project. The avoidance and minimization measures listed above are considered sufficient at this time based on the results of surveys.

2.5 Cultural Resources

Would the project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	Less Than Significant Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

2.5.1 Discussion

The discussion and analysis in this section is based on findings as documented in the Historic Property Survey Report (HPSR) completed in May 2021.

The Area of Potential Effects (APE) is 769.13 ac and was established as all areas in which the project has the potential to directly or indirectly affect historic properties, if any such properties exist. The APE is located along I-405 in Irvine and Costa Mesa, and a portion of unincorporated Orange County, California.

To meet the regulatory requirements of the project, the cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within Title 14, California Code of Regulations (CCR), Article 5, Section 15064.5 of the *State CEQA Guidelines*. A project may have a significant effect on the environment if the project would cause a substantial adverse change in the significance of a Historical Resource. Per CCR Section 15064.5, in order for a cultural resource to be considered a Historical Resource, it must meet at least one of four criteria that define eligibility for listing on either the National Register of Historic Places (National Register) (36 Code of Federal Regulations [CFR] 60.4) or the California Register of Historical Resources (California Register) (14 CCR 15064.5(a)). Cultural resources eligible for listing on the National Register are automatically eligible for the California Register. Resources listed on or eligible for inclusion in the California Register are considered Historical Resources under CEQA (14 CCR 15064.5(a)). Impacts to a Historical Resource are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired (14 CCR 15064.5(b)).

a) **Less Than Significant Impact.** CEQA defines a Historical Resource as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing in, the California Register; (2) listed in a local register of historical resources as defined in PRC Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project's Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5(a)). A records search of the APE was conducted on September 11, 2020, at the South Central Coastal Information Center (SCCIC). The records search results identified four previously recorded cultural resources within the APE: P-30-000195, P-30-001538, P-30-001580, and P-30-001634. On October 5 and 6, 2020, an archaeological field survey of the APE was conducted, and one previously unrecorded cultural resource was identified: LSA-IS-S-1 (permanent site number unavailable because the SCCIC is not processing new records due to the COVID-19 pandemic).

Site P-30-000195 is being considered eligible for the National Register for the purposes of this project only. Any resource that is eligible for the National Register is automatically eligible for the state of California's historical resource list. Therefore, this site is considered a Historical Resource under CEQA for the purposes of this project only as well. Due to the limited construction activity (replacement of metal beam guard rails [MBGRs]) within this site's APE boundary, there are no anticipated impacts to this resource. The replacement of MBGRs will occur only in nonnative fill material that is not associated with original archaeological and cultural context of the recorded site. Even though activities are not anticipated to impact the resource, the resource is within the project's APE and any potential impacts to this resource are considered to be less than significant. Site P-30-001538 is mapped as within the APE by the SCCIC; however, project work in the area of the site will only occur within existing asphalt/pavement and will have no impact on the site. As such, P-30-001538 is not within the vertical APE of the project, and the project would not have any impact on the resource.

Site P-30-001580 is mapped within the APE by the SCCIC. However, the site does not exist as mapped by the SCCIC. As such, the project would not have any impact on the resource.

Site P-30-001634 is mapped as within the APE by the SCCIC; however, the resource was built after I-405 was constructed and, as such, would never have been within Caltrans right-of-way. As such, it is assumed that this site is not within the APE for the project and that the boundaries of the site are incorrectly mapped in records at the

SCCIC. As such, the project would not have any impact on the resource.

LSA-IS-S-1 (permanent site number unavailable because the SCCIC is not processing new records due to the COVID-19 pandemic) was evaluated in an Extended Phase I subsurface excavation on April 23, 2021 and determined not to be a historical resource per CEQA.

Based on the records search results, field survey, and examination of mapped site locations, there is only one resource within the APE: P-30-000195. The other three previously mentioned resources were either incorrectly mapped by the SCCIC and do not exist in the APE or are not within the vertical APE. The newly identified cultural resource in the APE (LSA-IS-S-1) was evaluated in an Extended Phase I subsurface excavation and was determined not to be a historical resource per CEQA. As such, there is one historical resource in the APE, and the proposed project would not cause a substantial change in the significance of that Historical Resource as defined in *State CEQA Guidelines* Section 15064.5. No mitigation is required

b) **Less Than Significant Impact.** Based on the findings documented in the HPSR, the likelihood of encountering intact buried archaeological resources during project implementation is very low. As such, the proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. While unlikely and not anticipated, if cultural resources are encountered during construction activities, PF-CUL-1 as stated below would be implemented. No mitigation required.

c) **No Impact.** No human remains or burial sites were identified in the APE as a result of the SCCIC records search or archaeological field survey. While unlikely and not anticipated, if human remains are encountered during construction activities, PF-CUL-2 would be implemented. No mitigation required.

2.5.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project features would be implemented:

PF-CUL-1 **Caltrans Standard Specification Section 14-2.03A: Discovery of Cultural Materials**. If cultural materials are discovered during construction activities, the construction contractor will divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, coordination will be maintained with the California Department

of Transportation (Caltrans) District 12 Environmental Branch Chief or the District 12 Native American Coordinator to determine an appropriate course of action.

PF-CUL-2 **Caltrans Standard Specification Section 14-2.03A: Discovery of Human Remains**. If human remains are discovered during construction activities, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the Orange County Coroner shall be contacted. If the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who pursuant to California Public Resources Code (PRC) Section 5097.98 will then notify the Most Likely Descendant (MLD). At that time, the persons who discovered the remains will contact the Caltrans District 12 Environmental Branch Chief or the District 12 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC 5097.98 are to be followed as applicable.

2.6 Energy

Would the project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less Than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

2.6.1 Discussion

The following reports and studies were consulted for analysis; *Traffic Operations Analysis Report* (March 2021) and *Air Quality Report* (January 2021).

State CEQA Guidelines Section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy resources.

a) **Less than Significant Impact.** The proposed project is not considered capacity increasing and neither will be the project construct structures that would require substantial direct or indirect energy use, but would only marginally increase the energy demand. The project will result in direct energy use during construction for on-site construction equipment. The construction of the proposed project will primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. Energy use associated with the proposed project construction is estimated to increase the short-term energy demand through related construction activities. This short-term energy demand would cease once the construction of the project is complete.

   Therefore, the project will not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. No mitigation required.

b) **No Impact.** The proposed project would be consistent with regional, State, and local energy conservation plans. The SCAG 2020/2045

RTP/SCS[1], or Plan, includes information about efforts to encourage energy efficiency and renewable energy use. Regional plans for renewable energy and energy efficiency would not be impacted from the construction and operation of the project. Energy-efficient building development is not applicable to this project, and renewable energy policies are encouraged for all Caltrans projects where applicable and feasible. The result of this project will not conflict with or obstruct regional plans for renewable energy or energy efficiency. In addition, the project would also be consistent with local renewable and energy efficient plans. The City of Irvine's General Plan has an Energy Element that provides guidance for their community. The primary goal is to promote energy conservation and the use of renewable energy sources throughout the City in a cost-effective way[2]. The project would not interfere or obstruct with these plans or the implementation of them. In the Land Use Element of the City of Costa Mesa 2015-2035 General Plan, Sustainable Development Practices are identified as one of the City of Costa Mesa's key land use issues. Both the federal and State governments have established laws aimed at environmental protection and enhancement, and many of these regulations are being implemented through development practices within Costa Mesa that are far more sustainable than practices of a generation ago[3]. This project is contributing to this policy by adding a park-and-ride facility, which in itself promotes reducing greenhouse gas (GHG) emissions. In addition, that facility will also have solar panels and electric vehicle (EV) chargers. Hence, the project would only help implement the City of Costa Mesa's sustainable development practices. Furthermore, in Chapter VI Resources Element of the County of Orange's General Plan[4], energy related programs and plans are identified (e.g., Energy Management, Energy Shortage, Management Plan, and Energy Education). These plans and programs will not be affected by the construction of the proposed project. Hence, this project will not conflict with or obstruct any plans for renewable energy or energy efficiency.

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1 Southern California Association of Governments. Website: https://scag.ca.gov/read-plan-adopted-final-plan

2 City of Irvine General Plan, Energy Element. Website: http://alfresco.cityofirvine.org/alfresco/guestDownload/direct?path=/Company%20Home/Shared/CD/Planning%20and%20Development/General%20Plan/10.%20Energy%20Element%20-%20June%202012%20(no%20changes%20in%20Supp%209%20Aug%202015).pdf, accessed March 2021.

3 City of Costa Mesa General Plan, Land Use Element. Website: https://www.costamesaca.gov/home/showpublisheddocument?id=34692, accessed March 2021.

4 County of Orange, General Plan. Chapter VI Resources Element (2013). Website https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=40235, accessed July 16, 2019.

2.6.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

2.7 Geology and Soils

Would the project:

Question	CEQA Determination
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No Impact
ii) Strong seismic ground shaking?	Less Than Significant Impact
iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less Than Significant Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

2.7.1 Discussion

The potential for the Build Alternative to result in impacts to geology and soils was assessed in the *Revised Updated Preliminary Geologic Study* (February

2021). The following analyses are based on the information described in the technical study.

The site is located within the Peninsular Ranges geomorphic province. The Peninsular Ranges province is composed of mountain ranges that are oriented roughly northwest-southeast, which roughly parallels the San Andreas Fault. The site lies at the northern base of the San Joaquin Hills, along the south side of an alluvial valley between the San Joaquin Hills and the Santa Ana Mountains. According to geological maps and exploratory borings, most of the project is underlain by Quaternary-aged alluvial fan sediments (Qyf), which are underlain by the Tertiary-aged Vaqueros Formation (Tv). Alluvial deposits range from clays and silts to sands and gravels. The Vaqueros Formation is a sedimentary formation that is predominantly sandstone, but it has been logged as claystone and siltstone in Logs of Test Borings (LOTBs) from the University Drive Overcrossing. Parts of the project near Retaining Wall 101, OH Sign OS-40, and the park-and-ride facility are underlain by Quaternary peralic deposits (Qopf). These peralic deposits range from silts and clays to sands and gravels, much like the Quaternary alluvial fan deposits

a) i) **No Impact.** None of the sites are mapped within a Seismic Hazard Zone by the State of California Geological Survey. Therefore, there is no risk of surface fault rupture.

   ii) **Less than Significant Impact.** According to the Earthquake Shaking Potential for California Map (2016), the southern portion of Orange County is within a regional classification that experiences lower levels of shaking less frequently and the northern portion experiences increased intensity in shaking and frequency[1]. The peak ground acceleration for the site as calculated by Caltrans' ARS online website ranges between 0.47g to 0.48g. Minimization/avoidance Measure GEO-1, a site-specific analysis for each location will be provided in the Foundation Report for each individual structure during design phase. In addition, Project Feature PF-GEO-1 will be implemented.

   iii) **Less than Significant Impact -** About half of the project limits is mapped by the California Geological Survey as being in a zone that is susceptible to earthquake-induced liquefaction. Both bridges, Retaining Wall 43 and the Park and Ride Facility are mapped inside liquefaction zones. The other three retaining walls and all overhead signs are not located within liquefaction zones. Minimization/Avoidance

[1] California Earthquake Shaking Potential (revised 2016). Website: https://koordinates.com/layer/97123-california-earthquake-shaking-potential-rev-2016, accessed March 2021.

measure GEO-2, a site-specific study will be required during the design phase to develop design recommendations.

iv) **No Impact -** None of the project limits is mapped by the California Geological Survey as being in a zone that is susceptible to earthquake-induced landslide.

b) **No Impact -** The project will not significantly change the grade of the ground surface or alter the surface water flow, therefore, there should be no change to surficial erosion.

c) **Less than Significant Impact -** None of the project limits is mapped by the California Geological Survey as being in a zone that is susceptible to earthquake-induced landslide. However, about half of the project limits is mapped by the California Geological Survey as being in a zone that is susceptible to earthquake-induced liquefaction. Both bridges, Retaining Wall 43 and the Park and Ride Facility are mapped inside liquefaction zones. The other three retaining walls and all overhead signs are not located within liquefaction zones. Minimization/Avoidance measure GEO-2, a site-specific study will be required during the design phase to assess the true potential, and develop design recommendations to minimize risk to liquefaction, if necessary.

d) **No Impact -** Expansive soil would not cause a failure of any proposed improvements that would create a substantial risk to life or property. The existing facilities do not show any distress from expansive soils.

e) **No Impact –** The project area is supported by Publicly Owned Treatment Works (POTW) that is available for the disposal of wastewater. Due to the lack of septic tanks, or alternative wastewater disposal systems, there will be no impact to these resources.

f) **No Impact -** Paleontological resources will not be impacted as a result of this project as no fossiliferous geological sediments, or soils, are within the project prism footprint. The only soils present within the project prism footprint are non-native fill material, and disturbed Holocene alluvial deposits.

2.7.2 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance/minimization measures and project feature will be implemented.

GEO-1 A site-specific analysis for each location will be provided in the Foundation Report for each individual structure during the design phase.

GEO-2 The retaining walls, both bridges, and the park-and-ride facility may require a special design in order to withstand potential geological conditions of the project site (e.g., ground shaking, liquefaction), if necessary.

PF-GEO-1 **Caltrans Standard Specification 48-2.02. B, and Section 19 Earthwork General.** The project will comply with the most current California Department of Transportation (Caltrans) procedures and design criteria regarding seismic design to mitigate any adverse effects related to seismic ground shaking. Earthwork will be performed in accordance with Caltrans Standard Specifications, Section 19, which requires standardized measures related to compacted fill, over-excavation, and re-compaction, among other requirements. Moreover, Caltrans Highway Design Manual (HDM) Topic 113, requires the project engineer to review a Geotechnical Design Report, if any, to ascertain the scope of geotechnical involvement for a project.

2.8 Greenhouse Gas Emissions

Would the project:

Question	CEQA Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact

2.8.1 Discussion

The *Air Quality Report* completed in January 2021 was consulted in performing the following analysis. Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 codified the 2020 GHG emissions reduction goals as outlined in State Executive Order (EO) S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

State CEQA Guidelines Section 15064.4 states that when assessing the significance of impacts from GHG emissions on the environment, the lead agency should consider, among other factors, the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting. While comparing future build to future no-build conditions may be useful in determining significant impacts and in establishing the extent of project-level measures to reduce GHG emissions from the project, CEQA and the *State CEQA Guidelines* remain focused on the comparison of future conditions with the project compared to existing conditions.

a) **Less Than Significant Impact.** The purpose of the project is to extend the life expectancy of pavement, improve safety for all modes of travelers as well as maintenance crews, enhance traffic operation, manage congestion, and provide the ability to collect, analyze, and utilize data for efficient systems performance along the I-405 corridor within the project limits. Transportation System Management (TSM) strategies are designed to influence an individual's travel behavior by

reducing the demand for signal occupant vehicle travel, especially during peak commute periods.

Caltrans Emission Factor Model (CT-EMFAC2017) was used to calculate and compare the CO_2 emissions for the Base Year (2020), Opening Year (2026), and Design Year (2046). The results of the modeling were used to calculate the CO_2 emissions listed in Table 2.1. Table 2.1 shows that the Build Alternative would result in a net decrease in CO_2 emissions in the opening year 2026 and in the design year 2046 compared to the base year 2020. The Build Alternative in both opening and design years would result in a decrease in CO_2 emissions in the region when compared to the Base Year scenario. The CO_2 emissions numbers in Table 2.1 are only useful for a comparison between project alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be because CO_2 emissions are dependent on other factors that are not part of the model (e.g., the fuel mix[1], rate of acceleration, and the aerodynamics and efficiency of the vehicles). This project was determined not to be capacity increasing. Improved operations and smoother traffic flow, along with use of cleaner fuels and cleaner vehicle technology in the future, contribute to reducing the GHG emissions in the future years compared to the Existing Year 2020.

The Build Alternative shows a decrease in long-term regional vehicle GHG emissions compared to the Existing Condition. In addition, the Build Alternative will generate construction emissions. These construction emissions are only temporary and do not permanently increase the GHG contributions. Therefore, impacts to generating GHG emissions both directly and indirectly to the environment would be less than significant. No mitigation is required.

b) **Less Than Significant Impact.** The project limits are within the Basin, which is within the jurisdiction of SCAQMD and CARB. The project is included in the SCAG 2020-2045 RTP/SCS and the 2019 FTIP, both of which are conforming to State and federal ambient air quality standards provided in the AQMP.

Additionally, the Orange County Transportation Authority (OCTA) and Orange County Council of Governments published the *Orange County Sustainable Communities Strategy* in 2011, which was developed to be integrated with the SCAG SCS. The Orange County SCS offers sustainability strategies to reduce GHG emissions from land use and transportation.

[1] EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle. Fuel cycle emission rates can vary dramatically depending on the amount of additives (e.g., ethanol) and the source of the fuel components.

The Cities of Costa Mesa and Irvine both provide consistency in their implementation of the provisions of AB 32, Senate Bill 375 (SB 375), and the regional SCS.

The City of Costa Mesa does not have a specific GHG reduction plan; however, it does have city policies to address emissions reduction. The City of Costa Mesa's General Plan Land Use and Circulation Element policies (LU-4.6)1 regarding GHG emissions reduction (which are consistent with State and regional goals) would not be in conflict or impacted by the proposed project.

The City of Irvine is in the process of developing a Climate Action Plan. However, the City of Irvine's General Plan mentions a few policies that address GHG reduction. These policies are included its General Plan Growth Management Element (Objective M-3, Policy (c)) and Circulation Element (Objective B-2, Policy (h))[2].

Therefore, the project would not conflict with the AQMP or violate any air quality standards. No mitigation is required.

2.8.2 Avoidance, Minimization and/or Mitigation Measures

The following avoidance/minimization measures and project feature will be implemented.

PF-AQ-1 All air quality minimization measures are included in the California Department of Transportation (Caltrans) Standard Specification (2018) for Construction, Sections 14.9-02, Air Quality. The construction contractor must comply with the Standard Specifications, which also require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

PF-GHG-1 **Emissions Reduction.** Comply with California Department of Transportation (Caltrans) Standard Specifications Section 7 1.02C. Submit to the Department the following certification before performing the work: *I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before*

1 City of Costa Mesa 2012-2035 General Plan. Website: https://www.costamesaca.gov/city-hall/city-departments/development-services/approved-plans-for-city/2015-2035-general-plan, accessed March 17, 2021.

2 City of Irvine Current General Plan. Website: https://www.cityofirvine.org/community-development/current-general-plan, accessed March 17, 2021.

commencing the performance of the work and maintain compliance throughout the duration of this Contract.

GHG-1 **Vehicle Idle Time.** Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment (California Code of Regulations, Title 13, sections 2449(d)(3) and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

GHG-2 **Truck Schedule.** Schedule truck trips outside of peak morning and evening commute hours.

GHG-3 **Construction Waste.** Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).

GHG-4 **Recycled Materials.** Maximize use of recycled materials (e.g., tire rubber).

GHG-5 **Earthwork Balance.** Reduce the need for transport of earthen materials by balancing cut-and-fill quantities.

GHG-6 **Fuel Efficiency.** Maximize fuel efficiency from construction equipment: (1) maintain equipment in proper tune and working condition, and (2) right size equipment for the job.

GHG-7 **Construction Environmental Training.** Supplement existing training with information regarding methods to reduce greenhouse gas (GHG) emissions related to construction.

GHG-8 **Park-and-Ride Lot.** A park-and-ride lot will be constructed within the project limits at southbound Interstate 405 (I-405) and Bristol Street. The park-and-ride lot will allow motorists to park their vehicles and carpool and ride on public transit buses. There are two nearby transit stops at the intersections of Bristol Street/Anton Boulevard and Bristol Street/Paularino Avenue. The lot will provide parking spaces for an estimated 162 vehicles, reducing the number of single-occupancy vehicles on the highway. The California Department of Transportation (Caltrans) preliminary design includes the following accessories: a bike rack or bike locker; solar panels; electric vehicle (EV) chargers; a pedestrian staircase; and security lighting. Final design of the park-and-ride lot will be completed during the next phase of the project. GHG emissions would be reduced when single-occupancy vehicles use the park-and-ride lot to participate in alternative modes of transportation.

GHG-9 **Operational improvements.** Operational and Transportation System Management/Transportation Demand Management (TSM/TDM) improvements such as auxiliary lanes, dedicated turn lanes, and Intelligent Transportation System (ITS) elements will contribute to reducing GHG emissions**.**

2.9 Hazards and Hazardous Materials

Would the project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Less Than Significant Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	No Impact

2.9.1 Discussion

An Initial Site Assessment (ISA), was completed on December 22, 2020 and an *Asbestos-Containing Materials Report* was completed in January 2021. Aerially deposited lead (ADL) from the historical use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the State Highway System right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL

Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

Hazardous materials, including hazardous substances and wastes, are regulated by state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste as well as the investigation and mitigation of waste releases, air and water quality, human health, and land use.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code (H&SC) and is also authorized by the federal government to implement the Resource Conservation and Recovery Act (RCRA) in the State. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste.

California regulations that address waste management, prevention, and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

a) **Less Than Significant Impact.** During construction, Caltrans anticipates the routine transport, use, or disposal of hazardous materials typically used in highway, road and bridge projects. ADL from vehicle emissions may be encountered during the excavation of the paved or unpaved areas required for construction. Asbestos was used in many structure materials prior to 1978; however, asbestos may also have been used into the early 1980s. According to the *Asbestos-Containing Materials Report* completed in January 2021, asbestos is present in the handrail shims of the following three bridges, which are subject to widening and modification: (1) San Diego Creek Bridge (55-0285), (2) Paularino Avenue Bridge (55-0436G), and (3) San Diego Creek Channel Bridge (55-0451). As per PF-HAZ-4, this asbestos containing material (ACM) is required to be disposed of appropriately per Caltrans Standard Specifications during construction. Yellow traffic stripe paint and thermoplastic traffic stripes potentially contain chromium and lead and should be disposed of in an appropriate manner per PF-HAZ-1 and PF-HAZ-2. The project also proposes to remove existing wood posts for MBGR supports and sign posts, which contain chemical preservatives; therefore, these woods are considered to be treated wood waste (TWW). All standard measures per PF-HAZ-3 would apply, and such routine transport, use,

or disposal of hazardous materials would be carried out in compliance with all Caltrans standards, practices, and policies as well as State of California regulations under the authority of the California H&SC and as also authorized by the federal government to implement RCRA in the State. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. All relevant water quality standards also apply. Once construction is completed, there are no plans to routinely transport, use, or dispose of hazardous materials. Following construction, the proposed project in and of itself would not create a hazard to the public or the environment.

b) **Less Than Significant Impact.** Same response as in a) above

c) **No Impact.** The Study Area is served by the Irvine Unified School District, Newport-Mesa Unified School District, and various private schools. There are five public schools located within 0.25 mi of the Study Area:

1. Killybrooke Elementary School, 3155 Killybrooke Lane, Costa Mesa, CA 92626
2. Culverdale Elementary School, 2 Paseo Westpark, Irvine, CA 02614
3. Southlake Middle School, 655 West Yale Loop, Irvine, CA 92614
4. Rancho San Joaquin Middle School, 4861 Michelson Drive, Irvine, CA 92612
5. Oak Creek Elementary School, 1 Dovecreek, Irvine, CA 92618

Additionally, Irvine is home to community colleges and the University of California Irvine (UCI) as well as several private higher education institutions. Irvine Valley College (also known as IVC or Irvine Valley) is a community college in Irvine located at 5500 Irvine Center Drive and is approximately one quarter mile from the I-405 project segment.

The project, once completed, would not in and of itself emit hazardous emissions or generate hazardous or acutely hazardous materials, substances, or waste. Normal vehicle emissions are anticipated to remain consistent with pre-construction vehicle emissions because the preferred Build Alternative/Project is *not* a widening or capacity increasing project.

There may be temporary construction-related odors emitted from construction equipment and machinery; however, standard measures would apply, including a Transportation Management Plan (TMP). A TMP is also a standard measure, and construction machinery is not

allowed to idle needlessly and generate noxious odors. Any such odors would be limited and very temporary in nature.

During construction, if a hazard or hazardous waste release occurred, the Caltrans Resident Engineer, Hazards and Hazardous Waste expert crews, and Contractor's trained staff would follow all relevant procedures and practices to minimize potential temporary harm to the public and environment, including nearby schools. With the implementation of measures listed above in answer a), no harm would occur to children, teachers, staff, or parents at any nearby schools.

d) **No Impact.** The project would require partial property acquisitions. The ISA studied and analyzed available GeoTracker database records. No environmental records were identified for the properties subject to acquisition and temporary construction easements (TCEs); therefore, these properties are considered *free* of significant hazardous waste.

Table 2.2 Project Acquisition Parcels

APN	Location	Grantor	Square footage (sf)		Plan Sheets	REC
			Fee	TCE		
452-331-04	See Figures 11 & 12	Unknown		3,376	Figures 11 & 12	No
452-481-04		Unknown	498	8,889	Figures 13 & 14	No
447-041-03	See Figures 13 & 14	Orange County Flood Control Channel	1,330	8,388	Figures 15	No
447-041-67	See Figure 15	Unknown	121	114	Figure 15	No
447-041-01	See Figure 15	Unknown	319	767	Figure 15	No
588-011-77	See Figure 16	Antivo Los Olives LLC	1,853	2,732	Figure 16	No

REC = Recognized Environmental Condition
sf = square feet
TCE = temporary construction easement

Geotracker records also indicated the potential for a few properties *located nearby or adjacent* to the project footprint may have reported releases of a hazard or hazardous waste. However, the project will not involve deep excavation in/at/on the majority of the project area, so these site locations will *not* pose any risk of recognized environmental conditions to the public or the environment. The location of the proposed cast-in-drilled-hole (CIDH) piles were evaluated for existence of any potential contamination source. No source of contamination was

found during the research; therefore, a Phase II Site Investigation is not required to be performed at this time.

Additionally, the ISA consulted available Department of Toxic Substances Control (DTSC) online records database via Envirostor. The purpose of this search was to identify any evidence of unauthorized releases of hazardous materials to the surface, subsurface soil, and groundwater within the immediate vicinity of the project. There were no listings associated with the project footprint.

e) **Less than Significant Impact.** One aspect of land use planning considered under CEQA is the consistency of the General Aviation Improvement Plan (GAIP) with relevant planning documents (and vice versa for Caltrans projects). Relevant planning documents associated with the GAIP include the County of Orange General Plan, the Airport Environs Land Use Plan for John Wayne Airport, and the SCAG 2020-2045 RTP/SCS. Also relevant are the City of Irvine General Plan and the City of Costa Mesa General Plan because these jurisdictions are immediately adjacent to John Wayne Airport.

John Wayne Airport is located in Irvine and situated immediately adjacent to the I-405 project segment. The proposed project is consistent with the John Wayne GAIP. The proposed project would not result in a safety hazard or excessive noise for residents around the airport or working in the same area. The project will not cause any changes in airport operations or have any permanent impacts at all.

During construction, temporary traffic delays may be experienced by the traveling public; however, the project TMP would include a robust advance communications plan advising travelers about such delays and detours.

f) **No Impact.** The project proposes to improve I-405 within the project limits, and thus will not cause permanent impacts that could substantially impair County or City emergency response plans or emergency evacuation routes/plans. In fact, upon completion of construction, County and City emergency response times and emergency evacuation plan time frames are likely to be improved because the I-405 facility within the project limits would operate in a more efficient manner.

During and throughout construction, travelers, including emergency responders, could experience minor temporary delays and detours due to construction, including temporary mainline lane closures and/or temporary ramp closures. County and City emergency response times could be slightly longer; however, County and City adopted Emergency Response Plans and Evacuation Plans would still function during a

wildfire or other emergency event. The TMP would be closely coordinated with the County and Cities of Irvine and Costa Mesa, taking into consideration approved detour routes for emergency responders. Advance message signs would be used in the event of an unplanned emergency situation, such as a wildfire, to inform and safely guide travelers to alternate routes. With implementation of the TMP, any impact would be temporary in nature; therefore, no mitigation is required.

g) **No Impact.** Several High Fire Hazard Severity Zone (HFHSZ) areas occur within Orange County. Two HFHSZ[1] are situated within the jurisdictional boundaries for the City of Irvine; however, these two areas are at least 0.5 mi each from the project limits. There are no HFHSZ identified within the jurisdictional boundaries of the City of Costa Mesa. The proposed project is situated on the existing I-405 alignment and thus will not cause permanent impacts that could expose people or structures (directly or indirectly) to a substantial risk of loss, injury, or death involving wildland fires.

2.9.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project features will be implemented:

PF-HAZ-1 An aerially deposited lead (ADL) investigation is being performed for the project. Based on the findings, appropriate Special Provisions will be implemented.

PF-HAZ-2 Should construction activities result in the disturbance of traffic striping and pavement marking materials, the generated wastes would be disposed of at an appropriate permitted disposal facility as determined by a lead specialist.

PF-HAZ-3 During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources. If hazardous material contamination or sources are suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the California Department of Transportation (Caltrans) Construction Manual.

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[1] California Department of Forestry and Fire Protection (CAL FIRE). Website: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414, accessed March 2021.

PF-HAZ-4 The asbestos-containing material (ACM) survey has already been performed and, according to the results of this survey, the handrail shims of the following three bridges contain asbestos that should be disposed of appropriately per Caltrans Standard Specifications. The three bridges are:

- San Diego Creek Bridge (55-0285)
- Paularino Avenue Bridge (55-0436G)
- San Diego Creek Channel Bridge (55-0451).

2.10 Hydrology and Water Quality

Would the project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	Less Than Significant Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	Less Than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Less Than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or	Less Than Significant Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

2.10.1 Discussion

The discussion and analysis in this section is based on the findings as documented in the *Water Quality Assessment Report* (WQAR) completed in January 2021 and the *Location Hydraulic Study* completed in March 2021.

This project is within the Santa Ana River Hydrologic Unit (HU) of the Santa Ana RWQCB located in Orange County. The project is within the San Diego Creek watershed at the southern end of the project limits and the Lower Santa Ana River watersheds at the north end of the project limits. Water

bodies within the project limits include San Diego Creek, San Joaquin Channel, Lane Channel, Airport Storm Channel, Santa Ana Delhi Channel, and Gisler Channel.

a) **Less than Significant Impact.** Temporary impacts to water quality that can be anticipated during construction of the Build Alternative include soil-disturbing activities (e.g., excavation and trenching), soil compaction, cut-and-fill activities, and grading. These types of construction activities are anticipated for the construction of operational improvements for the construction of acceleration/deceleration lanes and an auxiliary lane, the widening of off-ramps, and the construction of a new park-and-ride facility. Other minor soil-disturbing activities include slab replacement and concrete barrier construction for bridge health as well as roadside safety improvements for highway workers. The disturbed soil areas (DSA) created by these activities are susceptible to high rates of erosion from wind and rain that result in sediment transport during rain events via storm water runoff. The project's estimated DSA is 22 ac.

   The project will also have to manage materials and wastes associated with a construction project, such as oil and grease spills or leaks from heavy equipment or vehicles used for construction, trash from workers and construction waste, petroleum products from construction equipment and/or vehicles, sanitary wastes from portable toilets, and any other chemicals used for construction (e.g., coolants used for equipment and/or concrete-curing compounds).

   The Build Alternative will be required to comply with the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) Construction General Permit and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) and determine a risk level based on potential erosion and transport to receiving waters. The SWPPP will identify temporary BMPs to address the potential temporary impacts to water quality. The BMPs identified in the project's SWPPP will include measures such as temporary soil stabilization measures, linear sediment barriers (i.e., silt fence, gravel bag berms, fiber rolls), and construction site waste management (i.e., concrete washout, construction materials storage, litter/ waste management). Project features PF-WQ-1, PF-WQ-2, and PF-WQ-3 would address any temporary impacts to water quality.

   The proposed project's scope would disturb the existing vegetative cover and expose the underlying soil. Drainage work may include culvert and drainage extensions where waterbodies cross I-405 within the project limits as well as the construction of permanent treatment BMPs to address the permanent water quality impacts created by the project.

The operation of the proposed project will result in an increase in impervious surface, which will result in an increase in storm water runoff. The existing impervious surface at the project location for the Build Alternative is approximately 298 ac. With the construction of new acceleration/deceleration lanes and an auxiliary lane, widening off-ramps, and the construction of a new park-and-ride facility, the additional impervious surface created by the project is 15.43 ac. The construction of new impervious surfaces will contribute pollutants that are typically generated during the operation of a transportation facility, including sediment/turbidity, nutrients, trash and debris, bacteria and viruses, oxygen-demanding substances, organic compounds, oil and grease, pesticides, and metals.

Currently, untreated runoff from the project limits discharges into the receiving water bodies. The Build Alternative will include Caltrans-approved post-construction treatment BMPs to remove pollutants that have entered storm water runoff prior to its discharge off site. The Build Alternative will implement Caltrans-approved treatment BMPs such as biofiltration swales, design pollution prevention infiltration areas, detention and infiltration devices, media filters, pervious pavement, multi-chamber treatment train, wet basin and/or Open Graded Friction Course.

To address the Build Alternative's long-term impacts, the project will incorporate Caltrans-approved treatment BMPs and/or evaluate Low Impact Development (LID) strategies consistent with the Caltrans Statewide NPDES permit. In addition to evaluating and incorporating treatment BMPs, Caltrans will incorporate Design Pollution Prevention (source control) BMPs to ensure that adequate measures are included to minimize pollutant sources such as erosion from the project improvements. Project features PF-WQ-1, PF-WQ-4, PF-WQ-5, and PF-WQ-6 would address any permanent impacts to water quality.

b) **Less than Significant Impact.** It is anticipated that the Build Alternative would not encounter groundwater during construction. The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. If the project requires the discharge of groundwater encountered/ extracted during construction, the discharge must comply with General Waste Discharge Requirements for discharges to surface waters resulting from DE MINIMUS discharges, groundwater dewatering operations, and/or groundwater cleanup/remediation operation at sites within the Newport Bay Watershed *(*Order No. R8-2019-0061, NPDES No. CAG918002) and any subsequent updates to the permit at the time of construction. This Waste Discharge Requirement (WDR) addresses temporary dewatering operations during construction.

Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDRs issued by the Santa Ana RWQCB. The project feature (PF-WQ-7) would minimize any temporary impacts due to the discharge of groundwater to surface water.

c) i) **Less than Significant Impact.** The project will neither substantially alter the drainage pattern of the site or area nor alter a stream or river. Any erosion and siltation that can occur during construction will be from DSAs created by the project's excavation/grading. The potential erosion/siltation will be addressed by the installation and implementation of temporary BMPs identified in the project's SWPPP (PF-WQ-3). Post-construction erosion/siltation is addressed by the installation of permanent soil stabilization BMPs (PF-WQ-4).

ii) **Less than Significant Impact.** The project will neither substantially alter the drainage pattern of the site or area nor alter the course of a stream or river. The project will increase the impervious surface area by 15.43 ac, based on the selected alternative. This increase will not substantially increase the rate or amount of runoff in a manner that would result in flooding on or off site.

iii) **Less than Significant Impact.** The proposed project will not exceed the capacity of the existing or planned storm water drainage systems. As indicated previously, the project may contribute additional sources of pollutants during construction. Potential temporary impacts to water quality that can be anticipated during construction include sediments from grading and excavation operations, trash from workers and construction waste, petroleum products from construction equipment and/or vehicles, concrete waste, sanitary wastes from portable toilets, and any other chemicals used for construction (e.g., coolants used for equipment and/or concrete curing compounds).

The project may contribute additional sources of pollutants upon completion of construction. Pollutants typically generated during the operation of a transportation facility include sediment/turbidity, nutrients, trash and debris, bacteria and viruses, oxygen-demanding substances, organic compounds, oil and grease, pesticides, and metals. The project will incorporate Design Pollution Prevention (source control) BMPs and evaluate post-construction treatment BMPs as required by the Caltrans NPDES permit to ensure that adequate measures are included to minimize any potential long-term impacts.

With implementation of a SWPPP and selected temporary BMPs during construction (PF-WQ-3), as well as evaluating and implementing post-construction BMP strategies (PF-WQ-4, PF-WQ-5, and PF-WQ-6), the project will not create or contribute runoff water that

would exceed the capacity of existing or planned storm water drainage systems or provide additional sources of polluted runoff.

With implementation of the Caltrans NPDES Permit, the General NPDES Permit for Construction Activities, a SWPPP, and temporary and permanent BMPs, the project will not substantially degrade water quality (PF-WQ-1 through WQ-PF-7).

iv) **No Impact.** The project will not impede or redirect flood flows.

d) **No Impact:** The project improvements along I-405 from Interstate 5 (I-5) to Harbor Boulevard include widening the San Joaquin Channel Bridge (55-0522) near Harvard Avenue and the San Joaquin Channel Bridge (55-0521) near University Drive, both of which are within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 06059C0287J. The bridge areas lie within Zone A, which indicates that the existing bridges cross the channel transversely and are considered a transverse encroachment in the floodplain. However, the existing bridges only minimally extend by 10 ft and 12 ft, respectively. As a result, the Project will not increase water surface elevations (WSEs) above the existing condition. Therefore, the project in a flood hazard, tsunami, or seiche zone would not risk release of pollutants due to project inundation. As indicated in the *Location Hydraulic Study/Summary Floodplain Encroachment Report*, within the project limits, the proposed risks to natural and beneficial floodplain values are minimal; therefore, there are no impacts and no mitigation required.

e) **No Impact.** The project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The project will comply with the Statewide Construction General Permit for temporary impacts to water quality (PF-WQ-2) and the Caltrans Statewide NPDES Storm Water Permit (PF-WQ-1).

2.10.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project features will be implemented:

PF-WQ-1 The project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003 and any subsequent permits in effect at the time of construction

PF-WQ-2 The project will comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction

General Permit) Order No. 2009-0009-DWQ, NPDES No. CAS000002, and any subsequent permits in effect at the time of construction

PF-WQ-3 The project will comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants (e.g., sediment control, catch basin inlet protection, construction materials management, and non-storm water BMPs). All work must conform to the Construction Site BMP requirements specified in the latest edition of the Storm Water Quality Handbooks: Construction Site Best Management Practices Manual to control and minimize the impacts of construction and construction-related activities, material, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs

PF-WQ-4 Design Pollution Prevention BMPs will be implemented, such as preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes and swales, over-side drains, flared end sections, and outlet protection/ velocity dissipation devices.

PF-WQ-5 California Department of Transportation (Caltrans) approved treatment BMPs will be implemented consistent with the requirements of NPDES Permit and WDRs for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction. Treatment BMPs may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, dry weather flow diversion, Gross Solids Removal Devices (GSRDs), media filters, bioretention, Open Graded Friction Course, and wet basins.

PF-WQ-6 Caltrans Full Trash Capture Devices will be implemented within Significant Trash Generating Areas (STGA) and park-and-ride lots consistent with the Caltrans Statewide Trash Implementation Plan to meet the State Water Resources Control Board (SWRCB) Trash Provisions (Resolution No. 2015-0019).

PF-WQ-7 If dewatering is required, construction site dewatering must comply with the General WDRs for discharges to surface waters resulting from DE MINIMUS discharges, groundwater dewatering operations, and/or groundwater cleanup/remediation operation at sites within the Newport Bay Watershed (Order No. R8-2019-0061, NPDES No. CAG918002), and any subsequent updates to the permit at the time of construction. The permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and discharges must comply with the WDRs issued by the Santa Ana Regional Water Quality Control Board (RWQCB).

2.11 Land Use and Planning

Would the project:

Question	CEQA Determination
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

2.11.1 Discussion

The potential for the Build Alternative to result in impacts related to land use and planning was assessed in the *Community Impact Assessment* (CIA) dated April 2021. The following analyses are based on the information described in the CIA technical memorandum.

a) **No Impact.** The project limits are within existing freeway with interchanges/ramps, retaining walls, noise barriers (i.e., berms), and other structural features. The Study Area includes a mix of residential, light industrial, commercial, and some recreation and preservation land uses. Land uses immediately adjacent to the project limits within Costa Mesa include low- and medium-density residential, and commercial uses such as retail stores and shopping centers. The small portion of the project area in unincorporated Orange County includes industrial uses as well as a portion of John Wayne Airport. Within Irvine, there is a mix of low-, medium-, and high-density residential and commercial uses as well as a few recreational facilities such as trails and parks.

   Construction of the Build Alternative will require a total of 24,237 square feet (sf) of TCEs and a total of 4,121 sf of partial acquisitions. The partial acquisitions will be used to widen the roadway, and the TCEs will provide additional space for the contractor to work on while widening the roadway. These TCEs are temporary in nature and generally do not affect land use changes. Parcels acquired by the Build Alternative would be converted from their existing land uses to transportation land use. The proposed project is not going to change the general land use of the project limits. Therefore, the land use compatibility impacts are considered to be minimal. These minor impacts would not physically divide an established community. No mitigation is required.

b) **No Impact.** Minor General Plan Amendments would be required as a result of the incorporation of non-transportation General Plan-designated land into the I-405 facility to ensure consistency with land

uses as designated in the local General Plans. However, based on the *Community Impact Assessment*, the proposed project is generally consistent with the goals, policies, and objectives identified in the General Plans of the Cities of Irvine and Costa Mesa, the Airport Environs Land Use Plan for John Wayne Airport, and the County of Orange General Plan. The proposed project is listed in the Final 2019/2022 FTIP (Regional Transportation Improvement Program [RTIP]/FTIP ID # ORA001103). Implementation of the Build Alternative will improve safety and rideability for all modes of travelers, enhance traffic operation, manage congestion, and extend the life expectancy of the pavement. Therefore, the proposed project is consistent with the FTIP program. The project does not conflict with any land use plan, policy, or regulation nor will the project cause any significant environmental impact pertaining to any land use plan, policy or regulation. No mitigation is required.

2.11.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

2.12 Mineral Resources

Would the project:

Question	CEQA Determination
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

2.12.1 Discussion

The Mineral Resources section is based in part on the *Updated Preliminary Geotechnical Report*, which was completed in February 2021. In addition, the following references were consulted: California Surface and Mining Reclamation Act of 1975 Maps; State of California Department of Conservation State Mining and Geology Board Maps; The Diggins Report – website, and County and City General Plans and Zoning Maps.

a) **No Impact.** The proposed project is located in predominantly developed land, where no *active* mineral extraction activities occur. The closest active mining operation is located over 8 mi from the project, near San Juan Capistrano (within the Cleveland National Forest at 33.5039˚ N/117.5897° W). It is a surface mining operation for silicate sand and is owned and operated by California Silicate Products Company. Additionally, portions of Costa Mesa overlay the West Newport Oil Field (south of 17th Street between Pomona Avenue and Westminster Avenue) and the West Newport Oil Field (west of Whittier Avenue and south of Victoria Street). Closed in the late 1990s, the oil wells in Costa Mesa that operated in the West Newport Field (west of Whittier Avenue between 17th Street and 19th Street) produced a low-quality crude oil. There are no known active well sites in the City of Irvine.

   There is no potential for the project to cause or result in the loss of availability of a known mineral that would be of value to the region and residents of the State. Because there are no impacts, no measures are proposed.

b) **No Impact.** The proposed project will not result in the loss of availability of a locally important mineral resource recovery site delineated on local general plans, specific plans, or other land use plans. There would be no impacts; therefore, no measures are required.

2.12.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

2.13 Noise

Would the project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

2.13.1 Discussion

This discussion is based on the *Noise Study and Abatement Decision Report* (NSADR) completed in March 2021.

a) **Less Than Significant Impact.** Based on the NSADR, the project will generate temporary and permanent increases in ambient noise levels in excess of standards established in Caltrans Traffic Analysis Protocol (Protocol) but are considered less than significant. Certain receptors (332 of the 689 that were evaluated) with human-frequent use areas within the project limits currently experience traffic noise impacts during the freeway's noisiest traffic hour and with the future-build project will continue to be exposed to traffic noise levels approaching or exceeding Caltrans' noise abatement criteria. These receptors, which comprise outside sitting areas of offices and apartment balconies, are predicted to experience an increase in noise levels ranging from 0.0 to 1.1 A-weighted decibels (dBA) after the project is built. In the Protocol, a substantial noise increase is considered to occur when the project's worst-hour design-year noise level exceeds the existing worst-hour level by 12 dBA or more. Since the increase in noise levels at the impacted receptors is below 12 dBA, the proposed project will not result in a substantial increase in traffic noise in the area.

The requirements for noise analysis and consideration of noise abatement and/or mitigation differ between CEQA and NEPA. Based on the NSADR, the difference between existing (baseline) noise levels and predicted noise levels under the Build Alternative was slightly over 1 dBA at Receiver/Receptor R08.1, but at the rest of the receptors, it was less than 1 dBA. Based on the discussion above, this 1 dBA increase would be barely perceptible to the human ear. Therefore, under CEQA, no significant noise impact would occur as a result of the project and no mitigation is required. However, under NEPA/23 CFR 772, a noise abatement sound wall (SW S255) is being proposed on Caltrans right-of-way along the southbound I-405 off-ramp to University Drive because the noise levels already approached or exceed the noise abatement criteria of 67 dBA. A 16 ft high sound wall benefiting 15 impacted receptors is being proposed (this noise abatement is not considered mitigation under CEQA). A survey of the benefited receptors behind the proposed wall has already been completed for a previous separate project during its project approval and environmental phase in 2018. A majority of the same benefited receptors' viewpoints are in favor of the sound wall and its location and height. It should be noted that if conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

In addition, short-term, construction-related noise impacts would occur during the construction of the Build Alternative. Minimization measures NOI-1, NOI-2, and NOI-3 as stated below are being proposed to minimize noise impacts. In addition, with implementation of PF-N-1, which requires construction to be conducted in accordance with Caltrans provisions in Section 14-8.02, temporary noise impacts are also considered less than significant.

b) **Less Than Significant Impact.** Construction activities such as vibratory rollers and bulldozers are anticipated to generate the most ground-borne vibrations. The closest sensitive receptors (R157.1(2)) that may be affected by vibratory rollers are approximately 29 ft away. Based on the Caltrans *Transportation and Construction Vibration Guidance Manual* (Guidance Manual), the predicted vibration amplitude (peak particle velocity [PPV]) of 0.18 inch per second (in/sec) will be experienced by the building and its occupants. This predicted vibration amplitude is below 0.3 in/sec, which is the suggested appropriate damage potential threshold criteria for older residential structures when the source is continuous (from Table 19 in the Guidance Manual). This indicates low potential for structural damage to the building. With respect to human perception and annoyance from vibratory rollers, the same predicted vibration amplitude of 0.18 in/sec would be categorized in Table 20 (Guideline Vibration Annoyance Potential Criteria) of the Guidance Manual as

strongly perceptible annoyance levels and would indicate the activity could lead to a high level of annoyance to building occupants. Vibration amplitude produced by large bulldozers near the same sensitive receivers at 29 ft away also resulted with a lesser PPV, would also have low potential for structural damage to buildings, and could lead to a distinctly perceptible annoyance to building occupants. Also, ground-borne vibration from vehicles driving on the project facilities would not result in any measurable changes in vibration levels compared to existing conditions. The annoyance potential would be temporary during the construction of the roadway improvement. Therefore, ground-borne vibration and ground-borne noise generated by the project and its construction would be less than significant. No mitigation measures are required.

c) **No Impact.** The proposed project limit is approximately 11 mi in length. Some parts of the project scope are located within 2 mi of the airstrip of John Wayne Airport. The construction or implementation of the project would not expose people residing or working in the project area to new excessive noise levels. There would be no impacts; therefore, no mitigation measures are required.

2.13.2 Avoidance, Minimization, and/or Mitigation

No mitigation is proposed; however, the following minimization measures would be implemented:

NOI-1 Noise monitoring will be conducted to ensure that contractors take all reasonable steps to minimize impacts when near sensitive areas.

NOI-2 A Noise and Vibration Monitoring and Mitigation Plan will be approved by Caltrans prior to start of construction.

NOI-3 **A** community liaison program will be developed that would keep residents informed about construction plans.

The following project feature will be implemented as part of the project:

PF-N-1 Implementation of PF-N-1 requires construction to be conducted in accordance with California Department of Transportation (Caltrans) provisions in Section 14-8.02. Do not exceed 86 A-weighted decibel (dBA) maximum instantaneous noise level (L_{max}) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. A sound wall will be constructed.

2.14 Population and Housing

Would the project:

Question	CEQA Determination
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

2.14.1 Discussion

The potential for the Build Alternative to result in impacts related to population and housing was assessed in the *Community Impact Assessment* dated April 2021 and the *Draft Relocation Impact Document* dated March 2021. The following analyses are based on the information described in those documents.

a) and b) **No Impact**. The proposed project is not a capacity-increasing project; rather, it proposes to improve the operation of the highway facility. The project proposes to extend life expectancy of pavement, improve safety and efficiency for all modes of travelers (including maintenance workers), enhance traffic operation, manage congestion, and provide ability to collect, analyze, and utilize data for systems performance along the I-405 corridor within the project limits. The project will neither induce substantial unplanned population growth directly by proposing new homes or businesses nor indirectly through extension of roads or infrastructure.

The main components of the project include: Pavement Class I, Bridge Health, Roadside Rehabilitation, Roadside Safety Improvement, Lighting Rehabilitation, Transportation Management Systems (TMS), Operational Improvements, and Collision Severity Reduction. The project will enhance existing highway facilities and will not increase the capacity of highway facilities.

The Proposed Project will require six (6) TCEs of up to 24,237 sf from three (3) different grantors and five (5) partial acquisitions of up to 4,121 sf from three (3) different Grantors, which includes the City of Irvine, Southern California Edison (SCE), and the San Joaquin Channel Bridge (Nos. 55-0521 and 55-0522).

The partial acquisitions, which will be used to widen the roadway, would be at Irvine Center Drive and the I-405 southbound off-ramp to upgrade the curb ramp and to meet current Americans with Disabilities Act (ADA) standards. The area to be acquired consists of ornamental landscaping and several electrical boxes. In fact, the *Draft Relocation Impact Document* concluded that the project does not require any acquisition necessitating the Relocation Assistance Program. As per PF-CI-2, all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources shall be available to all displacees free of discrimination.

The TCEs will provide additional space for the contractor to work while widening the roadway. These are temporary in nature and will neither displace nor relocate numbers of people or houses that would necessitate the construction of replacement housing elsewhere. As per PF-CI-1, the TCEs will be returned to the property owners in the same state as before and as per PF-CI-3, to the extent possible. Caltrans will schedule and conduct work to avoid unnecessary inconvenience to the public and abutting property owners. There will be no impacts to populations and housing; therefore, no mitigation is required.

2.14.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project features will be implemented as part of the project:

PF-CI-1 Before Contract acceptance, restore damaged work to the same state of completion as before the damage.

PF-CI-2 The California Department of Transportation (Caltrans) will comply in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

PF-CI-3 Construction activities must not inconvenience the public or abutting property owners. Schedule and conduct work to avoid unnecessary inconvenience to the public and abutting property owners.

2.15 Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services?

Question	CEQA Determination
a) Fire protection?	Less Than Significant Impact
b) Police protection?	Less Than Significant Impact
c) Schools?	Less Than Significant Impact
d) Parks?	Less Than Significant Impact
e) Other public facilities?	Less Than Significant Impact

2.15.1 Discussion

The potential for the Build Alternative to result in impacts related to public services was assessed in the *Community Impact Assessment* dated April 2021. The following analyses are based on the information described in the *Community Impact Assessment*. Table 2.3 identifies the community facilities within the study area, private parks are indicated in parentheses:

a) **Less Than Significant Impact.** Fire protection in the area is served by the Orange County Fire Authority (OCFA) with ambulance service by Care Ambulance Service. Two fire stations (Metro Fire Station #6 and OCFA Station #47) are located within the project limits. The proposed project will not permanently impact acceptable service ratios, response times, or other performance objectives for fire protection. Due to the nature of construction activities, certain lanes/ramps/shoulders of the highway facility may be temporarily closed for construction. Thus, fire protection services may be temporarily impacted. However, a TMP is prepared and will be finalized during the design phase to minimize construction activity-related delays by the effective application of traditional traffic handling practices. As part of the TMP, Caltrans would coordinate with emergency response providers to ensure the project does not interfere with emergency response times; therefore, no mitigation is required.

Table 2.3 Community Facilities within the Study Area

Name	Location
Park and Recreational Facilities	
Shady Canyon Trail and Bikeway	34 Shady Canyon Drive, Irvine, CA 92603
San Diego Creek Trail and Bikeway	University Avenue and Jamboree Road, Newport Beach, CA 92658
San Diego Creek/Mountains to the Sea Trail & Bikeway	1 Irvine Park Road, Orange, CA 92869
Sand Canyon Trail	Turtle Rock, Irvine, 92612
University Trail and Bikeway	Irvine, CA 92612
Jeffrey Open Space Trail and Bikeway	13252 Jeffrey Road, Irvine, CA 92620
Freeway Trail and Bikeway	Diego Creek Trail at I-405 and Sand Canyon Avenue and Alton Parkway, Irvine, CA
Juanita Moe Trail	Irvine, CA 92612
Woodbridge Trail and Bikeway	Yale Avenue, West Yale Loop, Yale Avenue, and Michelson Drive, Irvine, CA
Quail Hill Loop Trail	34 Shady Canyon Drive, Irvine, CA 92603
Gisler Park	1250 Gisler Avenue, Costa Mesa, CA 92626
Wakeham Park	3400 Smalley Road, Costa Mesa, CA 92626
Shiffer Park	3143 Bear Street, Costa Mesa, CA 92626
Noguchi Garden Park	611 Anton Boulevard, Costa Mesa, CA 92626
Dovecreek Park	3 Dovecreek, Irvine, CA 92618
Quail Hill Community Park	35 Shady Canyon Drive, Irvine, CA 92603
Paularino Park	1040 Paularino Avenue, Costa Mesa, CA 92626
Del Mesa Park	2080 Manistee Drive, Costa Mesa, CA 92626
OC Great Park	8000 Great Park Boulevard, Irvine, CA 92618
West Park (Private)	Irvine, CA
West Park Association Park (Private)	3754 Hamilton Street, Irvine, CA 92614
Blue Lake Park (Private; public access)	Blue Lake S, Irvine, CA 92614
Echo Run Park (Private; public access)	Irvine, CA
Clearbrook Park (Private; public access)	Irvine, CA
Wintermist Pool (Private)	Springbrook S, Irvine, CA 92614
Police Departments	
Irvine Police Department - Spectrum Substation	71 Spectrum Center Drive, Irvine, CA 92618
Fire Stations	
Metro Fire Station 6	3350 Sakioka Drive, Costa Mesa, CA 92626
OCFA Station #47	47 Fossil Rd, Irvine, CA 92612
Healthcare Facilities	
Hoag Hospital - Irvine	16200 Sand Canyon Avenue, Irvine, CA 92618
Kaiser Permanente - Alton/Sand Canyon Medical Offices	6670 Alton Parkway, Irvine, CA 92618
Public Schools	
Killybrooke Elementary School	3155 Killybrooke Lane, Costa Mesa, CA 92626
Culverdale Elementary School	2 Paseo Westpark, Irvine, CA 92614
Southlake Middle School	655 West Yale Loop, Irvine, CA 92614
Rancho San Joaquin Middle School	4861 Michelson Drive, Irvine, CA 92612
Oak Creek Elementary School	1 Dovecreek, Irvine, CA 92618
Religious Facilities	
Kylee Inc Deaf Church	16271 Laguna Canyon Road, Irvine, CA 92618
Ignite Church OC	4861 Michelson Drive, Irvine, CA 92612
City of Angels International Christian Church - Orange County Region	3415 Michelson Drive, Irvine, CA 92612
College Church Connection	c/o Visions Made Viable, 17595 Harvard Avenue, Suite C235, Irvine, CA 92614
Friends Meeting Orange County	2091 Business Center Drive, #100, Irvine, CA 92612

Table 2.3 Community Facilities within the Study Area

Name	Location
Nativity of the Most Holy Theotokos Serbian Orthodox Church	2148 Michelson Drive, Irvine, CA 92612
Throne of Grace Ministries	2134 Michelson Drive, Irvine, CA 92612
Sri Siva Kameswari Temple (Vedic Spiritual Center)	3198-J, Airport Loop Drive J, Costa Mesa, CA 92626
Rise OC Church	3198-B, 3407, Airport Loop Drive, Costa Mesa, CA 92626
Watermark OC Church	3186 Pullman Street, Costa Mesa, CA 92626
Kingdom Come Community Church	600 Anton Boulevard, Costa Mesa, CA 92626
Roots Community Church	3155 Killybrooke Lane, Costa Mesa, CA 92626
Church-Jesus Christ of LDS	Costa Mesa CA

Source: Cities of Irvine and Costa Mesa GIS Files, accessed in October and December 2020.
I-405 = Interstate 405
OCFA = Orange County Fire Authority

b) **Less Than Significant Impact.** Police protection/law enforcement in the community of the unincorporated area in Orange County is provided by the Orange County Sheriff's Department, in Costa Mesa by the Costa Mesa Police Department, and in Irvine by the Irvine Police Department. As shown above, the Irvine Police Department–Spectrum Substation is located within the project limits. The proposed project will not permanently impact acceptable service ratios, response times, or other performance objectives for police protection. Due to the nature of construction activities, certain lanes/ramps/shoulders of the highway facility may be temporarily closed for construction. Thus, fire protection services may be temporarily impacted. However, a TMP is prepared and will be finalized during the design phase to minimize construction activity-related delays by the effective application of traditional traffic handling practices. As part of the TMP, Caltrans would coordinate with emergency response providers to ensure the project does not interfere with emergency response times; therefore, no mitigation is required.

c) **Less Than Significant Impact.** The Study Area is served by the Irvine Unified School District, Newport Mesa Unified School District, and various private schools. There are five public schools located within the Study Area (i.e., three elementary and two middle schools).

The implementation of the proposed project will have no impact to government schools; however, temporary construction-related activities may cause traffic delays due to closures and congestion. A TMP is prepared and will be finalized during the design phase to minimize construction activity-related delays by the effective application of traditional traffic handling practices. As part of the TMP, Caltrans would coordinate with the surrounding community; therefore, no mitigation is required.

d) **Less Than Significant Impact.** There are nine (9) public parks, three (3) public trails, and seven (7) public trail/bikeways in the project area. The implementation of the proposed project will not have any impacts to parks/trails/ or bikeways. However, there will be temporary related impacts caused by the construction of this project. The Build Alternative on I-405 at the Jeffrey Road on-ramp and the Culver Drive on-ramp will require temporary closures. For safety reasons, access will be temporarily restricted to the Freeway Trail at only these two project locations. The rest of the access points to Freeway Trail throughout the project limits will remain open. The Freeway Trail at those two locations would be temporarily closed for approximately 30 to 90 days each. These closures would not be consecutive and would be staggered in nature. In addition, an adjacent trail, the San Diego Creek Bike Trail, will be open and available for the public to use that is approximately 0.3 mi north of the Freeway Trail from the Jeffrey Road on-ramp. The San Diego Creek Bike Trail connects with the Freeway Trail at Harvard Avenue, which is just north of the I-405 Culver Drive on-ramp. The remainder of the bikeway/trail and associated bike facility network system within Irvine will remain open and undisturbed. During the design phase and prior to construction, Caltrans would coordinate with the City of Irvine to ensure collaborative communication among stakeholders. With the implementation of PF-TRA-1 as stated below in 2.16 Recreation, impacts would be less than significant, and no mitigation is required.

   No permanent right-of-way acquisition or easements or TCEs are anticipated from parks, trails, or bikeways.

   The TMP will be coordinated with the City of Irvine and shall consist of prior notices, adequate sign posting, detours, phased construction, and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (e.g., prior notices, sign posting, detours) as determined appropriate by Caltrans. Proper detours and warning signs shall be established to ensure public safety.

e) **Less Than Significant Impact.** There are two healthcare facilities (Hoag Hospital and Kaiser Permanente) and 13 religious facilities in the project area. Most of these facilities are privately owned but do service the public.

   The proposed project will not permanently impact any of these facilities. Due to the nature of construction activities spread throughout the length of the project (approximately 11 mi), certain lanes/ramps/ shoulders of the highway facility may be temporarily closed for construction. The community facilities as shown in Table 2.3 could be impacted by these closures and detours; however, a TMP has been prepared and will be finalized during the design phase to minimize

construction activity-related delays by the effective application of traditional traffic handling practices. As part of the TMP, Caltrans would coordinate with the Cities of Costa Mesa and Irvine, impacted business organizations, and community facilities; therefore, no mitigation is required.

2.15.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, project feature PF-TRA-1 will minimize impacts to parks.

2.16 Recreation

Would the project:

Question	CEQA Determination
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

2.16.1 Discussion

The potential for the Build Alternative to result in impacts related to recreation was assessed in the *Community Impact Assessment* dated April 2021 and the *Section 4(f) de Minimis Determination and Resources Evaluated Relative to the Requirements of Section 4(f)* was completed March 29, 2021. The following analyses are based on the information described in those studies.

The Park Preservation Act (California PRC Sections 5400–5409) prohibits local and State agencies from acquiring any property that is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

a) **Less Than Significant Impact:** There are several public and private parks/recreational facilities/trails in the project area (see Table 2.3 in Section 2.15 above), The implementation of the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. However, construction of the proposed project would require access to be restricted to the Freeway Trail at the Jeffrey Road on-ramp and the Culver Drive on-ramp. See 2.15(d) above for temporary impacts information. No TCE from the Freeway Trail would be required. During the design phase and prior to construction, Caltrans would coordinate with the City of Irvine to ensure collaborative communication among stakeholders. With implementation of PF-TRA-1, PF-WQ-1, PF-N-1, impacts would be less than significant, and no mitigation is required.

b) **No Impact.** The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. No mitigation is required.

2.16.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, project features PF-TRA-1, PF-WQ-1, and PF-N-1 would be implemented.

2.17 Transportation

Would the project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	Less Than Significant Impact

2.17.1 Discussion

The potential for the Build Alternative to result in impacts related to transportation was assessed in the *Traffic Operations Analysis Report* (TOAR) (February 2021) and in the TMP. The following analyses are based on the information described in those documents.

a) **No Impact.** Per the TOAR, the Build Alternative/Project would not conflict with the SCAG 2020-2045 RTP/SCS, OCTA 2014-2019 Strategic Plan, OCTA Long-Range Transportation Plan, or Circulation Elements for the Orange County General Plan, City of Irvine General Plan, and City of Costa Mesa General Plan, or any other local plans. Thus, the Project/Build Alternative is consistent with all regional and local plans.

   During construction, some temporary delays and detours (for motorists, pedestrians and recreational cyclists) are anticipated. These delays and detours would be short term in nature and would not cause out of direction travel to reach a destination or venue. A TMP would be implemented to avoid, reduce, and lessen delays for all travel modes. The TMP would be coordinated in advance of construction with the County and both cities as well as Emergency Responders.

b) **No Impact:** The Build Alternative would not be in conflict or be inconsistent with *State CEQA Guidelines* Section 15064.3(b). Caltrans' Induced VMT Screening process (as developed in concert with the Governor's Office of Planning and Research [OPR], the Transportation Analysis for CEQA [TAC], and Transportation Analysis Framework

[TAF]) was applied to the single Build Alternative/Project. On June 30, 2020, the Caltrans Headquarters Environmental Liaison concurred that the project will *not* induce VMT. To improve operations, the project proposes to reduce mainline delay and ramp queuing by constructing auxiliary lanes, deceleration lanes and widening off-ramp lanes, as well as a park-and-ride facility. None of the proposed auxiliary lanes are over 1 mi in length, thus the Project will not cause or contribute to induced VMT. No mitigation is needed, and no measures are required.

c) **No Impact.** The Build Alternative is proposed to address needed operational improvements for all modes of transportation, thus safety for all users will be enhanced. Proposed *operational* improvements include minor acceleration/deceleration lanes and widening off-ramp lanes, additional ramp lanes, and improvements at on/off ramps. The Project/Build Alternative also improves existing active transportation facilities such as sidewalks, bicycle lanes, and pedestrian linkages across I-405. Additionally, a park-and-ride facility is proposed in Costa Mesa at the southeast corner of the I-405 and Bristol Street interchange.

   The Project/Build Alternative will *not* increase hazards due to a geometric design feature because there are no sharp curves, dangerous intersections, or incompatible uses (e.g., farm equipment operating on this segment of I-405). In fact, the Project/Build Alternative will increase safety for all modes of travel and users in the study area.

d) **Less Than Significant Impact.** During construction, the Build Alternative could result in temporary I-405 mainline lane/shoulder closures, ramp lane/shoulder closures, and/or on- and off-ramp full closures for a short duration. It is likely that Emergency Response times could possibly be impacted. However, with implementation of a TMP, which requires advance communication/coordination with the County and cities as well as Emergency Responders, such delayed response times would be lessened or alleviated. Caltrans develops and implements a TMP as a standard practice for all projects during the construction phase. It is anticipated that pedestrians and recreational cyclists would also experience temporary construction-related closures and detours.

   It is noted there are surgery centers as well as two hospitals immediately adjacent to the proposed project at the I-405 and Sand Canyon Avenue interchange in Irvine:

   - Hoag Hospital Irvine, 16200 Sand Canyon Avenue, Irvine, CA 92618
   - Kaiser Permanente Hospital 6640 Alton Parkway, Irvine, CA 92618.

The Build Alternative would improve I-405 segment operations across all modes of travel. Therefore, following construction, emergency response times would be improved. With implementation of PF-TRA-1, impacts would be less than significant, and no mitigation is required.

2.17.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project feature would be implemented:

PF-TRA-1 A Transportation Management Plan (TMP) shall be included in the design plans for implementation by the construction contractor prior to and during construction of any improvements. The TMP shall consist of prior notices, adequate sign posting, detours (including 30- to 90-day closure of the Freeway Trail at the Jeffrey Road and Culver Drive on-ramps), phased construction, and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (e.g., prior notices, sign posting, detours) as determined appropriate by the California Department of Transportation (Caltrans). Adequate local emergency access shall be provided at all times to adjacent uses. Proper detours and warning signs shall be established to ensure public safety. The TMP shall be devised so that construction shall not interfere with any emergency response or evacuation.

2.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Less Than Significant Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact

2.18.1 Discussion

The discussion and analysis in this section is based on Native American consultation as documented in the *Historic Property Survey Report* (HPSR) completed in January 2021.

The APE is located within the ancestral territory of the Gabrieliño and Juaneño Indians.

The project is subject to compliance with Assembly Bill (AB) 52. As required under CEQA, specifically PRC 21080.3.1 and the Chapter 532 Statutes of 2014 (i.e., AB 52), Native American consultation is required for any CEQA project that has a Notice of Preparation, a Notice of Negative Declaration, or a Notice of Mitigated Negative Declaration filed on or after July 1, 2015.

a) **Less than Significant Impact.** A records search of the APE was conducted on September 11, 2020, at the SCCIC. The records search results identified four previously recorded cultural resources within the APE: P-30-000195, P-30-001538, P-30-001580, and P-30-001634. On October 5 and 6, 2020, an archaeological field survey of the APE was conducted, and one previously unrecorded cultural resource was identified: LSA-IS-S-1 (permanent site number unavailable because

the SCCIC is not processing new records due to the COVID-19 pandemic).

Site P-30-000195 is being considered eligible for the National Register for the purposes of this project only. Any resource that is eligible for the National Register is automatically eligible for the California Register. Therefore, this site is considered a Historical Resource under CEQA for the purposes of this project only. Due to the limited construction activity (replacement of MBGR) within this site's APE boundary, there are no anticipated impacts to this resource. Replacement of MBGR will occur only in nonnative fill material that is not associated with the original archaeological and cultural context of the recorded site. Even though activities are not anticipated to impact the resource, the resource is within the project's APE, and any potential impacts to this resource are considered to be less than significant.

Site P-30-001538 is mapped as being within the APE by the SCCIC; however, project work in the area of the site will only occur within existing asphalt/pavement and will have no impact on the site. As such, P-30-001538 is not within the vertical APE of the project, and the project would not have any impact on the resource.

Site P-30-001580 is mapped as being within the APE by the SCCIC. The site, however, does not exist as mapped by the SCCIC and, as such, the project would not have any impact on the resource.

Site P-30-001634 is mapped as being within the APE by the SCCIC; however, the resource was built after I-405 was constructed and, as such, would never have been within Caltrans right-of-way. As such, it is assumed that this site is not within the APE for the project and that the boundaries of the site are incorrectly mapped in records at the SCCIC. As such, the project would not have any impact on the resource.

LSA-IS-S-1 (permanent site number unavailable because the SCCIC is not processing new records due to the COVID-19 pandemic) was evaluated in an Extended Phase I subsurface excavation on April 23, 2021 and was determined not to be a historical resource per CEQA.

Based on the records search results, field survey, and examination of mapped site locations, there is only one resource within the APE (i.e., P-30-000195). The three other previously mentioned resources were either incorrectly mapped by the SCCIC and do not exist in the APE or are not within the vertical APE. The newly identified cultural resource in the APE (LSA-IS-S-1) was evaluated in an Extended Phase I subsurface excavation and was determined not to be a historical resource per CEQA. As such, there is one historical resource in the

APE, and the proposed project would not cause a substantial change in the significance of a Historical Resource as defined in *State CEQA Guidelines* Section 15064.5. No mitigation is required

b) **Less than Significant Impact.** Native American consultation per AB 52 was conducted for the project. The Native American Heritage Commission (NAHC) was contacted to conduct a Sacred Lands File (SLF) search and provide a Native American Tribal Consultation List for the project. The NAHC responded on September 16, 2020, stating that an SLF search was completed for the APE with negative results. The NAHC also recommended that 17 Native American individuals representing the Cahuilla, Cupeño, Diegueño, Gabrieliño, Juaneño, Kumeyaay, and Luiseño groups be contacted for information regarding cultural resources that could be affected by the project.

The following Native American tribes, groups, and individuals were contacted via project notification letters sent on September 30, 2020, and via email or phone on November 24, 2020, to follow up on the project notification letter (when appropriate):

- Campo Band of Diegueño Mission Indians, Ralph Goff, Chairperson
- Ewiiaapaayp Band of Kumeyaay Indians, Michael Garcia, Vice Chairperson
- Ewiiaapaayp Band of Kumeyaay Indians, Robert Pinto, Chairperson
- Gabrieleno Band of Mission Indians – Kizh Nation, Andrew Salas, Chairperson
- Gabrieleno/Tongva San Gabriel Band of Mission Indians, Anthony Morales, Chairperson
- Gabrielino/Tongva Nation, Sandonne Goad, Chairperson
- Gabrielino Tongva Indians of California Tribal Council, Robert Dorame, Chairperson
- Gabrielino-Tongva Tribe, Charles Alvarez
- Juaneño Band of Mission Indians Acjachemen Nation – Belardes, Matias Belardes, Chairperson
- La Posta Band of Diegueño Mission Indians, Javaughn Miller, Tribal Administrator
- La Posta Band of Diegueño Mission Indians, Gwendolyn Parada, Chairperson

- Manzanita Band of Kumeyaay Nation, Angela Elliott Santos, Chairperson
- Mesa Grande Band of Diegueño Mission Indians, Michael Linton, Chairperson
- Pala Band of Mission Indians, Shasta Gaughen, Tribal Historic Preservation Officer
- Santa Rosa Band of Cahuilla Indians, Lovina Redner, Tribal Chair
- Soboba Band of Luiseño Indians, Scott Cozart, Chairperson
- Sycuan Band of the Kumeyaay Nation, Cody Martinez, Chairperson

One response was received as a result of the initial project notification letter. On October 14, 2020, Ms. Savannah Salas from the Gabrieleno Band of Mission Indians – Kizh Nation emailed Caltrans to ask for the lead agency's contact information. Caltrans responded to Ms. Salas on October 16, 2020, and provided contact information for the tribe to use if they had any questions or comments regarding the project. No further response was received from the tribe.

Two responses were received as a result of follow-up communications. In an email dated December 1, 2020, Ms. Joyce Perry with the Juaneño Band of Mission Indians Acjachemen Nation – Belardes requested the results of the records search before providing comments on the project. The records search results summary was sent to Ms. Perry via email on the same day along with a request that she provide any additional information regarding tribal resources if she wishes. On December 3, 2020, Ms. Perry responded via email that the tribe has no concerns.

On December 18, 2020, San Dunlap responded via phone on behalf of Chairperson Goad for the Gabrieliño/Tongva Nation. Mr. Dunlap's group requested that recorded archaeological sites in the APE be designated as Archaeological Monitoring Areas (AMAs) and that these areas be monitored by Native American and archaeological monitors. Furthermore, Mr. Dunlap's group requests that a plan be put in place to implement spot checking by Native American and archaeological monitors for all excavation activities, and that Gabrielino/Tongva Nation Native American monitors be contracted for any monitoring work. The same day, Ms. Goad sent an email to request AMAs and monitoring by archaeological and Native American monitors, as well as a request for spot-checking in other areas. On December 21, 2020, Ms. Goad received an email response providing the findings of the cultural study and informing her that, given site conditions and limited impact to native soil associated with the project, cultural monitoring is

not warranted for the undertaking. No further response or communication was received from the tribe.

The SLF failed to identify any sacred lands or tribal resources in or near the APE, and no sacred lands or tribal cultural resources were identified as a result of the Native American consultation process. Site P-30-000195 is being considered eligible for the National Register for the purposes of this project only. Any resource that is eligible for the National Register is automatically eligible for the California Register. Therefore, this site is considered a Historical Resource under CEQA for the purposes of this project only. Due to the limited construction activity (replacement of MBGR) within this site's APE boundary, there are no anticipated impacts to this resource. Replacement of MBGR will occur only in nonnative fill material that is not associated with the original archaeological and cultural context of the recorded site. Even though activities are not anticipated to impact the resource, the resource is within the project's APE, and any potential impacts to this resource are considered to be less than significant.

All impacts to tribal cultural resources as a result of the proposed project would be considered less than significant. No mitigation is required.

2.18.2 Avoidance, Minimization, and/or Mitigation Measures

None required.

2.19 Utilities and Service Systems

Would the project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

2.19.1 Discussion

The potential for the proposed project to result in adverse impacts related to Utilities and Service Systems is assessed in the following discussions. Information from the *Water Quality Assessment Report* (WQAR) completed in January 2021, the Utility Conflict Matrix included in Appendix H, and the Draft Project Report were used to prepare the following sections. In addition, information from the County, City of Costa Mesa, and City of Irvine General Plans were also used.

There are several types of utilities in the project study area, including: water, electric, gas, communications, reclaimed water, and sanitary sewer. Providers are listed below.

- AT&T – Teleport Communications America
- AT&T Distribution
- AT&T Mobility (Wireless)
- Century Link

- City of Irvine
- Cox Communications
- Irvine Ranch Water District (IRWD)
- John Wayne Airport
- Laguna Beach County Water District
- Level 3 Communications
- Los Angeles Cellular Telephone Company
- Mesa City Water District
- Metropolitan Water District (MWD)
- Orange County Sanitation District (OCSD)
- Orange County Water District
- Pacific Telephone and Telegraph
- South Coast Water District
- Southern California Edison (SCE)
- Southern California Gas (SoCalGas)
- Sprint Wireless
- Sprint Wireline
- The Irvine Company
- T-Mobile
- Verizon Wireless
- Western Union
- XO Communications

Approximately 144 utilities exist within the project area, including overhead and underground electrical, natural gas, telephone and communication, cable TV, water, and sewer. Most of the utilities run perpendicular to I-405 or along the local streets, while 7 utilities within the State right-of-way run parallel to I-405 and are considered longitudinal encroachments, requiring Caltrans approval for exceptions to the Caltrans' encroachment policy:

- 1 AT&T facility
- 2 IRWD facilities
- 1 Pacific Telephone and Telegraph facility
- 3 SCE facilities

According to the Utility Conflict Matrix in Appendix H, the proposed project will not result in any relocations other than SoCalGas; however, the following conflicts would be dealt with:

- **AT&T Communications:** Conduit encased in concrete, test hole to redesign footing.
- **SoCalGas:** Gas line could be relocated within State right-of-way (if within State right-of-way). Verification pending from SoCalGas regarding precise location.

- **MWD Water Line:** Test hole to find exact depth and location; avoid impacting it.
- **OCSD Sanitary Sewer Line:** Test hole to find exact depth and location; avoid impacting it.

a) **Less Than Significant Impact.** The proposed project will not cause construction of new or expanded water (including water pumps), electrical power, natural gas, or telecommunications facilities that could cause significant environmental effects. Construction of new or replacement storm drains would not cause substantial increases in the capacity of the existing storm drain facilities and/or water quality treatment facilities.

The project does not anticipate any relocations with the exception of a SoCalGas line for which further information is pending; however, there are few conflicts to be resolved as stated above. None of these utility relocation/conflicts could cause permanent significant environmental effects. There is potential for a few residents, businesses, motorists, and emergency responders to experience minor temporary service interruptions when utilities are being worked on; however, with implementation of PF-TRA-1 and PF-UES-1, impacts would be minimized.

b) **No Impact.** Water use during project construction would be minimal and temporary, and would be limited to water trucked to the site for dust control and other construction activities.

The amount of proposed landscaping provided for the project would not differ substantially from the existing amount of landscaping within the project limits of the I-405 project. Therefore, the amount of water needed for landscaping would be approximately the same as the existing demand. As a result, the project would not require the water districts serving the project area to provide new or expanded entitlements to meet the need for water during construction and operation of the project. Therefore, no impact is anticipated to existing water supplies as a result of this project. No measures are required.

c) **No Impact.** The proposed project would not generate wastewater or discharge wastewater in excess of existing amounts to sewer systems in the study area. As a result, the project would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities, or result in the need for a determination by a wastewater treatment provider because it has adequate capacity to serve the project. No impacts would occur; therefore, no avoidance, minimization, or mitigation measures are required.

d) **No Impact.** During construction of the proposed project, the majority of waste materials generated would be vegetation, other plant material, some excess soils, and solid waste (e.g., concrete, asphalt, and wood). Waste collected during construction would be properly disposed of at an existing landfill or recycled. The amount of waste that would be generated during project construction would be limited and would occur *only* for a limited time. That amount of waste would be only a very small amount of the total waste disposed of or recycled at area recycling facilities and landfills on both a daily and an annual basis. Therefore, the amount of waste generated during construction of the project is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County.

   The amount of additional waste that would be generated during the operation of the project would be minimal and be only a very small amount of the total waste disposed of or recycled at area recycling facilities and landfills, on both a daily and annual basis. Therefore, the amount of waste generated during operation of the project is anticipated to be accommodated by the existing recycling and landfill facilities in Orange County.

   The project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals for Orange County and/or the Cities of Costa Mesa and Irvine. No impacts are anticipated; therefore, no avoidance, minimization, or mitigation measures are required.

e) **No Impact.** Any hazardous waste generated during construction of the proposed project, collected during normal waste collection activities, or collected as a result of an accidental release on an I-405 segment or ramp facility would be collected, handled, transported, and disposed of in a manner consistent with applicable federal, state, regional, and local regulations. Hazardous wastes would not be co-mingled with green waste or non-hazardous trash. No impacts are anticipated.

   Waste materials generated during construction and operation of the project would be disposed of in accordance with federal, state, regional and local regulations related to recycling, which would minimize the amount of waste material entering local landfills. No impacts are anticipated; therefore, no mitigation measures are proposed.

2.19.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, the following project feature will be implemented:

PF-UES-1 During final design, relocation plans for any utilities that will potentially need to be relocated, removed, or protected-in-place will be prepared in consultation with the affected utility relocation providers/owners. If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way or other existing public rights-of-way and/or easements. If relocation outside of existing rights-of-way or additional public rights-of-way and/or easements required for the project are necessary, the final design will focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction, the construction contractor will implement the components of the utility relocation plans provided in the project specifications. Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and will inform affected utility users in advance of the date and timing of potential service disruptions

2.20 Wildfire

If located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones (VHFHSZ), would the project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No Impact

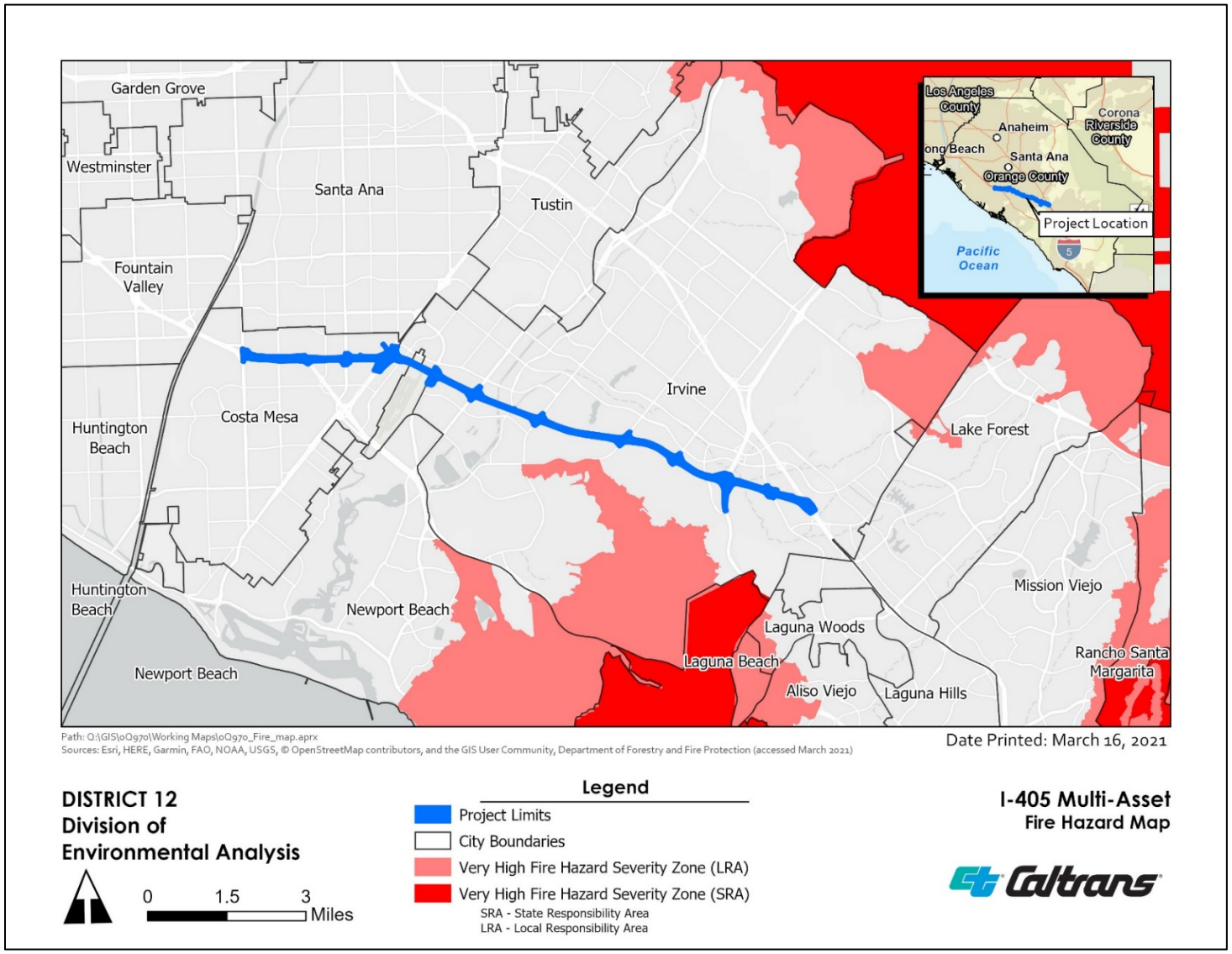
2.20.1 Discussion

Senate Bill 1241 (SB 1241) required the OPR, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as VHFHSZ. The 2018 updates to the *State CEQA Guidelines* expanded this to include projects "near" these VHFHSZ. Mapping for the State of California, Orange County, and Cities of Costa Mesa and Irvine for HFHSZ were consulted for impact analyses.

a) **Less Than Significant Impact.** Several HFHSZ areas occur within Orange County. Two HFHSZ are situated within the jurisdictional boundaries for City of Irvine (see Figure 2.1, Fire Hazard Map); however, these two HFHSZ areas are each at least 0.5 mi from the project area. There are no HFHSZ areas identified within the jurisdictional boundaries of the City of Costa Mesa.

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Figure 2.1 Fire Hazard Map



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The proposed project is situated on the existing I-405 alignment, and thus will not cause permanent impacts that could substantially impair emergency response plans or emergency evacuation routes/plans for the County and the Cities of Costa Mesa and Irvine. In fact, upon completion of construction, the emergency response times and emergency evacuation plan time frames for the County and Cities of Costa Mesa and Irvine are likely to be improved because the I-405 facility within the project limits will operate in a more efficient manner.

During and throughout construction, travelers (including emergency responders) could experience minor temporary delays and detours due to construction, including temporary mainline lane closures and/or temporary ramp closures. The emergency response times in the County and Cities of Costa Mesa and Irvine could be slightly longer; however, the Emergency Response Plans and Evacuation Plans adopted by the County and Cities of Costa Mesa and Irvine would still function during a wildfire or other emergency event. The TMP would be closely coordinated with the County and Cities of Irvine and Costa Mesa, taking into consideration approved detour routes for emergency responders. Advance message signs would be used in the event of an unplanned emergency situation (e.g., a wildfire) to inform and safely guide travelers to alternate routes. With implementation of the TMP, any impact would be temporary in nature; therefore, no mitigation is required.

b) **No Impact.** The proposed project in and of itself would not contribute to or exacerbate wildfire risks. The project requires only minor right-of-way acquisitions, and work activities would occur primarily on the existing I-405 section alignment. Thus, no permanent or temporary impacts that would exacerbate wildfire risks or the uncontrolled spread of a wildfire are anticipated. No measures are required.

c) **No Impact.** The proposed project proposes to improve an existing facility and would not require additional construction/installation or maintenance of infrastructure (roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Because there would be no impacts in this regard, no measures are needed.

d) **No Impact.** The proposed project in and of itself would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes because the project is situated on the existing I-405 alignment and requires only minor right-of-way

2.20.2 Avoidance, Minimization, and/or Mitigation Measures

None required; however, project feature PF-TRA-1 will be implemented.

2.21 Mandatory Findings of Significance

Question	CEQA Determination
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Less Than Significant with Mitigation
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Less Than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No Impact

2.21.1 Discussion

CEQA requires the analysis of a project's mandatory findings of significance. The analysis of the mandatory findings of significance of the project is based on the findings of the project's impacts on all the required issue areas.

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, and disruption of migration corridors, changes in water quality, and introduction or promotion of predators. This can

also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

State CEQA Guidelines Section 15130 describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the *State CEQA Guidelines*.

a) **Less Than Significant with Mitigation.** The project is located primarily within disturbed or developed urban area. Much of the project area consists of urban development and other disturbed sites adjacent to busy highways. Prominent drainage features within the BSA include San Diego Creek, San Diego Creek Channel, Santa Ana Delhi Channel, and San Joaquin Channel. Undeveloped areas within the study area include ornamental vegetation and areas along the Quail Hill Preserve, which provides habitat linkages to Bommer Canyon, Shady Canyon, and Laguna Coast Wilderness Park to the south of the project. Natural areas supporting native vegetation occur beneath and adjacent to Bridge #55-0285 (San Diego Creek), along with several other scattered sites within the project area.

   As discussed in the *Natural Environment Study (Minimal Impacts)* (September 2020), of the 51 special-status plant species, 10 are federally/State listed as threatened or endangered within the BSA; however, suitable habitat is absent. Of the 66 special-status wildlife species, 20 are federally/State listed as threatened or endangered, and suitable habitat for 4 is present within the BSA, including California black rail, coastal California gnatcatcher, bank swallow, and least Bell's vireo. Suitable habitat for the remaining 16 federally/State listed as threatened or endangered wildlife species is absent within the BSA. In addition, due to the lack of historic evidence of anadromous fish passages within the creeks, the project is not anticipated to affect fish passage within the BSA.

   As stated in Section 2.4(a) above, with implementation of avoidance and minimization Measures BIO-1 through BIO-5, the project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

   The HPSR concluded that, based on the records search results, field survey, and examination of mapped site locations, there is only one resource within the APE (i.e., P-30-000195). The resources for the three other mentioned in Section 2.5 above were either incorrectly

mapped by the SCCIC and do not exist in the APE, or are not within the vertical APE. The newly identified cultural resource in the APE (LSA-IS-S-1) was evaluated in an Extended Phase I subsurface excavation and was determined not to be a historical resource per CEQA. As such, there is one historical resource in the APE and the proposed project would not cause a substantial change in the significance of a Historical Resource as defined in *State CEQA Guidelines* Section 15064.5. Therefore, the project will not eliminate important examples of California history or prehistory. No mitigation is required other than the Project Features identified in Section 2.5 above.

b) **Less Than Significant Impact.** Although the project may have impacts that are individually limited, these impacts would not be cumulatively considerable and would be less than significant. Some major cumulative projects in the vicinity are listed below. In addition, there are minor local as well as Caltrans-planned minor maintenance projects. The project impacts from such types of minor projects would be temporary and short in nature, thus having a less than significant impact.

- **I-405 Improvement Project from I-5 to SR-55 (12-ORA-405 PM 0.2/8.7):** The project proposes to add one general-purpose lane in each direction. The funding for the design and construction is not expected until 2024.
- **I-405 Improvement Project from SR-73 to I-605 (PM 9.3/24.2):** This project proposes to add one general-purpose lane in each direction of I-405 from Euclid Street to the I-605 Interchange, and one tolled express lane in each direction from SR-73 to the I-405/SR-22 Interchange. It's a design-build project and is under construction. This project is scheduled to be completed in early 2024.
- **SR-55 (I-405 to I-5) Improvement Project from Just North of the I-405/SR-55 Interchange to Just South of the I-5/SR-55 Interchange (PM 55; 5 - R6.3/10.3; 29.6):** This project proposes to widen SR-55 in both directions. The project is scheduled to start construction in January 2022.

The primary purpose of the proposed project is to extend the life expectancy of pavement, improve safety for all modes of travelers as well as maintenance crews, enhance traffic operation, manage congestion, and provide the ability to collect, analyze, and utilize data for efficient systems performance along the I-405 corridor within the project limits. It was concluded that since the proposed project is not capacity increasing and would not facilitate planned growth, when

considered with other projects, it would not contribute to cumulative impacts.

c) **No Impact.** This project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. Refer to the discussion in the other sections for additional information that supports this finding.

2.21.2 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the measures and Project Features stated in previous sections would apply.

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Chapter 3—Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation". Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (e.g., adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

3.1 Regulatory Setting

This section outlines federal and State efforts to comprehensively reduce GHG emissions from transportation sources.

3.1.1 Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental

conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

The Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006) sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The United States Environmental Protection Agency (EPA), in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

3.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly Bills and Executive Orders (EOs) including, but not limited to, the following:

- **EO S-3-05 (June 1, 2005):** The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was

further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

- **AB 32, Chapter 488 (2006), Núñez and Pavley, The Global Warming Solutions Act of 2006:** AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

- **EO S-01-07 (January 18, 2007):** This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

- **SB 375, Chapter 728 (2008), Sustainable Communities and Climate Protection:** This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.

- **SB 391, Chapter 585 (2009), California Transportation Plan:** This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

- **EO B-16-12 (March 2012):** This orders State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

- **EO B-30-15 (April 2015):** This order establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all State agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reduction targets. It also directs

CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[1] Finally, it requires the Natural Resources Agency to update the State's climate adaptation strategy, *Safeguarding California*, every 3 years and to ensure that its provisions are fully implemented.

- **SB 32, Chapter 249 (2016):** This bill codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

- **SB 1386, Chapter 545 (2016):** This bill declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

- **AB 134, Chapter 254 (2017)**: This bill allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions reduction programs statewide.

- **SB 743, Chapter 386 (September 2013):** This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled (VMT), to promote the State's goals of reducing GHG emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

- **SB 150, Chapter 150 (2017), Regional Transportation Plans:** This bill requires CARB to prepare a report that assesses progress made by each MPO in meeting their established regional GHG emissions reduction targets.

- **EO B-55-18 (September 2018):** This order sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

- **EO N-19-19 (September 2019):** This order advances California's climate goals in part by directing the California State Transportation Agency to

[1] GHGs differ in how much heat each traps in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. EO N-19-19 also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.2 Environmental Setting

The proposed project is in an urban area of Orange County with a well-developed road and street network. The Interstate 405 (I-405) corridor is a controlled access freeway and a major north-south interstate highway. The project area includes residential, industrial, and commercial buildings. The John Wayne Airport is also within the project area. Traffic congestion during peak hours is common within the project area because I-405 is one of the main highways that traverses Orange County. The I-405 Improvement Project from I-5 to Harbor Boulevard (PM 0.2/11.4) is located in the cities of Irvine, Costa Mesa, and a portion of unincorporated Orange County.

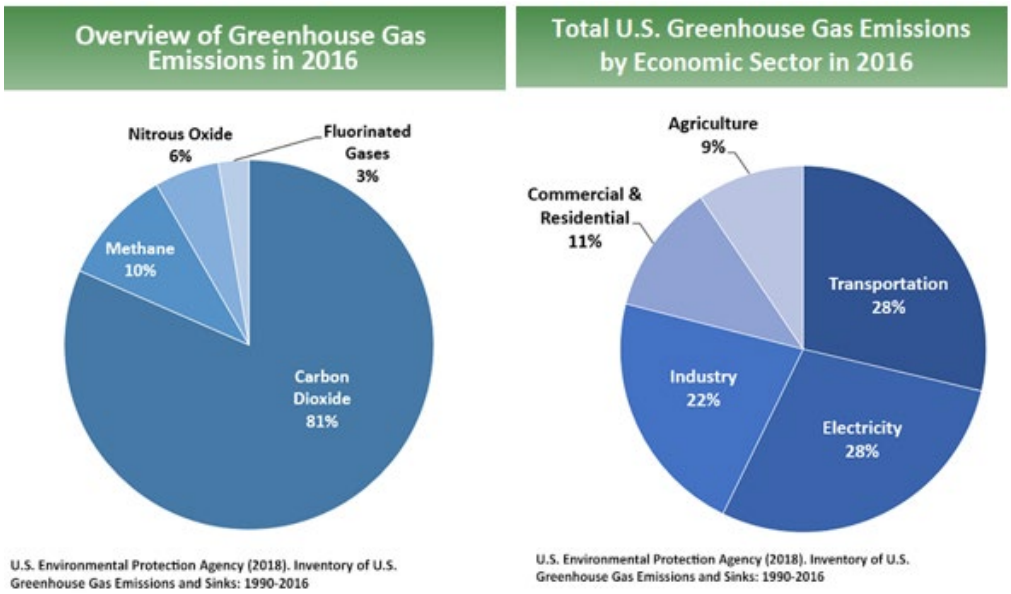
The Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) guides transportation development in the project area.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The EPA is responsible for documenting GHG emissions nationwide, and CARB does so for the State as required by H&SC Section 39607.4.

3.2.1 National GHG Inventory

The EPA prepares a national GHG inventory (see Figure 3.1 below) every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81 percent consist of CO_2, 10 percent are CH_4, and 6 percent are N_2O; the balance consists of fluorinated gases (EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5 percent of United States GHG emissions.

Figure 3.1 United States 2016 Greenhouse Gas Emissions



3.2.2 State GHG Inventory

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the State's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory (see Figure 3.2) found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41 percent of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (CARB 2019a) (see Figure 3.3).

Figure 3.2 California 2017 Greenhouse Gas Emissions

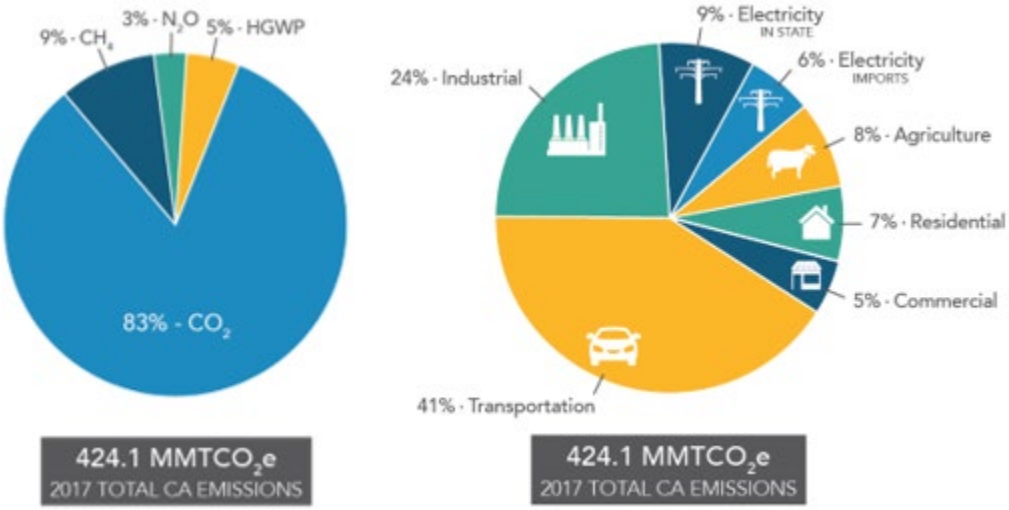
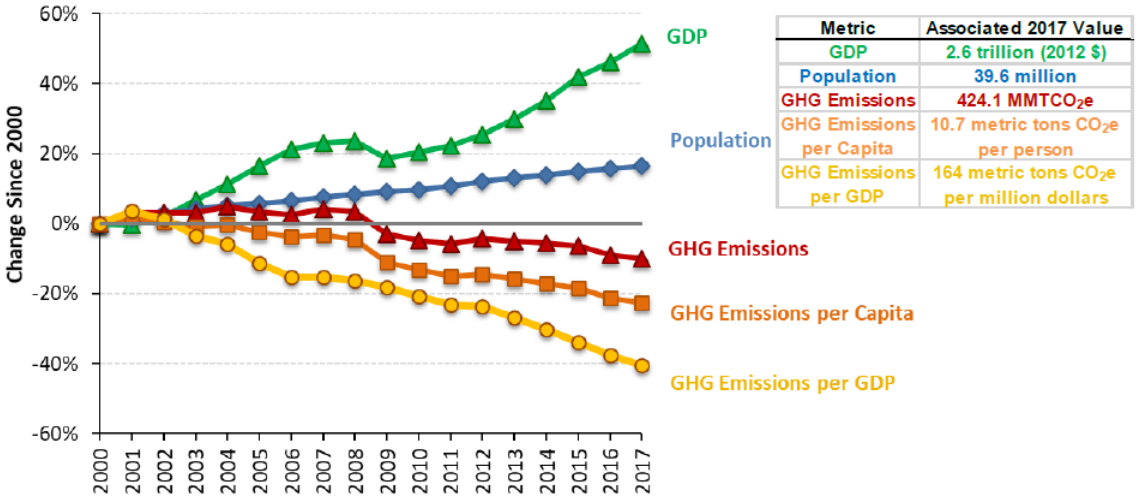


Figure 3.3 Change in California GDP, Population, and GHG Emissions Since 2000



Source: California Air Resources Board (2019b).

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

3.2.3 Regional Plans

CARB sets regional targets for California's 18 MPOs to use in their RTP/SCS to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the SCAG RTP/SCS for 2020/2050. The regional reduction target for SCAG is -8 percent for 2020 and -19 percent for 2035 (CARB 2019c). Table 3.1 shows the regional and local GHG reduction plans.

The Orange County Transportation Authority (OCTA) and Orange County Council of Governments published the *Orange County Sustainable Communities Strategy* in 2011, which was developed to be integrated with the SCAG SCS. The Orange County SCS offers sustainability strategies to reduce GHG emissions from land use and transportation.

Table 3.1 Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments (SCAG) *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, adopted April 2016	• Preserve the region's multi-modal system • Transportation System Management (TSM) • Encourage use of clean technology trucks • Strategic capacity and technology enhancements to existing highways
Orange County Sustainable Communities Strategy (2011)	• Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials. • Managing the transportation system (TSM) through measures that maximize the efficiency of the transportation network.
City of Costa Mesa 2012–2035 General Plan (Land Use & Circulation Element)	• LU-4.6: Incorporate the principles of sustainability into land use planning, infrastructure, and development processes to reduce greenhouse gas emissions consistent with State goals.
City of Irvine Current General Plan	• Objective M-3, Policy (c): Properly space and interconnect traffic signals to minimize the number of traffic signals, and minimize the acceleration/deceleration that produces significantly higher vehicular emissions and noise levels • Objective B-2, Policy (h): Properly space and interconnect traffic signals in order to minimize the number of traffic signals, and the acceleration/deceleration that produces significantly higher vehicular emissions and noise levels

Both the City of Costa Mesa and City of Irvine mention their implementation of the provisions of AB 32, SB 375, and the regional SCS. The City of Costa Mesa does not have a specific GHG reduction plan; however, they have city policies to address emissions reduction. The City of Costa Mesa's General Plan Land Use and Circulation Element policies (LU-4.6, C-6.4)[1] regarding GHG emissions reduction (which are consistent with State and regional goals) would not be in conflict or impacted by the proposed project.

The City of Irvine is in the process of developing a Climate Action Plan. However, the City of Irvine's General Plan mentions a few policies that address GHG reduction. These policies are included in the Growth

[1] City of Costa Mesa. 2012-2035 General Plan. Website: https://www.costamesaca.gov/city-hall/city-departments/development-services/approved-plans-for-city/2015-2035-general-plan, accessed March 17, 2021.

Management Element (Objective M-3, Policy (c)) and the Circulation Element (Objective B-2, Policy (h))[1].

The proposed project is within the jurisdiction of the OCTA Regional Transportation Planning Agency (RTPA). The 2020/2050 RTP identifies several mitigation measures that are consistent with provisions of Section 15091 of the *State CEQA Guidelines*, local air districts, and lead agencies to address GHG emissions and climate change (SCAG 2016). These measures include, but are not limited to:

- Reduce emissions from a project through project features, design, and/or other measures.
- Minimize GHG emissions by incorporating Best Available Control Technology (BACT) throughout project design, construction, and operation.
- Use vehicles and equipment that are fuel and energy efficient.
- Reduce GHG emissions from solid waste management by utilizing recycling and reuse.
- Reduce energy consumption and the use of GHG-emitting construction materials.

3.2.4 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The *State CEQA Guidelines* generally address GHG emissions as a cumulative impact due to the global nature of climate change (Public Resources Code [PRC] Section 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* [2017], 3 Cal.5th 497, 512). In assessing cumulative impacts, it must be determined if a project’s

[1] City of Irvine, Current General Plan. Website: https://www.cityofirvine.org/community-development/current-general-plan, accessed March 17, 2021.

incremental effect is “cumulatively considerable” (*State CEQA Guidelines* Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.

The following represents a best faith effort to describe the potential GHG emissions related to the proposed project.

3.2.5 Operational Emissions

This is a non-capacity-increasing project. The purpose of the proposed project is to improve and restore multiple assets along I-405 and will not increase the vehicle capacity of the roadway. The project proposes to extend life expectancy of pavement, improve safety and efficiency for all modes of travelers including maintenance crews, enhance traffic operations, manage congestion, and provide the ability to collect data for systems performance. This type of project generally causes minimal or no increase in operational GHG emissions through the 20-year horizon or design year of 2046. Because the project would not increase the number of travel lanes on I-405, no increase in VMT would occur as result of project implementation. Operational GHG emissions are presented in Table 3.2 because the project will add an auxiliary lane to the northbound I-405 on-ramp from southbound Jeffrey Road. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected. Data in Table 3.2 below show that the Build Alternative will result in a decrease in CO_2e emissions compared to existing conditions.

Table 3.2 Modeled Annual CO_2e Emissions and Vehicle Miles Traveled by Alternative

Alternative	CO_2e Emissions (MT/yr)	Annual VMT
Existing/Baseline 2020	241,979	641,556,186
Open to Traffic 2026		
No Build	212,860	668,511,132
Build Alternative[1]	213,249	666,447,277
20-Year Horizon/Design-Year 2046		
No Build	197,874	728,094,426
Build Alternative[1]	198,413	709,889.966

Source: Caltrans *Air Quality Report* (2021, calculated using CT-EMFAC 2017)

[1] Annual VMT values derived from Daily VMT values multiplied by 347, per CARB methodology (CARB 2008: I-19)

Caltrans = California Department of Transportation
CO_2 = carbon dioxide
CO_2e = carbon dioxide, nitrous oxide, and methane.
MT/yr = metric tons per year
VMT = vehicle miles traveled

While CT-EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data. The CO_2 emissions numbers in Table 3.2 are only useful for a comparison between project alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be, because CO_2 emissions are dependent on other factors that are not part of the model (e.g., the fuel mix[1], rate of acceleration, and the aerodynamics and efficiency of the vehicles).

3.2.6 Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase. Their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

An estimate of the construction emissions was conducted using the Caltrans Construction Emission Tool (CAL-CET2020). The results were used to quantify GHG emissions generated by construction of the Build Alternative and are presented in Table 3.3.

Construction GHG emissions were calculated using the Cal-CET2020 model. GHG emissions related to construction would be mainly from CO_2, N_2O, and CH_4 (reported together as CO_2e) contained in exhaust from off-road diesel construction equipment/vehicles (e.g., idling and operation of backhoes, cranes, and drilling rigs), from on-road trucks used by vendors (to deliver materials to the site) and on-site workers, and from use of portable equipment (e.g., generators). Construction is expected to start in February 2024 and would continue for about 32 months. Total GHG emissions from construction would be about 5,966 metric tons of carbon dioxide equivalent ($MTCO_2e$) for the construction period for the Build Alternative.

[1] EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle. Fuel cycle emission rates can vary dramatically depending on the amount of additives such as ethanol and the source of the fuel components.

Table 3.3 Construction Greenhouse Gas Emissions for the Build Alternative

Project Phases (Build Alternative)	CO_2 (tons/phase)	CH_4 (tons/phase)	N_2O (tons/phase)	CO_2e (MT/phase)
Grubbing/Land Clearing	222	0.07	0.012	227
Roadway/Excavation	1,086	0.034	0.054	1,102
Structural Excavation	317	0.08	0.022	325
Base/Subbase/Imported Borrow	1,568	0.05	0.071	1,590
Structural Concrete	426	0.013	0.021	432
Paving	902	0.028	0.054	918
Drainage/Environment/Landscaping	500	0.016	0.026	508
Traffic Signalization/Signage/Striping/ Painting	846	0.022	0.63	1,034
Other Operations				
Maximum (pounds per day)	1,955	0.059	0.07	1,977
Total (MT/Construction Project)	**5,866**	**0.178**	**0.321**	**5,966**

Source: Caltrans *Air Quality Report* (2021), calculated by using CAL-CET2020).
Note 1: CO_2e of the CO_2, CH_4, and N_2O was obtained by multiplying them by their respective global warming potential (GWP) of 1, 25, and 298, respectively.
Note 2: 1 ton = 2,000 pounds; 1 metric ton = 2,204.6 pounds
Caltrans = California Department of Transportation
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/phase = metric tons/phase
N_2O = nitrous oxide
tons/phase = tons per phase

All construction contracts include: (a) Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and (b) Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

3.2.7 CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. With implementation of construction GHG-reduction measures, the impact would be less than significant.

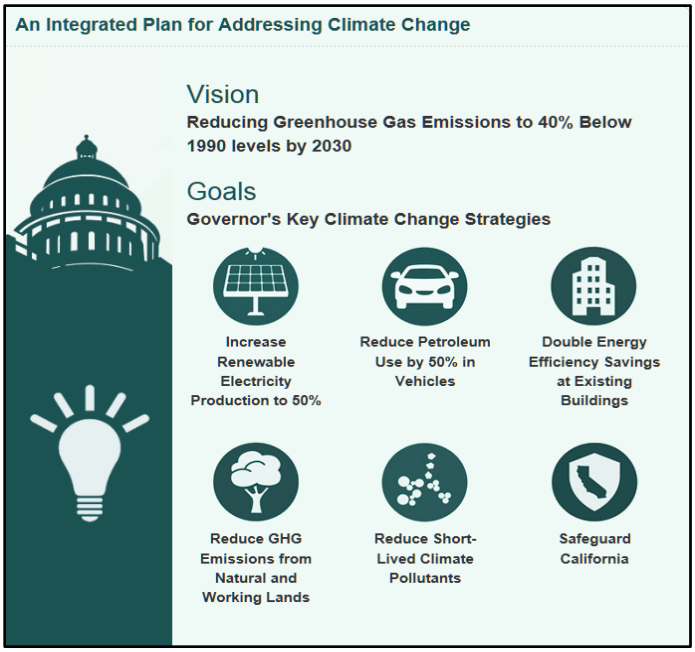
Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.2.8 Greenhouse Gas Reduction Strategies

3.2.8.1 Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. California's climate strategy is shown in Figure 3.4. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

Figure 3.4 California Climate Strategy



The transportation sector is integral to the people and economy of California. To achieve GHG emissions reduction goals, it is vital that the State build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 established as State policy the protection and management of natural and working lands and requires State agencies to

consider that policy in their own decision-making. Trees and vegetation on forests, rangelands, farms, and wetlands remove CO_2 from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

3.2.8.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

CALIFORNIA TRANSPORTATION PLAN 2040

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 requires the CTP to meet California's climate change goals under AB 32. Accordingly, *California Transportation Plan 2040* identifies the statewide transportation system needed to achieve maximum feasible GHG emissions reductions while meeting the State's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, *California Transportation Plan 2040* identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

CALTRANS STRATEGIC MANAGEMENT PLAN

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the Plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

3.2.8.3 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

PF-AQ-1 All air quality minimization measures are included in California Department of Transportation (Caltrans) Standard Specification (2018) for Construction, Section 14.9-02, Air Quality. The construction contractor must comply with the Standard Specifications, which also require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

PF-GHG-1 **Emissions Reduction.** Comply with California Department of Transportation (Caltrans) Standard Specifications Section 7-1.02C. Submit to the Department the following certification before performing the work: *I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before commencing the performance of the work and maintain compliance throughout the duration of this Contract.*

GHG-1 **Vehicle Idle Time.** Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment [California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

GHG-2 **Truck Schedule.** Schedule truck trips outside of peak morning and evening commute hours.

GHG-3 **Construction Waste.** Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).

GHG-4 **Recycled Materials.** Maximize use of recycled materials (e.g., tire rubber).

GHG-5 **Earthwork Balance.** Reduce the need for transport of earthen materials by balancing cut-and-fill quantities.

GHG-6 **Fuel Efficiency.** Maximize fuel efficiency from construction equipment:

- Maintain equipment in proper tune and working condition
- Right size equipment for the job

GHG-7 **Construction Environmental Training.** Supplement existing training with information regarding methods to reduce greenhouse gas (GHG) emissions related to construction.

GHG-8 **Park-and-Ride Lot.** A park-and-ride lot will be constructed within the project limits at southbound Interstate 405 (I-405) and Bristol Street. The park-and-ride lot will allow motorists to park their vehicles and carpool and ride on public transit buses. There are two nearby transit stops at the intersections of Bristol Street/Anton Boulevard and Bristol Street/Paularino Avenue. The lot will provide parking spaces for an estimated 162 vehicles, reducing the number of single-occupancy vehicles on the highway. The California Department of Transportation (Caltrans) preliminary design includes the following accessories: a bike rack or bike locker; solar panels; electric vehicle (EV) chargers; a pedestrian staircase; and security lighting. Final design of the park-and-ride lot will be completed during the next phase of the project. GHG emissions would be reduced when single-occupancy vehicles use the park-and-ride lot to participate in alternative modes of transportation.

GHG-9 **Operational Improvements.** Operational and Transportation System Management/Transportation Demand Management (TSM/TDM) improvements such as auxiliary lanes, dedicated turn lanes, and Intelligent Transportation System (ITS) elements will contribute to reducing GHG emissions.

3.2.9 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads. Longer periods of intense heat can buckle pavement and railroad tracks. Storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.2.9.1 Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The United States Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The United States Department of Transportation (DOT) Policy Statement on Climate Adaptation in June 2011 committed the federal DOT to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (DOT 2011).

FHWA Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events,* December 15, 2014) established FHWA policy to strive to identify the risks of climate change and

extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

3.2.9.2 State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- ***Adaptation*** to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

- ***Adaptive capacity*** is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."

- ***Exposure*** is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.

- ***Resilience*** is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.

- ***Sensitivity*** is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.

- ***Vulnerability*** is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision-making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

3.2.9.3 Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- **Exposure:** Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.

- **Consequence:** Determine what might occur to system assets in terms of loss of use or costs of repair.

- **Prioritization:** Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

3.2.9.4 Project Adaptation Analysis

Climate-change risk analysis involves uncertainties as to the timing and intensity of the potential risks. Relevant uncertainties may be documented in the project risk register to capture future consequences. Caltrans District 12 for Orange County is in the process of creating a report that identifies priorities to address the impact of climate change stressors on Caltrans' transportation assets. Design of project-related features incorporates a 30- to 50-year roadway design along with certain hydrologic features to handle the 100-year storm event volume of water.

The Caltrans Climate Change Vulnerability Assessment (August 2019) indicates that the project is subject to climate change effects. Several climate stressors were evaluated in the vulnerability assessment. Given the inland location of the project, not all climate stressors would impact the project. The vulnerability assessment evaluated climate stressors for the years 2025, 2055, and 2085 that in turn reflect the expected timing of elevated GHG concentrations in the atmosphere.

The following climate stressors, with brief descriptions, have been identified in the Caltrans Climate Change Vulnerability Assessment for Caltrans District 12 for Orange County:

- **Temperature:** The assessment looked at how high temperatures could impact Caltrans' selection of pavement binder grade. Binder is the "glue" used to bind the asphalt together. Thus, the selection of binder is important because asphalt in locations with anticipated high temperatures would need a high-temperature rating binder. The entirety of Orange County is subject to increasing high temperatures and high 7-day

averages. The proposed project is subject to these forecasted temperature changes.

- **Precipitation:** Indicates the percentage change for the 100-year storm precipitation depth for the years 2025, 2055, and 2085. Heavy storm events can create severe impacts to the State Highway System The project limits fall within greater Orange County where they would be subject to increased 100-year storm precipitation depth ranging from 0.0 percent to 4.9 percent.

- **Wildfire:** Wildfires pose a direct concern for driver safety, State Highway System operations, and the integrity of Caltrans infrastructure. Additionally, wildfires indirectly contribute to landslide and flooding due to exposed soil from burnt vegetation, and cause poor air quality and smoke that can affect visibility and health of the public. The vulnerability assessment indicates that the proposed project's location is not within areas of identified "wildfire of concern".

- **Sea Level Rise:** Sea level rise impacts to the State Highway System were assessed with three scenarios of sea level rise: 1.64 feet (ft) (0.50 meter [m]), 3.28 ft (1.00 m), and 5.75 ft (1.75 m). These levels indicate that bridges, culverts, and roadways would be subject to sea level rise at various locations. A rising sea level further increases future storm surge events and its associated impacts. The proposed project is not within areas where State Highway System roadway centerlines are exposed to sea level rise and is outside of the Coastal Zone. The proposed project includes a few bridges and large culverts that are subject to sea level rise due to associated creeks and water flow lines. However, standard design will allow the bridge and culverts to handle sea-level rise effects. Data for sea-level rise and storm data are from the United States Geological Survey and Coastal Storm Modeling System (CoSMoS).

- **Storm Surge:** Storm surge resulting from a warming ocean and/or atmosphere has the potential to affect storm intensities. Storm surge, coupled with sea level rise, has the potential to impact the State Highway System and related infrastructure. Bridges, culverts, and roadway can be subject to flood during a 100-year storm event combined with sea-level rise. While the project limits are outside of vulnerable roadways subject to sea-level rise with storm surge, there are a few bridges and culverts that are subject to storm surge. However, the standard design will allow the bridges and culverts to handle sea-level rise effects.

- **Cliff Retreat:** Cliff retreat poses a great concern for transportation infrastructure as the impacts from soil erosion on the soil foundation for roads and bridges are jeopardized. Given the geography of Orange County and the inland location of the proposed project, it is not subject to cliff retreat for the foreseeable future.

SEA-LEVEL RISE

The proposed project is outside the Coastal Zone and not in an area subject to sea-level rise. Standard design will allow the bridges and culverts to handle sea-level rise effects. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

The San Joaquin Channel Bridges (Nos. 55-0521 and 55-0522) have been identified as high-priority assets in the Caltrans District 12 Climate Change Adaptation Priorities report. Of the various climate change stressors identified in the Caltrans District 12 Climate Change Vulnerability Assessment, only sea-level rise and storm events were identified as potential stressors for these two bridges. According to findings of the Caltrans *Location Hydraulic Study* (March 2021), the CoSMoS flood hazard projections and expected water depth for the 100-year rainfall event with 5 m of sea-level rise show that sea-level rise is expected to have negligible effects at these two bridges. In addition, the standard design of these bridges and culverts will allow them to handle sea-level rise effects.

FLOODPLAINS

The proposed project limits are not within a flood zone identified on the Flood Insurance Rate Map from the Federal Emergency Management Agency's National Flood Insurance Program. However, the large culverts and bridges to be widened are within Zone A and identified as a special flood hazard area subject to inundation by the 1% annual chance flood as identified in the Flood Insurance Rate Maps (FIRMs). The areas that the culverts and bridges convey water within the project limits are the San Joaquin Channel and the San Diego Creek. The work proposed on the bridges and culverts with the proposed project is not expected to change water surface elevations (*Location Hydraulic Study*, March 2021). Projected increases in 100-year storm precipitation of depth ranging from 0.0 percent to 4.9 percent are anticipated to have negligible impacts to the project structures.

WILDFIRE

The proposed project location is not within the Very High, High, or Moderate Fire Hazard Severity Zones (VHFHSZ, HFHSZ, or MFHSZ, respectively) as indicated in the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone maps. Two HFHSZ are situated within the jurisdictional boundaries for City of Irvine (see Figure 2.1); however, these two HFHSZ areas are each at least 0.5 mi from the project area. There are no HFHSZ identified within the jurisdictional boundaries of the City of Costa Mesa. The proposed project is situated on the existing I-405 alignment. Additionally, Caltrans District 12's Climate Change Vulnerability Assessment indicates that this project does not contain roadway miles exposed to wildfire as a result of climate change.

3.3 Climate Change Section References

California Air Resources Board (CARB). 2008. *Climate Change Scoping Plan Appendices. Volume II: Analysis and Documentation*. Appendix I, p. I-19. December. Website: https://ww3.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm, accessed October 31, 2019.

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Chapter 4—Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project is accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, and Project Development Team (PDT) meetings. This chapter summarizes the results of California Department of Transportation (Caltrans) efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Project Development Team Meetings

During the preparation of the Environmental Document for the proposed project, interdisciplinary PDT meetings were held to discuss the proposed project design, factors to be considered during the environmental study process, key issues, and project schedule. The PDT was responsible for conducting/approving of studies and the accumulation of data throughout project development. Regularly scheduled PDT meetings assisted in maintaining group dynamics and communication. Focused PDT meetings were called as necessary to resolve specific project issues. More meetings were necessary during initial periods, with decreasing need during the technical studies, and increasing again during completion and analysis of results prior to completing the draft Initial Study.

4.2 Cultural Resources

As part of the cultural investigation, a records search was conducted in September 2020 at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System at California State University, Fullerton. The Native American Heritage Commission (NAHC) was contacted on September 16, 2020 to conduct a Sacred Lands File (SLF) search and to request a California Environmental Quality Act (CEQA) Tribal Consultation List under Assembly Bill (AB) 52. In addition, Native American tribes, groups, and individuals were contacted via a project notification letter sent on September 30, 2020. Follow-up phone calls and/or emails were conducted on October 16, 2020 and December 21, 2020. Results of consultation and coordination can be found in Appendix F – Native American Consultation. The Historic Property Survey Report (HPSR) was sent to the State Historic Preservation Officer (SHPO) for a 30-day review period on January 28, 2021. On February 23, 2021, Caltrans received notification from the SHPO that further archaeological investigations were needed to support

the project findings. As a result, on April 23, 2021, archaeological investigations were conducted. The results will be transmitted to SHPO in an updated HPSR. SHPO concurrence will be documented in the final Environmental Document.

4.3 Biological Resources

Official species lists were generated from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) electronic inventory, United States Fish and Wildlife Service (USFWS), the Information Planning and Consultation (IPaC) System, and National Marine Fisheries Service (NMSF) Species List from the National Oceanic and Atmospheric Administration (NOAA) in January 2021 and April 2021 (*Supplemental Natural Environment Study (Minimal Impacts)* [2021] and *Supplemental NEMO* 2021). A copy of the species list can be found in Appendix I.

4.4 Public Participation

The Initial Study will be publicly circulated for review to solicit comments for a 30-day review period starting on June 21, 2021. The IS will be made available to the public and circulated to regional and local agencies and all stakeholders to provide opportunity for their comments. The document will be available at:

- Mesa Verde Branch Library, 2969 Mesa Verde Drive E, Costa Mesa, CA 92626;
- University Park Library, 4512 Sandburg Way, Irvine, CA 92612; and
- Caltrans District 12 office.

To inform the public of the availability of the Initial Study (with proposed Negative Declaration) for review and about a Virtual Public Information Meeting to receive public input, Caltrans will advertise this opportunity by listing the project in the newspaper of local circulation (including the *Orange County Register*), mailing out postcard notices, and sending push-notifications via Geofencing Ads.

A virtual public hearing for the proposed project to receive comments on the Initial Study will be held on July 7, 2021 from 6:30 p.m. to 8:30 p.m.

During the virtual public meeting, virtual rooms will be provided to highlight the following issue areas: (1) project introduction; (2) project overview, purpose and need, project cost, and schedule; (3) design layouts; (4) the environmental study process; (5) methods of receiving future project notices and information; and (6) a comment and survey station.

4.5 Air Quality

In the August 25, 2020 Transportation Conformity Working Group (TCWG) meeting, the project was presented to be considered as an exempt project. On October 20, 2020, Caltrans received the TCWG meeting minutes that states “PM hot spot interagency review form will be prepared and submitted to TCWG for concurrence in response to US EPA comment received after the meeting that the project is not appropriate for use of exemption since it contains so many different components.” In the February 23, 2021 meeting, TCWG determined that the project remains not a Project of Air Quality Concern (POAQC).

The project-level particulate matter hot-spot analysis was presented to the Southern California Association of Governments (SCAG) and TCWG for discussion and review on December 8, 2020, pursuant to the interagency consultation requirement of 40 Code of Federal Regulations (CFR) 93.105 (c)(1)(i). The TCWG confirmed that the Build Alternative would not be considered a POAQC under 40 CFR 93.123(b)(1).

On February 23, 2021, a revised version of the POAQC was submitted to the TCWG meeting. The TCWG meeting determined that the project remains not a POAQC.

4.6 Section 4(f) Consultation

The subject document is an Initial Study; however, Caltrans is also preparing a Categorical Exclusion (CE) subject to NEPA, which triggers Section 4(f) pursuant to 23 CFR 774. As part of the analysis for potential impacts related to Section 4(f) resources, Caltrans concludes that there are temporary impacts to these resources. The project will require closing the Jeffrey Road on-ramp and Culver Drive on-ramp for about 30 to 90 days, resulting in temporary closure of Freeway Trail at in the City of Irvine.

Caltrans sent a coordination letter to notify the City of Irvine on October 8, 2020 (included at the end of the chapter) about the Caltrans proposal regarding the proposed project, temporary impacts to Freeway Trail as discussed above, and its preliminary De Minimis Determination prior to finalizing the Initial Study/Categorical Exclusion. Subsequent to this letter, Jaimee Bourgeois, Deputy Director of Transportation, had discussions with Caltrans David Lam, Senior Design Engineer, and Smita Deshpande, Senior Environmental Planner, regarding temporary closures and alternate routes. The next steps of this process were also discussed. During this discussion, Jamiee Bourgeois already gave Caltrans a verbal approval of this De Minimis Determination. Further consultation and approval from the City of Irvine is necessary to confirm a de minimis impact finding under Section 4(f). A Section 4(f) analysis has been circulated to the public as an attachment to the Initial Study for a 30-day review period. Subsequent to the public review

process and prior to finalizing the Final Environmental Document, Caltrans will coordinate for the City's concurrence in Fall 2021 for the Section 4(f) De Minimis Determination.

4.7 Park and Ride Consultation

The location, layout plan, and traffic analysis information for the proposed park-and-ride facility as part of this freeway improvement project was provided to the City of Costa Mesa by Caltrans (Michael Flynn) on February 19, 2021 (included at the end of this section). See Section 4.8 below for additional discussions and follow-up. There was a follow-up discussion between Caltrans, Smita Deshpande, and the City of Costa Mesa (Raja Sethuraman) on May 3, 2021. Mr. Sethuraman stated that the Costa Mesa City Council will not be taking action on the park-and-ride as it is within Caltrans right-of-way and Caltrans is the lead agency for the Initial Study/Proposed Negative Declaration. Instead it will be an item on the Board Agenda for information purposes only. Mr Sethuraman also clarified there will be no counsel approval. However, the City of Costa Mesa may provide comments during the circulation of the Draft Environmental Document. Mr. Sethuraman wanted clarification as to whether the proposed park-and-ride would be accessible to transit and Smita Deshpande of Caltrans provided that information on May 19, 2021 in an email.

4.8 City Coordination

Caltrans has been in close coordination with the Cities of Irvine and Costa Mesa during the environmental phase. The City of Costa Mesa (Jennifer Rosales and Raja Sethuraman) held a meeting on December 17, 2020 with Caltrans and discussed the proposal for the park-and-ride at Interstate 405 (I-405) and Bristol Street. The City of Costa Mesa was going to review Caltrans plans and traffic analysis and provide comments. To alleviate the City of Costa Mesa's concerns regarding a loss of green space, Caltrans would provide further detail on landscape improvements. The City of Costa Mesa will provide/recommend local entities that should be informed. The location, layout plan, and traffic analysis information for the proposed park-and-ride facility, as part of this project, was provided by Caltrans (Michael Flynn) to the City of Costa Mesa (Raja Sethuraman) on February 19, 2021. A follow-up email was sent to the City by Smita Deshpande on March 4, 2021.

In addition, the Caltrans Project Manager had a discussion with the City of Irvine in July 2020 and introduced this Multi-Asset project. Regarding further coordination with the City of Irvine, see Section 4.6, Section 4(f) Consultation, above.

Chapter 5—List of Preparers

The following persons were principally responsible for preparation of this Initial Study with [Proposed] Negative Declaration and supporting technical studies.

5.1 California Department of Transportation, District 12

Aurasteh, Reza, Senior Environmental Engineer. P.E., Ph.D. in Engineering, Utah State University. 30 years of experience in consulting engineering, academics, transportation engineering, and environmental engineering. Contribution: Senior Review of the Initial Site Assessment (ISA), Air Quality, and Noise.

Bade, Rabindra, Environmental Engineer. Ph. D. Kumoh National Institute of Technology, South Korea, 20 years of experience in research, design, consulting, academics in the field of Environmental Engineering and Civil Engineering. Contribution: Air Quality.

Baker, Charles, Senior Environmental Planner. B.A. in Anthropology, Cal State University, Fullerton. MA in History, Cal State University, Fullerton. 20 years of experience in environmental planning. Contribution: Senior review for Biological Sciences, Cultural and Paleontological Resources.

Baker, Lynn, Associate Environmental Planner. B.A. in Sociology, Cal State University, Fullerton. 12 years of experience in environmental planning. Contribution: Assistance with the preparation of the IS-ND.

Barker, Kristopher, Engineering Geologist. B.S. in Earth Sciences. University of Southern California. 20 years of experience. Contribution: Preparation of the Preliminary Geotechnical Assessment.

Bazargan, Bob, Project Manager. B.S., C.E. University of Florida. 40 years' experience. Contribution: Developing project schedule and resources and coordinating work of the various functions.

Caraig, Ricardo, Transportation Engineer. B.S. in Civil Engineering, California State University, Fullerton. 25 years of experience in Design, 5 years in Environmental Engineering. Contribution: Preparation of the Noise Study and Noise Abatement Decision Report and Noise Abatement Decision Report.

Dang, Tran. Transportation Engineer. B.S. in Construction Engineering and Management, California Polytechnics University, Pomona. 7 years of experience in Building (private sectors) and Highway Construction (Caltrans) and 20 years of experience in National Pollution Discharge

Elimination Systems (NPDES) and Storm Water with Caltrans, including 3 years of experience in Design/Build. Contribution: Preparation of Storm Water Data Report and development of Permanent Treatment BMP devices.

Deshpande, Smita, Senior Environmental Planner. B.A. in Geography, University of Pune, India; M.S. in Regional Planning, Indiana University of Pennsylvania, Indiana, Pennsylvania. 30 years of experience in environmental planning. Contribution: Oversight preparation and management of the IS/CE.

Dickson, Eric, Senior Landscape Architect. B.S. in Landscape Architecture, California State Polytechnic University, Pomona. 18 years of experience in Visual Impact Assessments (VIAs) and aesthetic master plans. Contribution: Senior review of the VIA.

Dinh, Phi, Senior Transportation Engineer. MSCE, University of California, Los Angeles. 22 years of experience in Caltrans Hydraulics, Design and Construction, 3.5 years in Environmental Engineering with the Department of Navy. Contribution: Location Hydraulic Study and Floodplains Review.

Dove, Kathleen, Associate Environmental Planner. B.S., Journalism, Northern Arizona University, M.S., Political Communications, Arizona State University, Ph.D., candidate, Marine Sciences, University of Alaska Fairbanks; 20 years of experience in Environmental Planning. Contribution: CEQA Checklist Answers.

Duran, Gabriela, Associate Environmental Planner. B.A. in Environmental Economics. University of California, Riverside. 13 years of experience in environmental planning. Contribution: Preparation of Community Impact Assessment and Ramp Closure Study.

Flynn, Mike, Transportation Engineer, P.E., BS in Civil Engineering, California State University Long Beach. 25 years of experience in Traffic Operations, Safety, Design, Construction. Contribution: Review the Traffic Operations Analysis Report.

Heydari, Bahar, Associate Environmental Planner. B.S. in Geography with emphasis in Environmental Analysis, California State Polytechnic University, Pomona. 13 years of experience with Caltrans in environmental planning. Contribution: Section 4(f).

Khalilifar, Manouchehr (Mitch), P.E., B.S., and M.S. in Civil Engineering, 20 years of experience as Transportation Engineer, Range D with Caltrans, and more than 30 years of experience on various Civil Engineering fields. Providing comprehensive oversight on preparation of Hazardous Waste related section and preparer of the Hazardous

Waste ISA Checklist and Memo. Preparer of task orders for Hazardous Waste Site Investigations and assures that all the field works would be performed in accordance with state and other regulatory agencies' rules and regulations.

Lo, Carmen, Environmental Planner. B.A. in Environmental Analysis and Design, University of California, Irvine. 14 years of experience conducting research and preparing technical sections of environmental documents. Contribution: Preparation of Community Impact Assessment (CIA).

Nguyen, Tan, Transportation Engineer. B.S. in Civil Engineering, San Diego State University. Registered Civil Engineer. 32 years of experience in drainage design. Contribution: Location Hydraulic Study and Floodplains Review.

Phung, Alben, Associate Environmental Planner. Master of Urban and Regional Planning, California Polytechnic State University, Pomona. B.A.in Environmental Science & Policy, California State University, Long Beach. 3 years of experience in preparing CEQA and NEPA Environmental Documents. Contribution: Climate Change section, various maps and figures for the Environmental Document, U.S. Census data pull.

Piña-Garrett, Grace, Senior Transportation Engineer, National Pollutant Discharge Elimination System Unit. B.S. in Civil Engineering, California State University, Long Beach. 23 years of experience in engineering and water quality. Contribution: Senior review of the Water Quality and Storm Water Runoff section of the IS/CE and Water Quality Assessment Report (WQAR).

Qamar, Iffat, Associate Environmental Planner, Ph.D. in Environmental Planning and Management, Macquarie University, Sydney, Australia. 25 years of experience in environmental planning, analysis, and management. Contribution: Author of various sections of the Initial Study (IS); Author of the Categorical Exclusion; Reviewer of IS/CE and Technical Reports; Coordinator/Generalist for IS/CE.

Salas, Hector B., Associate Environmental Planner. B.A. in Environmental Analysis and Design, University of California, Irvine. 20 years of experience. Contribution: Preparer of the Water Quality and Storm Water Runoff section of the IS/CE and the Water Quality Assessment Report (WQAR).

Sato, Lisa, Associate Environmental Planner. B.S. in Biology (Biodiversity, Ecology and Conservation), California State University Fullerton. 10 years of experience. Contribution: Reviewer of the Natural

Environment Study, Jurisdictional Delineation, CEQA Checklist, and prepare CEQA Bio section.

Sowers, Steven, PE, PMP, Senior Transportation Engineer, Branch Chief Operations Southwest. B.S.C.E, Penn State University. 32 years of experience with Caltrans and engineering consultants in project management, traffic project design and oversight, civil engineering, traffic impact studies, highway congestion monitoring, traffic safety, ADA, bicycle and pedestrian facilities, emergency response, Transportation Management Centers, Commercial Vehicle Operations, Oversize/Overweight Permits, Weigh In Motion Program Manager, Encroachment Permits, Adopt-A-Highway, Park-N-Ride, Public Transportation, transportation management plans, signs and delineation, CA MUTCD, speed zones. Contribution: Review of the traffic section of IS.

Su, Stephen, Associate Landscape Architect. Master of Landscape Architecture, University of Colorado at Denver. 31 years of experience in landscape planning and design including 20 years with Caltrans. Contribution: prepare landscape master plans, Park & Ride Lot layout and grading design.

Villanueva, Alma, Senior Right of Way Agent. B.A in International Business, California State University, Fullerton. 20 years of experience in Caltrans Right of Way, 10 years of experience in the Relocation Assistance Program. Contribution: Senior review of the Relocation Impact Documents.

Wright, Jonathan, Associate Environmental Planner. B.A. in Anthropology, San Diego State University, San Diego. 15 years of experience. Contribution: Reviewer of Historic Property Survey Report (HPSR), and Archaeological Survey Report (ASR).

5.2 LSA Associates, Inc.

Annicchiarico, Abby, Environmental Planner, B.S. in Environmental Policy Analysis and Planning, University of California, Davis. 3 years of experience with environmental planning consulting and processing procedures for CEQA/NEPA compliance. Contribution: Quality control and processing of the MND. Assisted with circulation of Draft MND and peer review of the Location Hydraulic Study.

Arizabal, Dean, Associate – Transportation, B.S. in Computer Engineering, University of California, Irvine. 15 years of experience with managing several transportation projects and assisting with the development of various parking studies, access analyses, and Traffic Impact Analyses

to analyze potential project impacts. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Barden, Ashley, Assistant Transportation Planner, B.A. in Environmental Studies, Concentration in Urban Planning, Sonoma State University. 2 years of experience with conducting freeway and roadway intersection research and analysis needed to prepare several Traffic Impact Studies and Evaluations. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Bressler, Samuel, Assistant Biologist, B.S. in Biology and M.S. in Biology, University of California, Los Angeles. 1 year of experience with biological project assistance, which includes species surveying and monitoring, and habitat location and mapping. Contribution: Assisted with the field mapping for the jurisdictional delineation in support of the NES-MI.

Brugger, Ron, Senior Air Quality Specialist, B.S. in Mechanical Engineering, University of Wisconsin, Madison. 26 years of experience in air emissions modeling and impact analysis, health risk assessments, noise modeling, and regulatory analysis. Contribution: Quality control and assurance for the traffic data required to support the air quality analysis.

Canterbury, Meredith, Senior GIS Analyst, B.A. in Geography, Specialization in Environmental Analysis, California State University, Fullerton. 14 years of experience with data creation, analysis and ad-hoc mapping development. Contribution: Managed GIS data, and prepared maps and GIS exhibits for the MND.

Carpenter, Jill, Senior Biologist/Bat Specialist, B.S. in Biological Sciences, Specialization in Ecology, Minor in Global Sustainability, University of California, Irvine. 15 years of experience with performing bat habitat suitability assessments and conducting bat surveys for transportation projects and the associated bridges and culverts. Contribution: Conducted bat habitat assessment and nighttime bat surveys and prepared the bat habitat assessment report in support of the NES-MI.

Collison, Kerrie, Senior Cultural Resources Manager. B.S. in Social Sciences, California Polytechnic State University, San Luis Obispo; M.A. in Anthropology, California State University, Northridge. 14 years of experience in Native American consultation, conducting cultural resource surveys for cultural and paleontological resources and preparing cultural resource documents including HPSRs and ASRs for Caltrans projects. Contribution: Prepared the HPSR and responses to CEQA checklist Cultural and Tribal questions.

Delparastaran, Shiva, Transportation Engineer, B.S. Civil Engineering, San Jose State University; M.S. Civil and Transportation Engineering, California State Polytechnic University, Pomona. 4 years of experience with conducting freeway and roadway intersection analyses and studies to support the preparation of various Traffic Impact Analyses. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Dow, Gary, Associate/Graphic Designer. B.A. in Architectural Drafting, California State Polytechnic University, Pomona. 43 years of experience in creating graphics, computer mapping, and presentation materials for environmental documents. Contribution: Prepared graphics for the technical studies.

Estores, Jazmine, Assistant Environmental Planner, B.A. in Geography, Certificate in Urban Studies/Planning, California State University, Long Beach. 2 years of experience with environmental and transportation planning project assistance. Contribution: Provided project management assistance to process the technical studies and the MND and assistance for public circulation of the MND.

Gould, Bo, Biologist. B.A., Environmental Studies and Science, Whittier College. 7 years of experience in biological monitoring; regulatory compliance documentation; environmental permitting; natural resource management and ecological research; preparation of biological impact assessments and habitat conservation plans; jurisdictional delineations; wildlife monitoring; focused insect, bird, mammal and plant surveys, habitat conservation planning; botanical surveys; construction monitoring; environmental regulatory compliance; GPS, and GIS. Contribution: Primary author of the NES-MI and the Jurisdictional Delineation

Henderson, Zac, Principal GIS Systems Manager. South Warwickshire College of Further Education, Stratford-Upon-Avon, England, Study abroad program; Associate Degree with Honors in Mathematics, El Camino Community College; B.A. Environmental Studies/Geography University of California, Los Angeles. 27 years of experience in providing quality control, GIS implementation for LSA and LSA's clients, and workload management and scheduling, managing the acquisition of hardware and software, and GIS/GPS training. Contribution: Provided quality control and assurance for GIS services.

Inloes, Beverly, Associate/Senior Technical Editor. 50 years experience in editing technical documentation for a wide variety of environmental projects. Contribution: Edited the Initial Study with (Proposed) Negative Declaration.

Krieg, Eric, Associate Biologist. B.S., Biology, Frostburg State University, Maryland; M.S., Biology (Ecology and Conservation), Illinois State University. 24 years of experience in habitat restoration and biological resource monitoring, preparing restoration plans, for contracting and overseeing all aspects of a plan's implementation, conducting Jurisdictional Delineations, and preparing permits. Contribution: Assisted with nighttime bat surveys and biological resource services in support of the NES-MI.

Lieuw, Jessica, Biologist, B.A. in Environmental Science, Minor in Urban and Regional Planning University of California, Irvine. 3 years of experience with conducting biological monitoring and qualitative assessments related to species surveys and habitat assessments. Contribution: Assisted with bat habitat assessment and nighttime bat surveys in support of the NES-MI. Conducted the biological survey and assisted with conducting the bat habitat assessment and preparing the bat habitat assessment report in support of the supplemental NES-MI.

Louwsma, Sara, Senior Biologist, B.S. in Ecology and Environmental Biology and M.S. in Biology, California State University, Long Beach.15 years of experience with regulatory permitting, biological surveys, and habitat assessments and mapping. Contribution: Assisted with nighttime bat surveys in support of the NES-MI.

Lui, Jason, Senior Noise Specialist. B.A. in Environmental Analysis and Design, University of California, Irvine; M.S. in Environmental Studies, California State University, Fullerton. 11 years of experience in environmental studies, specializing in noise and air quality analysis. Contribution: Quality control and assurance for the traffic data required to support the noise analysis.

Majumder, Deepnath, Transportation Planner, B.Arch (Honors), Minor in Economics, Indian Institute of Technology; Masters of City and Regional Planning, Concentration in Transportation Planning and Urban Design, Rutgers University. 4 years of experience with conducting freeway and roadway intersection analyses and studies to support the preparation of various Traffic Study Reports and Traffic Impact Analyses. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Malik, Pratiik, Assistant Transportation Engineer, B.Tech, Civil Engineering, Indian Institute of Technology Bombay; M.S. Civil and Environmental Engineering, University of California, Irvine. 1 year of experience assisting with the preparation of Traffic Impact Analyses. Contribution: Assisted with the preparation of the Transportation Management Plan.

McCann, Aaron, B.A. in Anthropology, California State University, Fullerton. 15 years of experience with monitoring construction operations and performing intensive field surveys for paleontological and archaeological resources and conducting large- and small-scale fossil salvage operations. Contribution: Conducted monitoring for archaeological resources.

McDonald, Kelly, B.S. in Environmental Science, Minor in Spatial Studies, University of Redlands. 5 years of experience with providing biological CEQA/NEPA project assistance, which includes permitting efforts and applications and completion of Natural Environment Study Addendums. Contribution: Assisted with the preparation of the NES-MI.

Monteleone, Heather, Assistant Biologist, B.A. in Geography and Environmental Studies, Minor in Environmental Biology, California State University, Fullerton. 6 years of experience with conducting qualitative and quantitative biological assessments and monitoring, conducting biological species surveys, and assisting with vegetation mapping. Contribution: Conducted general habitat suitability surveys in support of the NES-MI.

Mukherjee, Ambarish, Principal, Master of City and Regional Planning, Concentration in Transportation and Land Use Planning, University of Texas at Arlington. 18 years of experience with travel demand modeling and public Infrastructure projects. Specializes in conducting Traffic Impact Analyses for small and large-scale transportation and development projects. Contribution: Managed preparation of the Traffic Operations Analysis Report.

Palakurthy, Ravi, Senior Transportation Engineer, M.S. in Transportation Engineering, University of Louisiana, Lafayette. 17 years of experience with travel demand model development, comprehensive plan preparations, land use forecasting, traffic impact studies, corridor studies, transportation fee programs, and air quality analysis. Contribution: Collected and summarized Performance Measurement System (PeMS) count data and travel model volumes for Traffic Operations Analysis Report.

Petros, Tony, Principal, Transportation, B.S. in Biological Sciences and B.A. in Social Ecology, University of California, Irvine; Master of Regional Planning Candidate, Cornell University. 36 years of experience with preparing and managing the development of comprehensive traffic and parking studies, operational and engineering analyses, and complete streets and modal analyses. Contribution: Quality control and assurance for the Traffic Operations Analysis Report.

Pracilio, Deborah, Principal, Environmental. B.A. in Social Ecology, University of California, Irvine. 35 years of experience in environmental assessment processing procedures for CEQA/NEPA. Contribution: Quality control review of the technical studies and the MND.

Reading, Pam, Principal, Environmental, M.S. in Hydrology & Watershed Management, School of Forestry & Environmental Studies, Yale University. 33 years of experience in environmental assessment processing procedures for CEQA/NEPA. Specializes in Coastal Zone consistency analyses and visual, water quality, and farmland impact assessments. Contribution: Peer review of the Location Hydraulic Study.

Rodriguez, Lonnie, Senior Biologist, B.S. in Environmental Science, Humboldt State University. 18 years of experience with conducting biological surveys and performing biological monitoring. Specializes in performing species surveys, developing jurisdictional delineations and vegetation mapping. Contribution: Conducted the field delineation for the jurisdictional delineation in support of the original NES-MI. Conducted the biological survey and assisted with the bat habitat assessment in support of the supplemental NES-MI.

Roos, Justin, Associate/GIS Specialist. B.S., Geography, California Polytechnic University, Pomona. 17 years of experience in GIS project management, impacts analysis, ad-hoc mapping requests, project-specific website creation, and data creation/conversion to a Geodatabase format. Contribution: Managed GIS data and prepared maps and GIS exhibits for the technical studies.

Selna, Blake, Principal/Biologist. B.S. in Environmental and Resource Sciences University of California, Davis. 21 years of experience in the biological resources and natural resource management. Contribution: Quality control review of the NES-MI and Supplemental NES-MI.

Sinha, Debmalya, Transportation Planner, Masters in Urban Planning, Specialization in Transportation and Infrastructure Planning, University of Washington, Seattle. 6 years of experience assisting with the technical analyses for several traffic projects by evaluating traffic conditions for major roadway intersections. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Starr, Jaimi, Project Assistant, Certificate in Holistic Medicine and Therapy, California Holistic Institute. 2 years of experience in assisting with and contributing to various environmental project documents. Contribution: Assisted with Native American consultation in support of the ASR.

Strudwick, Ivan, Associate/Archaeologist. M.A. in Anthropology, Magna cum Laude, with specialization in Archaeology, California State University, Long Beach. 38 years of experience in the archaeology field, preparing cultural resource documents including ASRs for Caltrans projects. Contribution: Preparer of the Archaeological Survey Report (ASR).

Tan, Kenneth, Transportation Engineer, B.S. in Civil Engineering, Specialization in Transportation Systems Engineering, University of California, Irvine. 5 years of experience involving the preparation of comprehensive traffic impact analyses and traffic modeling. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

Thomas, King, Associate. B.A. in Social Ecology, Specialization in Environmental Health and Planning, University of California, Irvine. 32 years of experience in environmental and transportation planning. Contribution: Consultant Environmental Project Manager and conducted quality control and quality assurance review of the technical studies and the MND.

Villanueva, Ryan, Senior Biologist, B.S. in Biology, B.A. in Environmental Studies, University of California, Santa Cruz. 15 years of experience in biological resources and natural resource management which includes the preparation of Jurisdictional Delineations, Natural Environment Studies, and biological resources surveys. Contribution: Primary author of the supplemental NES-MI and responses to the CEQA checklist biological resource questions.

Wilhelm, Ken, Principal, Transportation, B.A. in Sociology, Chapman University. 30 years of experience in the management and preparation of traffic, parking, and bicycle studies throughout California. Extensive experience in processing traffic impact studies, parking demand analyses, and operational studies. Contribution: Quality control and assurance for the Transportation Management Plan.

Zhou, Yu “Bill”, Transportation Engineer, Engineer-in-Training (EIT), B.S. in Civil Engineering, University of California, Irvine. 2 years of experience with conducting freeway and roadway intersection analyses and studies to support the preparation of various Traffic Impact Analyses. Contribution: Assisted with the preparation of the Traffic Operations Analysis Report.

5.3 Arellano Associates

Britt, Chester, Project Director, B.A. in Sociology and Business Administration, University of California, Los Angeles. 32 years of experience in strategic counsel on communications programs

throughout the project development process, including initial planning, environmental studies, final design, construction and mitigation monitoring. Contribution: Provided senior-level oversight and strategic counsel for preparation of public hearing and conducting public outreach.

Ceron, Hazel, Public Outreach Project Coordinator, B.A., Communications Studies, California State University, San Bernardino. 3 years of experience in the development, implementation and support of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Supported public engagement activities and development of materials for public hearing and distribution of the Draft MND for public circulation.

Mikanik, Sohrab, Public Outreach Senior Project Coordinator. Master of City Planning, Boston University, Massachusetts. 7 years of experience in the development, implementation and management of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Prepared online public engagement tools, provided GIS services and interactive maps used for public engagement, the public hearing and distribution of the Draft MND for public circulation.

Norris, Kaitlyn, Public Outreach Project Coordinator, Master in Public Administration, Urban Affairs focus, California State University, Long Beach. 3 years of experience in the development, implementation and support of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Supported public engagement activities and development of materials for the public hearing and distribution of the Draft MND for public circulation.

Santiago, Kyle, Public Outreach Senior Creative Coordinator, B.S., Civil Engineering, Transportation Systems Specialization, University of California, Irvine. 13 years of experience in the development of state-of-the-art strategic communication with an emphasis on project branding, collateral material development, marketing, and digital media tools designed for public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Prepared collateral materials for public hearing and distribution of the Draft MND for public circulation.

Velazquez, Jennifer, Public Outreach Assistant Project Coordinator, B.A. in Urban Studies, University of California, Irvine. 1 year of experience in support of all phases of major transportation and infrastructure projects. Contribution: Supported public engagement efforts for public hearing and distribution of the Draft MND for public circulation.

Velazquez, Raul, Public Outreach Specialist, M.A. Urban Planning, University of California, Los Angeles. 19 years of experience in the development, implementation, and management of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Prepared public relations program and materials for public hearing and distribution of the Draft MND for public circulation.

Verduzco, Nancy, Public Outreach Assistant Project Coordinator, Master of Arts, Anthropology with a Graduate Certificate in Geographic Information Systems, California State University, Los Angeles. 3 years of experience in the implementation and support of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Supports public engagement activities, online engagement strategies, and development of materials for the public hearing and distribution of the Draft MND for public circulation.

Ximenez, Yvette, Public Outreach Project Coordinator. B.S., Public Policy, Planning & Development, University of Southern California, Los Angeles. 5 years of experience in the development, implementation and support of public relations programs in support of all phases of major transportation and infrastructure projects. Contribution: Supported public engagement activities and development of materials for the public hearing and distribution of the Draft MND for public circulation.

5.4 CWE Corporation

Bapna, Vik, Principal, Hydrology & Hydraulics, B.S. in Civil Engineering, New Jersey Institute of Technology. 30 years of experience in civil and water resource engineering. Contribution: Subconsultant Principal-in-Charge for preparation of and quality assurance for the Location Hydraulic Study.

Bell, Steve, Senior Engineer, M.S. in Civil Engineering, University of Oklahoma. 16 years of experience in hydraulic modeling, utilizing EPANET, HEC-RAS, XP-SWMM, and XP-WSPG software. Contribution: Conducted hydrology and hydraulics modeling for the Location Hydraulic Study and conducted the field investigation.

Harrel, Katie, Special Projects Manager, M.S. in Civil Engineering, California State University, Long Beach. 9 years of experience in climate change adaptation, resiliency, and sea level rise. Contribution: Conducted hydrology and hydraulics modeling for the Location Hydraulic Study.

Kilgo, Kayla, Assistant Engineer, PhD in Environmental Engineering and Science, Clemson University. 7 years of experience utilizing HEC-RAS hydraulic modeling software. Contribution: Conducted hydrology and hydraulics modeling, conducted the field investigation, and prepared the draft Location Hydraulic Study.

Pendroy, Chris, Senior Engineer, M.S. in Civil and Environmental Engineering, University of California, Irvine. 27 years of experience in hydraulic modeling. Contribution: Conducted hydraulic calculations for the Location Hydraulic Study.

Willardson, Ben, Director of Water Resources, PhD in Civil Engineering, University of Southern California. 21 years of experience in hydraulic calculations and climate change adaptation and resiliency. Contribution: Hydrology and Hydraulics Lead and conducted quality assurance for the Location Hydraulic Study report.

Young, William, Director of Engineering, BS in Civil Engineering, California State Polytechnic University, Pomona. 40 years of experience in civil design of water infrastructure. Contribution: Hydrology and Hydraulics Design Lead and provided design services for the Location Hydraulic Study.

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Chapter 6—Distribution List

The following entities have been notified that this Initial Study is available for public review. In addition, all property owners and occupants within a 300-foot radius of the project limits will be provided the Notice of the Availability of the Initial Study. Its availability will also be published in regional as well as local newspapers.

6.1 Federal Agencies

U.S. Fish & Wildlife Service
Scott Sobiech, Field Supervisor
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 1101
Los Angeles, CA 90017

6.2 State Agencies

California Department of Fish and Wildlife
Ed Pert, Regional Manager
Simona Altman, Senior Environmental Scientist
South Coast Region (Region 5)
3883 Ruffin Road
San Diego, CA 92123
simona.altman@wildlife.ca.gov

California State Clearing House
Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814
P.O. Box 3044
Sacramento, CA 95812-3044
state.clearinghouse@opr.ca.gov

6.3 Regional Agencies

South Coast Air Quality Management District
Debra Ashby
21865 Copley Drive
Diamond Bar, CA 91765
dashby@aqmd.gov

Santa Ana Regional Water Quality Control Board
Hope Smythe, Ombudsman
3737 Main Street, Suite 500
Riverside, CA 92501-3348
santana@waterboards.ca.gov

Department of Toxic Substances Control
Perry Myers, P.E., Project Manager
Engineering & Special Office Projects Office
8800 Cal Center Drive
Sacramento, CA 95826

Orange County Flood Control District
Orange County Public Works, Development Services/Planning
Cindy Salazar, Senior Planner
300 North Flower Street
Santa Ana, CA 92703
Cindy.Salazar@ocpw.ocgov.com

6.4 Local Agencies

City of Irvine
Jaimee Bourgeois
Deputy Director of Transportation/City Traffic Engineer
1 Civic Center Plaza
Irvine, CA 92606
JBourgeois@cityofirvine.org

City of Costa Mesa
Raja Sethuraman, Director of Public Services
Department of Public Services
72 Fair Drive
Costa Mesa, CA 92626
Raja.Sethuraman@costamesaca.gov

County of Orange
OC Development Services, Land Development
601 North Ross Street
Santa Ana, CA 92701

Orange County Clerk-Recorder
County Administration South Building
601 North Ross Street
Santa Ana, CA 92701

Orange County Transportation Authority
Fernando Chavarria, Manager of Public Outreach
550 South Main Street
Orange, CA 92868
P.O. Box 14184
Orange, CA 92863-1584
fchavarria@octa.net

Orange County Fire Authority
1 Fire Authority Road
Irvine, CA 92602

6.5 Libraries

Mesa Verde Library
2969 Mesa Verde Drive
Costa Mesa, CA 92626
Ocpl.mesaverde@occr.ocgov.com

University Park Library
4512 Sandburg Way
Irvine, CA 92612
Ocpl.universitypark@occr.ocgov.com

6.6 Federal Legislators

United States Senate
Dianne Feinstein, Member
11111 Santa Monica Boulevard, Suite 915
Los Angeles, CA 90025-3343

United States Senate
Alex Padilla, Member
11845 West Olympic Boulevard, Suite 1250W
Los Angeles, CA 90064
5011 Street, Suite 7-800
Sacramento, CA 95814

45th Congressional District
Katie Porter, Member
2151 Michelson Drive, Suite 195
Irvine, CA 92612

48th Congressional District
Michelle Steel, Member
17011 Beach Boulevard, Suite 570
Huntington Beach, CA 92647

6.7 State Legislators

68th Assembly District
Steven Choi, Member
3240 El Camino Real, Suite 110
Irvine, CA 92602

74th Assembly District
Cottie Petrie-Norris, Member
19712 MacArthur Boulevard
Irvine, CA 92612

37th Senate District
Dave Min
940 South Coast Drive, Suite 185
Costa Mesa, CA 92626

6.8 Local Elected Officials

6.8.1 Irvine City Council

City Council
1 Civic Center Plaza
Irvine, CA 92606

Councilmember Mayor Farrah N. Khan
Email: farrahkhan@cityofirvine.org

Councilmember Vice Mayor Tammy Kim
Email: tammykim@cityofirvine.org

Councilmember Larry Agran
Email: larryagran@cityofirvine.org

Councilmember Mike Carroll
Email: mikecarroll@cityofirvine.org

Councilmember Anthony Kuo
Email: anthonykuo@cityofirvine.org

6.8.2 Costa Mesa City Council

Mayor John Stephens
Term expires: November 2022 (1st term)
Email: John.Stephens@costamesaca.gov

Councilmember Mayor Pro Term Andrea Marr
Term expires: November 2022 (1st term)
Email: Andrea.Marr@costamesaca.gov

Councilmember Manuel Chavez
Term expires: November 2022 (1st term)
Email: Manuel.Chavez@costamesaca.gov

Councilmember Loren Gameros
Term expires: November 2024 (1st term)
Email: Loren.Gameros@costamesaca.gov

Councilmember Jeff Harlan
Term expires: November 2024 (1st term)
Email: Jeffrey.Harlan@costamesaca.gov

Councilmember Don Harper
Term expires: November 2024 (1st term)
Email: Don.Harper@costamesaca.gov

Councilmember Arlis Reynolds
Term expires: November 2022 (1st term)
E-mail: Arlis.Reynolds@costamesaca.gov

6.8.3 Orange County Board of Supervisors

Hall of Administration
333 West Santa Ana Boulevard
Santa Ana, CA 92701

First District
Andrew Do, Chairman
Andrew.Do@ocgov.com

2nd District
Katrina Foley
Katrina.Foley@ocgov.com

Third District
Donald P. Wagner
Donald.Wagne@ocgov.com

Fourth District
Doug Chaffee, Vice Chairman
Doug,Chaffee@ocgov.com

Fifth District
Lisa Bartlett
Lisa.Bartlet@ocgov.com

6.9 Utilities, Services, and Businesses

AT&T California
1265 North Van Buren Street
Anaheim, CA 92807

Metropolitan Water District, Orange County
Attn: Substructures Team/MWD Environmental Planning
700 North Alameda Street
Los Angeles, CA 90012
ep@mwdh2o.com

Orange County Sanitation District
P.O Box 8127
Fountain Valley, CA 92728
10844 Ellis Avenue
Fountain Valley, CA 92708
ceqa@ocsd.com

John Wayne Airport
Eddie Martin Administration Building
31600 Airway Avenue
Costa Mesa, CA 92626
info@ocair.com

Business Operations
University of California, Irvine
Administrative Policies & Procedures
241 B MSTB
Irvine, CA 92697
Zot Code 1130
ucipolicy@uci.edu

Appendix A – Section 4(f)

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SECTION 4(f) DE MINIMIS DETERMINATION AND RESOURCES EVALUATED RELATIVE TO THE REQUIREMENTS OF SECTION 4(f)

Route 405 Asset Management Project - EA 0Q970
March 29, 2021

This Section 4(f) analysis includes de minimis determinations for a Freeway Trail and Bikeway Class I bikeway/trail in the City of Irvine. Following the de minimis determination, this Section 4(f) analysis also includes information regarding resources evaluated relative to the requirements of Section 4(f), but that do not trigger protection under Section 4(f).

1.0 General Background

The proposed project will receive federal funding and a Categorical Exclusion is being prepared for this project; therefore, it is subject to Section 4(f) analysis. The area within 0.5 mile is the maximum disturbance limits (project footprint) for the Build Alternative and was used to define the study area for existing publicly owned recreation and park properties, including local, regional, state and federal properties; existing play and sports fields of public schools with public access, publicly owned wildlife and water fowl refuges and conservation areas, and existing off-street public bicycle, pedestrian, and equestrian trails. The study area was defined to identify an area large enough to assess the potential for the project to result in proximity impacts to properties protected under Section 4(f).

Excluding the off-street Class I bikeway/trail, within 0.25 mile study area there are a total of 18 trails in the vicinity.

PROJECT DESCRIPTION AND ALTERNATIVES

The I-405 Multi Asset Project from I-5 to Harbor Boulevard (Post-miles 0.2/11.4) (11.2 Miles long) is located in the Cities of Irvine, Costa Mesa, and a portion of unincorporated area of Orange County and the project's proposal is to extend life expectancy of pavement, improve safety and efficiency for all modes of travelers, as well as maintenance crews, enhance traffic operation, manage congestion, and provide ability to collect, analyze, and utilize data for systems performance along the I-405 corridor which is a controlled access freeway and a major north-south interstate highway.

Caltrans is the Lead Agency for the National Environmental Policy Act (NEPA), the anticipated environmental determination is a Categorical Exclusion (CE). Caltrans is also the Lead Agency for the California Environmental Quality Act (CEQA). An Initial Study (IS), leading to a Negative Declaration (ND) is anticipated CEQA document. The project has two (2) alternatives, including Alternative 1 as the Programmable Project Alternative and Alternative 2- No-Build.

The Purpose and Need

Purpose

1. Extend the service life of the existing pavement and to improve the ride quality, pavement serviceability, and safety characteristics according to the pavement preservation program of the Federal guidelines.
2. Replace bridges' approach and departure slabs, and upgrade bridge railing at various locations.
3. Remove and replace plant materials that are deficient and deteriorated.
4. Minimize exposure of highway workers to traffic and reduce recurrent maintenance activities.
5. Provide safe access by relocating electrical fixtures away from the recovery zone.
6. Incorporate Intelligent Transportation Systems (ITS) elements for traffic system management.
7. Improve operations for motorists and pedestrians.
8. Upgrade safety devices to current standards.
9. Improve mobility by adding a park and ride facility

Need

1. Pavement Rehabilitation: Deteriorating pavement, showing surface distress, slab displacement and cracking
2. Bridge Health: Cracked and settled bridge departure and approach slabs, out of date bridge railing
3. Roadside Rehabilitation: Outdated planting and irrigation system
4. Roadside Safety Improvement:
    a. Exposure of maintenance crews to live traffic
    b. Existing unpaved areas, graffiti, minimal maintenance access, and outdated irrigation facilities adjacent to the shoulder
5. Transportation Management System: Lack of traffic system management connectivity
6. Operational Improvements: Ramp queuing, mainline delay, and non-standard access for pedestrians
7. Collision severity reduction: Non-standard existing safety devices
8. Lighting Rehabilitation
9. Lack of public park and ride facility along Route 405 while share driving is in high demand. The subject area is the best-chosen location to serve surrounding communities

A. Build Alternative

The project work activities include the following:

1. Pavement Class I
    a. Remove and replace concrete slabs in NB direction between University Dr. and Culver Dr.
    b. Grind and groove concrete pavement in both directions.
    c. Remove and replace loop detectors in kind on freeway pavement.
    d. Cold plane existing pavement on I-405 mainline, selected shoulders, ramps, and connectors
    e. Remove and replace loop detectors at on/off ramps.
    f. Upgrade curb ramps to current ADA standards.
    g. Install nine (9) traffic census stations

2. Bridge Health
    a. San Diego Creek Bridge—remove and replace approach/departure slabs on all travel lanes (both directions) (bridge # 55-0285)
    b. NB I-405/SB SR-55 connector Bridge—remove and replace approach/ departure slabs (bridge # 55-0436G)
    c. NB direction on MacArthur Blvd. Overcrossing (OC)—remove and replace departure slabs (bridge # 55-0440R)
    d. San Diego Creek Channel - remove and replace Only NB 405 departure slab (bridge # 55-0451)
    e. Santa Ana Delhi Channel Bridge – upgrade railing and modify utility conduit on SB 405 (bridge # 55-0484)
    f. San Diego Creek Channel - upgrade concrete barrier at SB I-405 before the Irvine Center Dr off-ramp (bridge #55-0451)

3. Roadside Rehabilitation
    a. Improve planting and irrigation system deficiencies from Irvine Center Dr. to San Diego Creek and from Von Karman Ave. to Bear St.

4. Roadside Safety Improvement
    a. Relocate irrigation facilities at Jeffrey Interchange and Bristol Street Interchange and improve workers' safe access from Irvine Center Dr. to San Diego Creek.
    b. Provide proper safe maintenance vehicle access features at SR 133 Junction and Sand Canyon Ave. Interchange roadside areas
    c. Remove existing trees that are located within safety recovery zone
    d. Install new irrigation service for the new irrigation controller cabinets on I-405 and SR-133

5. Lighting Rehabilitation
    a. Cover existing soffit lights with steel plates. Install wall mounted light fixtures and conduit if needed at various locations.

b. Remove and replace all existing conduits, bases, and light poles at NB I-405/SB SR-133 connector.

6. Transportation Management Systems
   a. Install cameras, camera poles, and central locking systems at on-ramps and merging areas to monitor freeway entrances.
   b. Install cameras and camera poles at off-ramps for wrong way detection.
   c. Install video camera and radar detection on existing traffic signal at intersections.
   d. Install smart lighting device on all existing light poles (up to 200 poles) in both directions and on all new light poles.
   e. Upgrade 12 existing surveillance cameras.
   f. Upgrade 5 existing CMS at Irvine Center Dr. Bristol Street, and Harvard Ave. in the NB direction, and University Dr./Jeffrey Rd and Von Karman Ave. in the SB direction.
   g. Install new CMS sign at NB I-405 at Bristol Street
   h. Remove Antenna System at select locations

7. Operational Improvements
   a. Construct 1,600 feet of acceleration lane and an additional lane on the NB I-405 on-ramp from SB Culver Dr.
   b. Construct 4,250 feet of auxiliary lane and an additional lane on the NB I-405 on ramp from SB Jeffrey Road.
   c. Provide 1,850 feet auxiliary lane from NB I-405 off-ramp to Sand Canyon Ave. to NB I-405 on-ramp from Sand Canyon Ave. (loop on-ramp).
   d. Widen SB I-405 off-ramp to Sand Canyon Ave. to provide additional 600 feet of left turn lane and ramp termini to provide two (2) left turn lanes, and one (1) right turn lane.
   e. Construct standard deceleration lane for the SB I-405 off-ramp to Irvine Center Dr. and add a right turn lane at ramp termini.
   f. Widen SB I-405 off-ramp to Jamboree Rd. to provide an additional lane at ramp termini to provide two (2) left turn lanes, two (2) right turn lanes, and an optional left and right turn lane
   g. Restripe Irvine Center Dr. with Class II Bike Lane within Caltrans Right of Way.
   h. Restripe University Dr/Jeffrey Rd with Class II Bike Lane within Caltrans Right of Way.

8. Collision severity reduction
   a. Upgrade Metal Beam Guard Rails (MBGR) to Midwest Guardrail System (MGS).
   b. Remove curb and gutter.
   c. Pave median area at I-405 Southbound direction between Irvine Center Dr. and San Diego Creek Trail Bridge and between Jeffrey Rd. and Culver Dr.

d. Remove trees greater than 4” in diameter in the clear recovery zone.

9. Park and Ride Facility
   a. Construct a Park and Ride Facility at southbound I-405 and Bristol Street.
   b. The proposed layout on Attachment C follows the existing landform to maximize usage of existing contours.
   c. Access to the park and ride facility will be separate from I-405 mainline using new features including chain link fence and curbs.
   d. The facility will be accessible only from Bristol Street.
   e. Includes 150 regular and six (6) access car spaces.
   f. Construct a 5-feet-wide ADA compliant sidewalk along the driveway from parking lot to Bristol Street. The Access Parking spaces will be located adjacent to the sidewalk.
   g. Construct pedestrian stairway as an additional access to provide shopper’s convenience access.
   h. Install miscellaneous features including entrance monument, bike rack or bike locker, benches and trash cans, security lightings.
   i. The layout of Park and Ride is available for solar panel and EV chargers.
   j. Construct retaining walls adjacent to the maintenance access.
   k. Construct drainage inlets and pipes as needed to provide proper drainage for the facility.
   l. Install new lighting
   m. Will be accessible to two bus routes (55 and 57) that travel on Bristol Street. The closest stops are located near Anton Blvd and at Paularino Ave.

10. Retaining Walls and Soundwall
    a. The project will construct one (1) soundwall:

       The soundwall, S255, will be constructed at the SB I-405 between Jeffrey Road/University Drive to about 2700 feet south of Yale Pedestrian Bridge and would be situated on Caltrans right-of-way along the SB I-405 off ramp to University Drive. The soundwall will have a length of approximately 662 feet and will connect to the existing end of soundwall S271 which has a height of 14 feet at that location. The proposed soundwall would provide feasible noise abatement for the frequent outdoor use areas of 15 multi-family residences, will have a height of 16 feet, and will provide Caltrans’ acoustical noise reduction design goal of 7 dB at one or more receptors.

    b. The project will construct Six (6) retaining walls:

       1. Retaining Wall 660 - SB off ramp at Irvine Center Dr.
       2. Retaining Wall 90 - NB onramp at San Canyon

3. Retaining Wall 43 - NB onramp Jeffrey Rd
4. Retaining Wall 266 - On Mainline Shoulder, between NB Jeffrey onramp and Yale Ave pedestrian overcrossing
5. Retaining Wall 1 - Park and Ride
6. Retaining Wall 2- Park and Ride

The duration of the project will be approximately 2 years starting in February 2024 through October 2026. Bicycle and pedestrian detours will be provided. In addition, the Caltrans Standard Specifications in the Transportation Management Plan (TMP) will require the project to provide information to the public for pedestrian and bicycle detours.

B. No-Build Alternative

The No Build Alternative will not improve public safety

2.0 De Minimis Determinations

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Table 4 below includes public parks, recreational facilities, and wildlife refuges within the 4(f) study area to determine whether they are protected Section 4(f) properties There is 1 recreational facility, the Freeway Trail owned and operated by the City of Irvine that have been determined to trigger the requirements for protection under Section 4(f).

FREEWAY TRAIL CLASS I BIKEWAY/TRAIL

Description of Activities, Features, and Attributes

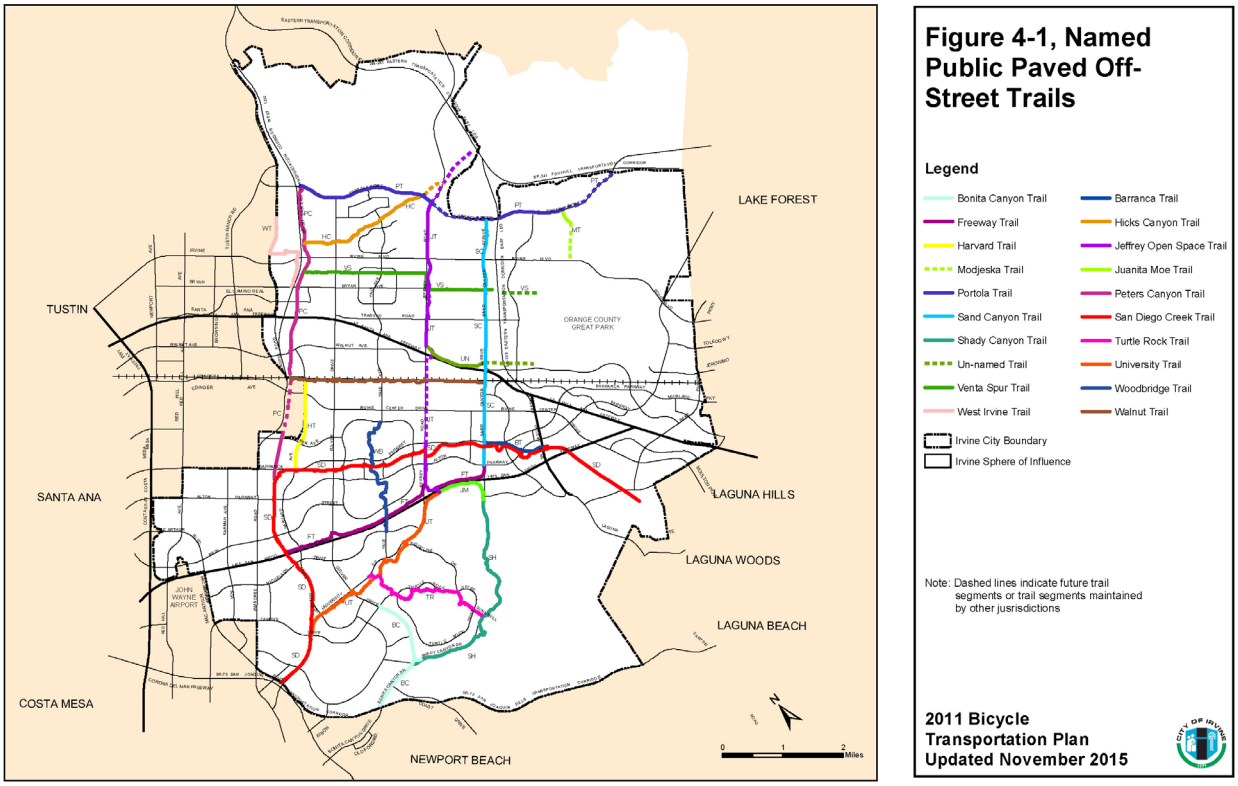
The Freeway Trail is a Class I Bikeway/Trail, within the City of Irvine. This trail runs for approximately 3.7 miles in the City of Irvine, County of Orange. As the name implies, the Freeway Trail parallels Interstate 405 on its brief route through Irvine. At its western end, the trail meets the San Diego Creek Trail, the spine of Irvine's extensive trail network. Near its midpoint, the trail connects to the meandering Woodbridge Trail, while farther east, the trail meets the Jeffrey Open Space Trail, which heads north and south. As the Freeway Trail is primarily a connector trail, there are no dedicated parking lots or public parks nearby. Trail end points include San Diego Creek Trail at I-405, at Sand Canyon Avenue, and at Alton Parkway. This bikeway/trail is predominantly asphalt with shoulder striping along most segments. The Class 1 Bikeway/Trail as described from the City of Irvine Bicycle Transportation Plan (2011) states that a Class I Bikeway is a completely separated travel way designed for the exclusive use of bicycles; Freeway Trail is a Shared Use Path Class 1 according to the City of Irvine's Bicycle Transportation Plan and the City of Irvine Bikeways Map.

The Freeway Trail Class I Bikeway/Trail is part of a larger system consisting of on-/off-street bikeway/trails as well as Class II on-street striped bike routes (see Figure 1). The citywide bike system consists of 61.8 miles of off-street bikeway trails and 301 lane miles of on-street bikeways. From the Freeway Trail Class I Bikeway/Trail, the public can directly connect to the following Public Paved Off-Street Trails (Figure 1) bikeway trails:

- Barranca Trail
- Sand Canyon Trail
- Jeffrey Open Space Trail
- Woodbridge Trail
- Peters Canyon Trail
- San Diego Creek Trail
- University Trail

The Freeway Trail Class I Bikeway/Trail connects residents from the central portion of the City to the western and eastern portions, commercial centers, and local and regional open space and park areas. In addition, the Freeway Trail connects to the San Diego Creek Class I Bikeway/Trail, which serves as a regional bikeway connection to Newport Beach (to the south) and to the cities of Tustin and Orange (to the north).

Figure 1 – Named Public Paved Off-Street Trails. Source: City of Irvine, Bicycle Transportation Plan 2011 (accessed October 5, 2020)]



Amenities of the bike facility are limited. Lighting is limited to portions of the facility that are adjacent to city streets. Landscaping is restricted on this facility because it is a County Flood Control facility. Benches and drinking water facilities are found only south of Barranca Street

Proposed "Use"

The proposed improvements of the Build Alternative on the I-405 at the Jeffrey On-Ramp and the Culver On-Ramp will require temporary closures. The Build Alternative will temporarily impact access to the Freeway Trail at these two project locations. Due to the proposed improvements on the I-405 connector, the Freeway Trail at these locations would be temporarily closed for approximately 30 to 90 days each. (see Figure 2). There will be no changes made to the bike facility.

Figure 2: Impacts to Freeway Trail



Path: Q:\GIS\a0q970\Working Maps\a0q970_Community_features_trails.aprx
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, City of Irvine GIS Shapefiles (2024)

Date Printed: 9/28/20

DISTRICT 12
Environmental Analysis

- Project Limits
- Shady Canyon Trail & Bikeway
- San Diego Creek Trail & Bikeway
- San Diego Creek / Mountains to the Sea Trail & Bikeway
- Sand Canyon Trail & Bikeway
- University Trail & Bikeway
- Jeffrey Open Space Trail & Bikeway
- Freeway Trail & Bikeway
- Juanita Moe Trail & Bikeway
- Woodbridge Trail & Bikeway
- Quail Hill Loop Trail

0Q970 I-405 Multi-Asset
Community Features
Trails & Bikeways
1 of 2

Caltrans

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Table 2 – Section 4(f), Freeway Trail Class I Bikeway/Trail

Property Name	Description	Official Agency with Jurisdiction	Distance from Project Footprint	Type of Use
Freeway Trail Class I Bikeway/ Trail	**Location:** City of Irvine **Size:** 3.7 length of paved Class 1 off-street bikeway/trail **Distance from Project Footprint:** within 0.5 mi of the project footprint **Features:** City of Irvine owned asphalt surface bikeway/trail. Is mainly a connector trail that connects to the City's various bikeway networks. Activities include biking, inline skating, walking and wheelchair accessible	City of Irvine	Within the project footprint	*De minimis*

In addition, Figure 3 (below) identifies that there are other recreational parks and trails within 0.5 mile of the project location.

Figure 3 – City of Irvine Bikeways Map

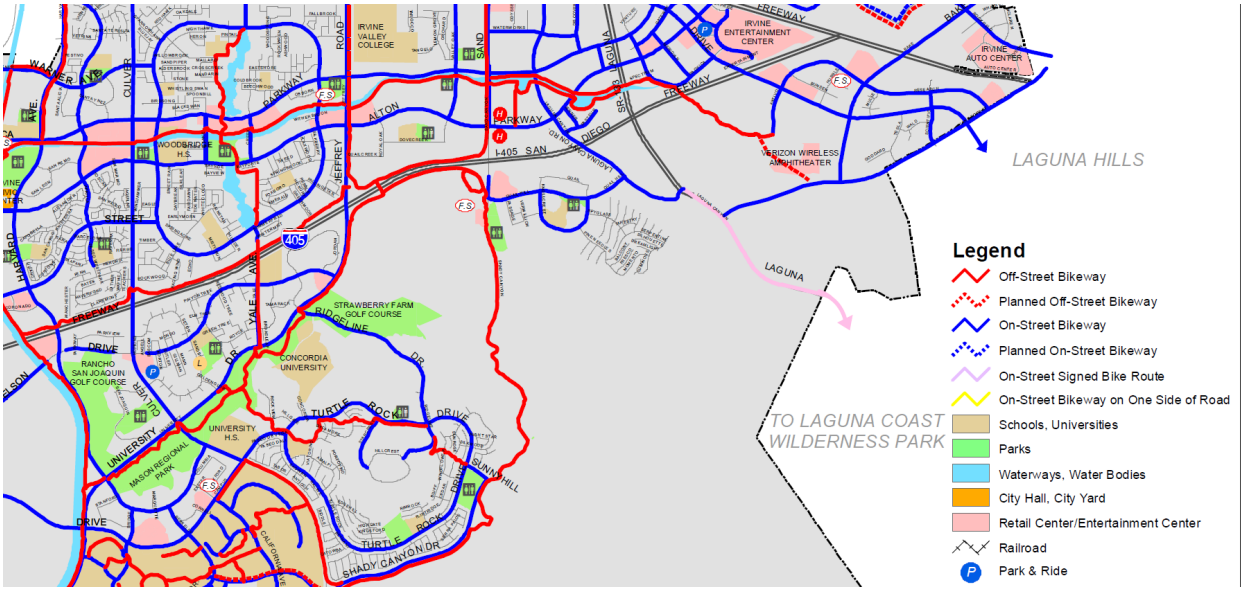


Figure 4 discloses the project's temporary and permanent construction impact. Indicated on Sheet 3 of 4, the bikeway/trail is shown as being temporarily impacted.

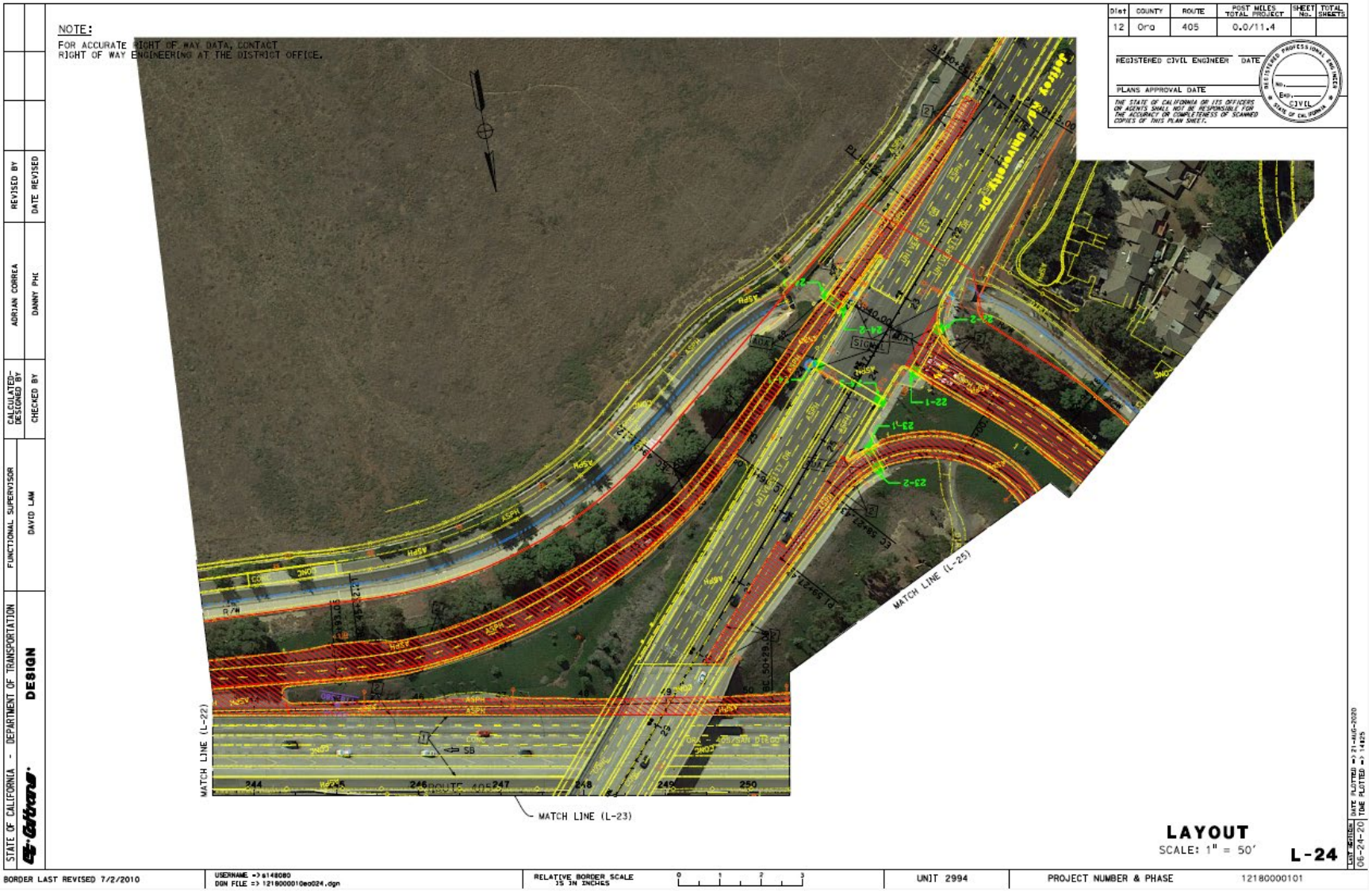
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Figure 4 – Preliminary Project Plan Sheets at Jeffrey On-Ramp/I-405 (Sheet 1 of 4)



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Figure 4 – Preliminary Project Plan Sheets at Jeffrey On-Ramp/I-405 (Sheet 2 of 4)



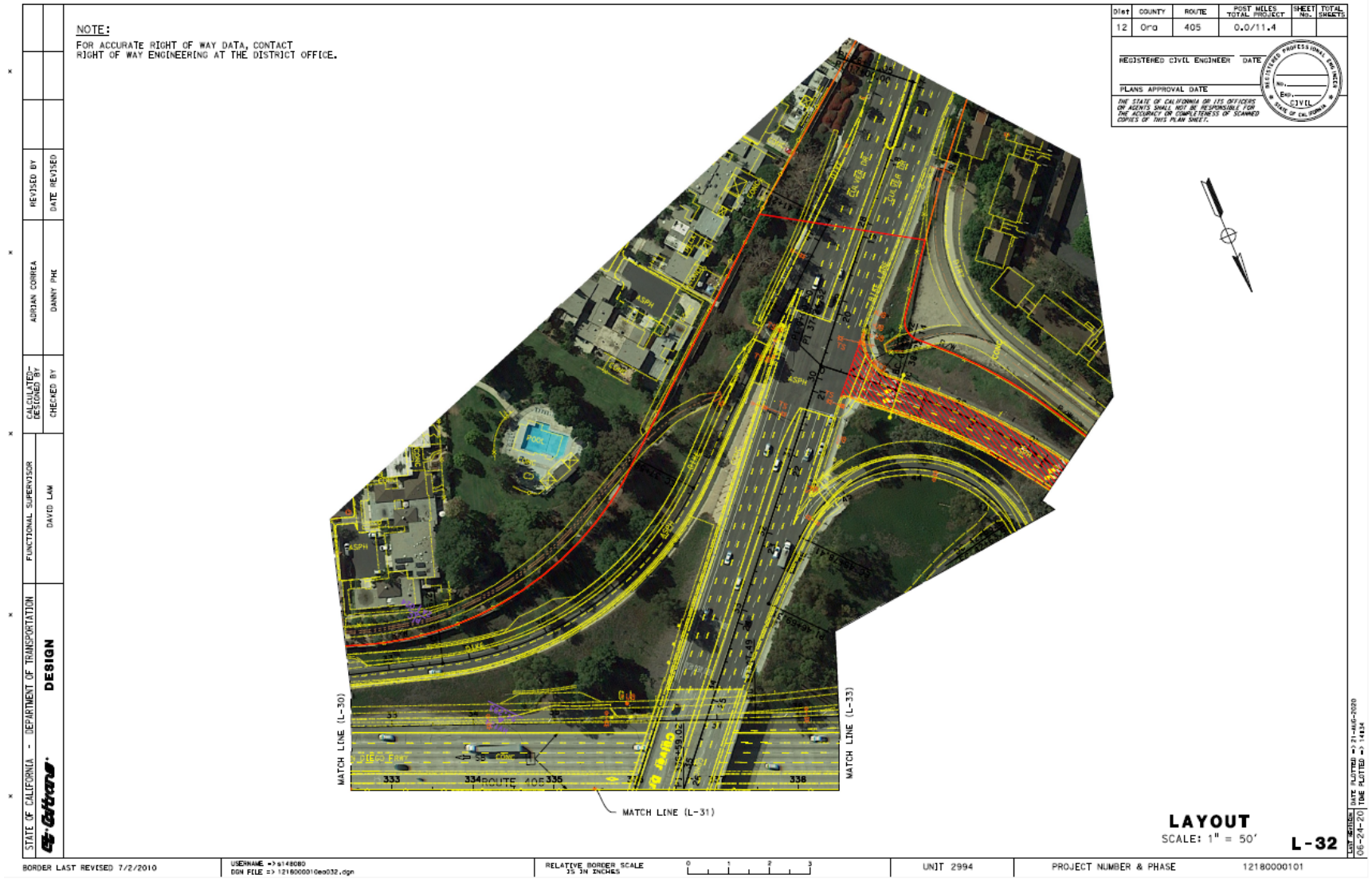
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Figure 4 – Preliminary Project Plan Sheets at Culver On-Ramp/I-405 (Sheet 3 of 4)



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Figure 4 – Preliminary Project Plan Sheets at Culver On-Ramp/I-405 (Sheet 4 of 4)



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There is no exception to the "use" to the Freeway Trail because the project cannot meet all five conditions under Temporary Occupancy in order to constitute an exception to the use. The project may involve temporary interference with the ability of the public to use the bikeway/trail by temporary closure of the bikeway/trail at the project location(s). Therefore, there is a use for the purposes of section 4f.

Why the Use is De Minimis

De Minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not adversely affect the activities, features and attributes of the Section 4(f) resource. Caltrans must make a finding for each resource and the responsible official with jurisdiction over each resource must agree in writing with that finding.

The temporary use described above will not diminish the function of the Freeway Trail Class I Bikeway/Trail and its associated amenities. There will be no impacts that adversely affect the recreational activities, features and attributes that qualify the property for protection under the requirements of Section 4(f). Access to the bikeway/trail from the project location will temporarily be impacted; the crosswalks across Culver and Jeffrey would be temporarily closed due to reconstruction of these two on-ramps. Trail users can still access north and south of these interchanges by using the sidewalk on the eastside of Culver Drive and Jeffrey Road. The remainder of the bikeway/trail and its connection to the larger network of bikeway/trails will remain open and undisturbed. As shown in Figure 1, for the Jeffrey On-Ramp location, the San Diego Creek Bike Trail is directly adjacent to the Freeway Trail at the proposed project location, providing for an alternate route to connect back to the Freeway Trail Class I Bikeway/Trail outside of the project limits; University Trail, Juan Moe Trail and the Jeffrey Open Space Trail are also adjacent/nearby. For the Culver On-Ramp location, the San Diego Creek Bikeway/Trail again is directly adjacent to the Freeway Trail. The San Diego Creek Trail can be accessed also via the Portola Trail.

The project proposes no permanent use nor permanent land conversion.

Each ramp is projected to be closed for between 30 to 90 days; there will be no consecutive ramp closures. This requirement will be part of the project's special provisions. As per the TMP, the construction contractor is required to provide detours to the Freeway Trail Class I Bikeway/Trail for the temporarily closed portion due to construction activities. This requirement of no consecutive ramp closures will also be provided in the Transportation Management Plan (TMP). Therefore, the public will still have access to the bikeway/trail by utilizing the provided detours. There is no designated critical habitat in the project area, and no special status or listed species are expected to occur during project activity. No wetlands or water conveyances will be impacted by the proposed project. The avoidance, minimization and/or mitigation measures that would be implemented during construction will help reduce the minor impacts to the Freeway Trail Class I Bikeway/Trail.

The temporary impacts to the Freeway Trail Class I Bikeway/Trail would not adversely affect the activities, features, and attributes of the facility. As mentioned, an adjacent trail, the San Diego Creek Bikeway Trail will be open and available for the public to use that is approximately 0.3 miles north of the Freeway Trail from the Jeffrey On-ramp. The San Diego Creek Bike Path connects with the Freeway Trail at Harvard Street, which is just north of the Culver On-Ramp at I-405.

Incorporation of the following Avoidance, Minimization and/or Mitigation Measures below (which are project features) will ensure that construction activities will not impact the use of the recreational facilities by the public.

Because of the reasons above, Caltrans has made a ***de minimis determination.***

Avoidance, Minimization, and/or Mitigation Measures/Environmental Commitments Record (ECR): To minimize impacts to the Section 4(f) Use, the following project features are included in the proposed project and in the Environmental Commitments Record:

PF-TRA-1 A Transportation Management Plan (TMP) shall be included in the design plans for implementation by the contractor prior to and during construction of any improvements. The TMP shall consist of prior notices, adequate sign posting, detours (including 30-90 days closure of the Freeway Trail at Jeffrey On-ramp and at Culver On-ramp), phased construction, and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (e.g., prior notices, sign posting, detours) as determined appropriate by Caltrans. Adequate local emergency access shall be provided at all times to adjacent uses. Proper detours and warning signs shall be established to ensure public safety. The TMP shall be devised so that construction shall not interfere with any emergency response or evacuation.

PF-WQ-1 The project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003 and the and any subsequent permits in effect at the time of construction.

PF-N-1 Caltrans Standard Specifications Section 14.8-02: Control and monitor noise resulting from work activities. Do not exceed 86 dBA Lmax at 50 ft from the job site from 9 p.m. to 6 a.m.

Consultation and Coordination with the Official Jurisdiction

Caltrans has initiated consultation with the City of Irvine with regards to the characterization of effects of the project in the context of this Section 4(f) analysis, consistent with 49 USC 303(d)(3)(B). Caltrans sent a Preliminary Section 4(f) Resource Analysis coordination letter to City of Irvine (the official with jurisdiction) on October 8, 2020. Subsequent to this letter, Jaimee Bourgeois Deputy Director of Transportation

had discussions with Caltrans David Lam Senior Design Engineer and Smita Deshpande Senior Environmental Planner regarding temporary closures and alternate routes. Next steps were discussed that This Section 4(f) De Minimis Analysis will be made available along with the Draft Environmental Document for review and commenting.

After circulation of the Section 4(f), a request will be sent to the City of Irvine for concurrence on this de minimis determination. During October 2020 discussion, Jamiee Bourgeois already gave Caltrans a verbal approval of this De Minimis Determination.

3.0 Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Additionally, there are privately owned community parks within 0.25 miles of the project Since these parks are not publically owned but rather privately owned and only used by the homeowners within the associated community; they are not publicly owned facilities. Thus, they are not considered a Section 4(f) property and therefore not subject to projection under Section 4(f). These parks are also not within close proximately to the project site and construction activities will not encroach into them.

Table 3 - Summary of Properties Subject to Section 4(f) Consideration (No-Use)

Type of Property	Geographic Location to project	Number of Properties
Public Schools	Within 0.25 mile	3
Public Parks-Recreation Areas	Within 0.25 mile	8
Trails	Within 0.25 mile	12
Wildlife and Waterfowl Refuges	Within 0.25 mile	0
NRHP-eligible historic sites	Within the APE	none
NRHP-eligible archaeological sites	Within the APE	none

Table 4 – Properties Subject to Section 4(f) within 0.25 miles of the Study Area (No-Use)

No.	Property	Address	City	Facilities
1	Shady Canyon Trail and Bikeway	Approximately 90 Pacifica, Irvine, CA 92618	Irvine	Class II On-Street Bikeway Facility
2	San Diego Creek Trail and Bikeway	Irvine	East Irvine	San Diego Creek Trail is a 14.5 mile moderately trafficked out and back trail located near East Irvine, that features a river and is good for all skill levels. primarily used for walking, running, bird watching, and road biking and is accessible year-round. Dogs are also able to use this
3	San Diego Creek/Mountains to the Sea Trail and Bikeway	Irvine	Irvine	22-mile National Recreation Trail may begin with a docent-led hike or bike ride in rugged, oak-filled Weir Canyon Nature Preserve. The trail then takes you south toward the coast through five different cities and a portion of unincorporated Orange County
4	Sand Canyon Trail and Bikeway	Along Shady Canyon Drive	South Irvine	4 mile trail with end points at Juanita Moe Trail at Sand Canyon Ave. and Quail Hill Pkwy. and Bonita Canyon Trail at Bonita Canyon Dr. and Shady Canyon Dr. Biking, walking and hiking
5	University Trail and Bikeway	Irvine	Irvine	3 mile trail with endpoints San Diego Creek Trail north of University Dr. and Jeffrey Open Space Trail and Juanita Moe Trail at I-405. Walking, Biking, inline
6	Jeffrey Open Space Trail and Bikeway	13252 Jeffrey Rd, Irvine, CA 92620	Irvine	The Jeffrey Open Space Trail is a public park in Irvine, California, planned to stretch for 5 miles along a corridor on the east side of Jeffrey Road, from Quail Hill in the San Joaquin Hills inland to Portola Parkway in the Santa Ana Mountains
7	Juanita Moe Trail and Bikeway	Irvine, CA 92612	Irvine	1 mile withtrail end points at University Trail and Jeffrey Open Space Trail at I-405 and Shady Canyon Trail at Sand Canyon Ave. and Quail Hill Pkwy. Biking, walking hiking, inline skating
8	Woodbridge Trail and Bikeway	Irvine	Irvine	2.2 mile trail with endpoints at Yale Ave. and W. Yale Loop and Yale Ave. and Michelson Dr. Walking, biking
9	Quail Hill Loop Trail	34 Shady Canyon Dr, Irvine, CA 92603	Irvine	1.8 mile heavily trafficked loop trail that features beautiful wild flowers and is good for all skill levels.
10	Dove Creek Park	3 Dovecreek, Irvine CA 92618	Irvine	Public park within 0.25 miles of project. Contains a restroom, drinking fountains, child playground, open playground, soccer field, ball diamonds, trail access, barbeques and picnic area

11	Quail Hill Community Park	35 Shady Canyon Dr, Irvine, CA 92603	Irvine	Public park within 0.25 miles of project. Contains a restroom, drinking fountains, child playground, open playground, soccer field, basketball courts, ball diamonds, trail access, barbeques, picnic areas and tables
12	Del Mesa Park	2080 Manistee Dr, Costa Mesa, CA 92626	Costa Mesa	1 acre Public park within 0.25 miles of project. Has picnic tables, barbeques, playgrounds, restrooms, volleyball and basketball courts
13	Shiffer Park	Adjacent to Bear Street, Costa Mesa	Costa Mesa	6.72 acre public park adjacent to Bear Street in project location. Includes restrooms, picnic tables, barbeques, water fountains, volleyball and basketball courts, playgrounds
14	Wakeham Park	3400 Smalley Street, Costa Mesa, 92626	Costa Mesa	10 acre public park within 0.25 miles of project. Park amenities include a restroom, barbeques, playgrounds, picnic tables, shelters, drinking fountains, exercise areas, basketball and volleyball courts
15	Paulerino Park	1040 Paularino Ave, Costa Mesa, CA 92626	Costa Mesa	2.3 acre public park within 0.25 miles of project limits. Park amenities include a playground, a shelter and picnic tables
16	Gisler Park	1200 Gisler Ave, Costa Mesa, CA 92626	Costa Mesa	4.1 acre public park within 0.25 miles of project limits. Park amenities include a barbecue, playground, picnic tables, drinking fountains and a volleyball court
17	Wimboldon Park	3441 Wimbledon Way, Costa Mesa, CA 92626	Costa Mesa	3.36 acre public park within 0.25 of project limits. Park amenities include picnic tables, drinking fountains, exercise area, basketball court and playgrounds
18	Kilbrook Elementary	3155 Killybrooke Ln, Costa Mesa, CA 92626	Costa Mesa	Not subject 4f because the playground is not open to the public
19	Tewinkle Middle School	3224 California St, Costa Mesa, CA 92626	Costa Mesa	Not subject 4f because the playground is not open to the public
20	CA Elementary School	3232 California St, Costa Mesa, CA 92626	Costa Mesa	Not subject 4f because the playground is not open to the public

There would be no use of land from these properties under Section 4(f) (permanent incorporation of land from the property into the transportation facility) and there are no TCEs or other temporary occupancies within the boundaries of all the above-mentioned properties in Table 4 under the Build Alternative. There are no permanent or temporary occupancy of land from these resources under the Build Alternative. Thus, the requirements for protection under Section 4(f) are not triggered for the properties in Table 4.

In terms of proximity or constructive use impacts:

- no staging areas or vehicular access near these resources are proposed,
- no substantial short-term or long-term visual impacts will occur,
- no adverse effects to water quality from construction activities anticipated,
- project constructions activities would not produce substantial operational air quality impacts,
- no long-term substantial noise impacts are anticipated,
- and operation of the Build Alternative would not result in any direct or indirect vegetation impacts.

The properties listed above are Section 4(f) properties, but no “use” will occur. Therefore, the provisions of Section 4(f) do not apply.

Appendix B – Title VI Policy Statement

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
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Making Conservation a California Way of Life.

August 2020

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

Original signed by
Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

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Appendix C – RTP - FTIP

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#21-01 ORA ORA001103 Roadway Preservation

2021 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM
ORANGE COUNTY
GROUP PROJECTS
(In $000s)

Grouped Projects for Pavement resurfacing and/or rehabilitation - SHOPP Roadway Preservation Program. Scope: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 categories - Pavement resurfacing and/or rehabilitation, Emergency relief (23 U.S.C. 125), Widening narrow pavements or reconstructing bridges (no additional travel lanes)

ROADWAY PRESERVATION PROJECTS							
RTIP #	**DESCRIPTION**	**PHASE**	**20/21**	**21/22**	**22/23**	**23/24**	**Total**
ORA001103	In Laguna Beach, from 7th street to Moss st. Remove and Replace pavement and with rubberized hot mix asphalt (RHMA). Combine with future EA 0P690 for construction under EA 0P69U.	E	$ -				
	EA 0H1510	R	$ -				
		C	$ 3,985				$ 3,985
ORA001103	In Orange County on NB and SB SR-1 from Warner Avenue in the City of Huntington Beach to LA/ORA County Line. Proposes to resurface 27 lane miles of pavement. 0P680 & 0P590 combined into 0P68U for construction. PCR approved for concurrent delivery.	E	$ 4,652				$ 4,652
	EA0P5900	R	$ 1,985				$ 1,985
	May 2019 CTC, approved RW Support COS request at a higher amount of $1,487,000. Project Change request to increase R/W Cap to $503,000 and CON Cap to $11,804,000 approved at June 2019 CTC meeting.	C	$14,162				$ 14,162
ORA001103	In Orange County, in Irvine and Anaheim, on SR-241 from NB off-ramp Portola Parkway). Repair distressed Roadway.	E	$ 3,205				$ 3,205
	EA 0H0471	R	$ -				$ -
	2018 SHOPP Reservation Funded, October 2018 CTC approval. Project should be in FY 20/21, it was put in FY 21/22 by error.	C	$22,595				$ 22,595
ORA001103	In Orange County, in San Clemente, on Rte. 5 from San Diego County Line to El Camino Real. Replace broken portland concrete slabs and upgrade safety devices.	E		$ 6,393			$ 6,393
	EA 0R2000	R		$ -			$ -
	2018 SHOPP Reservation Funded, October 2018 CTC approval. $27,658 Construction to be programmed at future date.	C		$ -			$ -
ORA001103	In Orange County, in Newport Beach, on Rte. 1 from Jamboree Road to Santa Ana River Bridge. Cold plane & overlay with Rubberized Hot Mix Asphalt and upgrade curb ramp	E		$ 4,980			$ 4,980
	EA 0R4100	R		$ 1,652			$ 1,652
	PSE COS request at higher amount: Program Amount: $2,660,000. Request Amount: $3,000,000. Approved by CTC at August 2019. PCR increase Con Cap to $11,200,000 and R/W Capital to $630,000 at Jan 2020 CTC.	C		$13,638			$ 13,638
ORA001103	In Orange County, in Santa Ana, Tustin, Irvine, Newport Beach, Costa Mesa and Anaheim on various connectors and ramps. Rehab. Existing pavement.	E		$ 8,400			$ 8,400
	EA 0R5600	R		$ -			$ -
	2018 SHOPP Reservation funded approved by the CTC at the March 2019 CTC. $32,000 Construction to be programmed at future date.	C		$ -			$ -
ORA001103	In and near Irvine and Costa Mesa, from Route 5 to Harbor Boulevard. Rehabilitate pavement	E			$22,100		$ 22,100
	EA 0Q970	R			$ 1,250		$ 1,250
	New 2020 SHOPP adopted project at May 2020 CTC. $174,000 Construction to be programmed at future date.	C		$ -	$ -		$ -
ORA001103	In Huntington Beach, Westminster, Garden Grove, and Seal Beach, from south of McFadden Avenue to the Los Angeles county line. Rehabilitate pavement.	E				$ 8,162	$ 8,162
	EA 0R57D	R				$ 21	$ 21
	New 2020 SHOPP adopted project at May 2020 CTC. $55,817 Construction to be programmed at future date.	C		$ -			$ -
ORA001103	In and near Buena Park, Fullerton, and Anaheim, from the Los Angeles county line to the Riverside county line (PM R18.905). Rehabilitate pavement.	E		$ -			$ -
	EA 0R31D	R					$ -
	Project deleted. Original project split 5 ways to 0R311, 0R312, 0R313, 0R314 & 0R315. (0R314 & 0R315 under group ORA001105)	C					$ -

State Highway Operation and Protection Program

Orange County
Document Year 2020, Version Number 2
PPNO: 5040D
(Dollars in Thousands)

DIST:	PPNO:	EA:	CTIPS ID:	TCRP NO.:
12	5040D	0Q970	109-0000-4420	

CT PROJECT ID: 1218000010

COUNTY:	ROUTE:	PM:
Orange County	405	0.200 / 11.400

TITLE (DESCRIPTION):
(In and near Irvine and Costa Mesa, from Route 5 to Harbor Boulevard. Rehabilitate pavement, replace bridge approach and departure slabs, upgrade bridge railings, improve highway worker safety, upgrade safety devices, and upgrade Transportation Management System (TMS) elements. This is a Design-Build project.
(G13 Contingency))

ELEMENT: SHOPP Major Const. MPO ID: 9 LAW: 20
SPONSOR: Caltrans
MPO: Southern California Association of Governments
CORRIDOR:
PRJ MGR: Bob Bazargan
PHONE: (657) 328-6298
EMAIL: bob.bazargan@dot.ca.gov

ASSEMBLY: 74
SENATE: 37
CONGRESS: 45,48

IMPLEMENTING AGENCIES:

PAED **RW**
PSE **CON**

Program Code	Quantity	Performance Measure	Asset Class
201.121	91.0	Lane mile(s)	

	Unit	Good/operational	Fair	Poor/non-operational	Quantity
Existing Condition	Lane mile(s)		90.9	0.1	91.0
Post Condition	Lane mile(s)	91.0			91.0

PROJECT VERSION HISTORY *(Printed Version is Shaded)* (Last 9 versions displayed)

Version	Status	Date	Updated By	Change Reason	Amend No.	Vote	Cum Award	Programmed Dollars in Thousands - Total for Project: Prog Con	Prog RW	PA & ED	PS & E	RW Sup	Con Sup
2	Official	06/24/2020	RSTONE	Allocation - CTC Vote	FP-19-92	9,100		157,000	250	9,100	13,000	1,000	17,000
1	Official	05/13/2020	LSTOCKTO	Approved - New Project	20H-000			157,000	250	9,100	13,000	1,000	17,000

Fund Source 1 of 2 SHOPP - Roadway Preservation

20.XX.201.121 - Pavement Rehabilitation
Fund Type
National Hwy System
Funding Agency

VOTE	DATE	AMOUNT
PAED	06/24/2020	9,100

	PRIOR	20-21	21-22	22-23	23-24	24-25	25-26	FUTURE	TOTAL
PA&ED		9,100							9,100
PS&E			13,000						13,000
R/W SUP			1,000						1,000
CON SUP									
R/W				250					250
CON									
Total:		9,100	14,000	250					23,350

Fund Source 2 of 2 SHOPP - G13 Contingency

20.XX.201.XXX - SHOPP - G13 Contingency
Fund Type
Contingency Projects
Funding Agency

VOTE	DATE	AMOUNT

	PRIOR	20-21	21-22	22-23	23-24	24-25	25-26	FUTURE	TOTAL
PA&ED									
PS&E									
R/W SUP									
CON SUP				17,000					17,000
R/W									
CON				157,000					157,000
Total:				174,000					174,000

Project Total:

VOTE	TOTAL AMOUNT
PAED	9,100

	PRIOR	20-21	21-22	22-23	23-24	24-25	25-26	FUTURE	TOTAL
PA&ED		9,100							9,100
PS&E			13,000						13,000
R/W SUP			1,000						1,000
CON SUP				17,000					17,000
R/W				250					250
CON				157,000					157,000
Total:		9,100	14,000	174,250					197,350

HQ Comments:
6/24/20 Made COS allocation (PA&ED) official. -RS
******** Version 2 - 06/23/2020 ********
Entered COS allocation (PA&ED) ? RW
****** Version 1 - 05/13/2020 ******
New 2020 SHOPP project

Products of CTIPS Page 1 09/21/2020 01:28:44

Appendix D – List of Technical Studies

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Some technical studies have PMs starting at 0.0/11.4 whereas others are having starting PMs as 0.2/11.4. Please note that actual limits of the project are 0.2/11.4.

- Air Quality Report (January 2021) – Prepared by Caltrans District 12
- Memo for Air Quality Report-Traffic data Revised (February 2021) - Prepared by Caltrans District 12
- Community Impact Assessment (Moderate) (April 2021) – Prepared by Caltrans District 12
- Draft Relocation Impact Document dated March 2021 – Prepared by Caltrans District 12
- Historic Property Survey Report (January 2021) and Archaeological Survey Report (ASR) – Prepared by LSA Associates, Inc, approved by Caltrans D12.
- Location Hydraulic Study (March 2021) – Prepared by CWE, approved by Caltrans D12
- Preliminary Geotechnical Study (February 2021) – Prepared by Caltrans District 12
- Noise Study and Abatement Decision Report (NSADR) (March 2021) – Prepared by Caltrans District 12
- Natural Environment Study Minimal Impacts (NES MI) (September 2020) – Prepared by LSA Associates, Inc, approved by Caltrans D12
- Supplemental Natural Environment Study Minimal Impacts (NES MI) (February 2021) – Prepared by LSA Associates, Inc., approved by Caltrans D12
- Initial Site Assessment Report (December 2020) – Prepared by Caltrans District 12
- Asbestos Containing Materials (ACMs) Report (January 2021) – Prepared by Stantec, approved by Caltrans D12
- Traffic Operations Analysis Report (TOAR) (February 2021 - Prepared by LSA Associates, Inc, approved by Caltrans D12
- Transportation Management Plan (TMP) (March 2021) - Prepared by LSA Associates, Inc, approved by Caltrans D12

- Scenic Resource Evaluation and Visual Impact Assessment (January 2021) – Prepared by Caltrans District 12

- Supplemental Scenic Resource Evaluation and Visual Impact Assessment (February 2021) – Prepared by Caltrans District 12

- Water Quality Assessment Report (WQAR) (January 2021) – Prepared by Caltrans District 12

- Section 4(f) De Minimis Determination And Resources Evaluated Relative To The Requirements Of Section 4(f) - (March 2021) – Prepared by Caltrans District 12

Appendix E – Avoidance, Minimization, and/or Mitigation Measures Summary

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In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Note: Mitigation measures are used to lessen a significant impact under CEQA; however, there are none for this project.

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Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Project Feature	Air Quality	**PF-AQ-1:** All air quality minimization measures are included in California Department of Transportation (Caltrans) Standard Specification (2018) for Construction, Section 14.9-02, Air Quality. The construction contractor must comply with the Standard Specifications, which also require compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.	Resident Engineer Project Engineer	Design Construction	No
Project Feature	Hazardous Materials	**PF-HAZ-1:** An aerially deposited lead (ADL) investigation is being performed for the project. Based on the findings, appropriate Special Provisions will be implemented.	Resident Engineer Contractor	Design Construction	No
Project Feature	Hazardous Materials	**PF-HAZ-2:** Should construction activities result in the disturbance of traffic striping and pavement marking materials, the generated wastes would be disposed of at an appropriate permitted disposal facility as determined by a lead specialist.	Resident Engineer Contractor	Design Construction	No
Project Feature	Hazardous Materials	**PF-HAZ-3:** During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources. If hazardous material contamination or sources are suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the California Department of Transportation (Caltrans) Construction Manual.	Resident Engineer Contractor	Design Construction	No
Project Feature	Hazardous Materials	**PF-HAZ-4:** The asbestos-containing material (ACM) survey has already been performed and, according to the results of this survey, the handrail shims of the following three bridges contain asbestos that should be disposed of appropriately per Caltrans Standard Specifications. The three bridges are: • San Diego Creek Bridge (55-0285) • Paularino Avenue Bridge (55-0436G) • San Diego Creek Channel Bridge (55-0451).	Resident Engineer Contractor	Design Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Project Feature	Water Quality	**PF-WQ-1:** The project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction.	Resident Engineer Project Engineer	Construction	No
Project Feature	Water Quality	**PF-WQ-2:** The project will comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ, NPDES No. CAS000002, and any subsequent permits in effect at the time of construction.	Resident Engineer Project Engineer	Design Construction	No
Project Feature	Water Quality	**PF-WQ-3:** The project will comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants (e.g., sediment control, catch basin inlet protection, construction materials management, and non-storm water BMPs). All work must conform to the Construction Site BMP requirements specified in the latest edition of the Storm Water Quality Handbooks: Construction Site Best Management Practices Manual to control and minimize the impacts of construction and construction-related activities, material, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs.	Resident Engineer Project Engineer	Design Construction	No
Project Feature	Water Quality	**PF-WQ-4:** Design Pollution Prevention BMPs will be implemented, such as preservation of existing vegetation, slope/surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes and swales, over-side drains, flared end sections, and outlet protection/velocity dissipation devices.	Project Engineer Resident Engineer	Design Construction	No
Project Feature	Water Quality	**PF-WQ-5:** California Department of Transportation (Caltrans) approved treatment BMPs will be implemented consistent with the requirements of NPDES Permit and WDRs for the State of California, Department of Transportation, Order No. 2012-0011-	Project Engineer Resident Engineer	Design Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
		DWQ, NPDES No. CAS00003, and any subsequent permits in effect at the time of construction. Treatment BMPs may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, dry weather flow diversion, Gross Solids Removal Devices (GSRDs), media filters, bioretention, Open Graded Friction Course, and wet basins.			
Project Feature	Water Quality	**PF-WQ-6:** Caltrans Full Trash Capture Devices will be implemented within Significant Trash Generating Areas (STGA) and park-and-ride lots consistent with the Caltrans Statewide Trash Implementation Plan to meet the State Water Resources Control Board (SWRCB) Trash Provisions (Resolution No. 2015-0019).	Project Engineer Resident Engineer	Design Construction	No
Project Feature	Water Quality	**PF-WQ-7:** If dewatering is required, construction site dewatering must comply with the General WDRs for discharges to surface waters resulting from DE MINIMUS discharges, groundwater dewatering operations, and/or groundwater cleanup/remediation operation at sites within the Newport Bay Watershed (Order No. R8-2019-0061, NPDES No. CAG918002), and any subsequent updates to the permit at the time of construction. The permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and discharges must comply with the WDRs issued by the Santa Ana Regional Water Quality Control Board (RWQCB).	Project Engineer Resident Engineer	Design Construction	No
Project Feature	Biology	**PF-BIO-1: Avoidance of Breeding Season and Nesting Bird Surveys.** Project activities shall occur outside the nesting season (February 1–September 30) to the fullest practicable extent, particularly at bridges that span San Diego Creek. If project activities with potential to indirectly disturb suitable avian nesting habitat within 500 feet (ft) of the work area would occur during the nesting season (as determined by a qualified biologist), a qualified biologist with experience in conducting breeding bird surveys will conduct a nesting bird survey no more than 3 days prior to the initiation of project activities to detect the presence/absence of migratory and resident bird species occurring in suitable nesting habitat. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under the guidance of the biologist, and construction will not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active. Work may only occur during the breeding season if nesting bird surveys indicate the absence of any active	Project Engineer Resident Engineer	Design Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
		nests within the work area. Without the written approval of the California Department of Fish and Wildlife (CDFW) and/or the United States Fish and Wildlife Service (USFWS), no work shall occur if listed or fully protected bird species are found to be actively nesting within 500 ft of the bridge structures subject to construction activities.			
Minimization Measure	Biology	**BIO-1: Pre-Construction Bat Surveys.** At bridge and culvert structures where construction activities will occur on that structure, and where there is also potential for maternity roosting, nighttime bat surveys should be performed by a qualified bat biologist during the peak period (June or July) of the bat maternity season (April 1–August 31) to confirm whether maternity colonies are present. These surveys should be performed by a qualified bat biologist at least 1 year in advance of construction so that appropriate site-specific and species-specific minimization measures can be developed in coordination with the California Department of Fish and Wildlife (CDFW) and a qualified bat biologist.	Project Engineer Biologist Resident Engineer	Design Construction	No
Minimization Measure	Biology	**BIO-2: Avoidance of the Bat Maternity Season.** Within 500 feet of structures where maternity roosting is confirmed, demolition and pile-driving activities shall avoid the recognized bat maternity season (April 1–August 31) to prevent potential mortality of flightless young bats. Any such construction activities at structures housing maternity colonies shall be coordinated with a qualified bat biologist and the CDFW prior to work within the bat maternity season.	Project Engineer Biologist Resident Engineer	Design Construction	No
Minimization Measure	Biology	**BIO-3: Humane Eviction and Exclusion.** Direct impacts to bats and bat-roosting habitat are not anticipated from the proposed project. If direct impacts to bat-roosting habitat are anticipated, humane evictions and exclusions of roosting bats should be performed under the supervision of a qualified bat biologist in the fall (September or October) prior to any work activities that would result in direct impacts or direct mortality to roosting bats. This action will be performed in coordination with the CDFW. To avoid potential mortality of flightless juvenile bats, evictions and exclusions of bats cannot be performed during the maternity season (April 1–August 31). Winter months are also inappropriate for bat eviction because not all individuals in a roost will emerge on any given night. In addition, long-distance movements to other roost sites are more difficult during the winter when prey availability is scarce, resulting in high mortality rates of evicted bats.			

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Minimization Measure	Biology	**BIO-4: Construction Impact Minimization Measures for Bats.** The following measures should be implemented to minimize project-related direct and indirect impacts to roosting and foraging bats: a. If night work (i.e., between dusk and dawn) is anticipated within 100 feet of structures where bat roosting is confirmed, night lighting shall be used only in areas of active work and shall be focused on the direct area(s) of work and away from the culvert entrances to the greatest extent practicable. b. Air space access to and from the roost features of the structures shall not be obstructed except in direct work areas, and construction personnel shall not be present in non-active areas beneath the structures or near the entrances to the structures. c. To the extent practicable, internal combustion equipment such as generators and vehicles are not to be parked or operated beneath or adjacent to the structures unless they are required for project-related work on that structure. d. The proposed project includes the relocation of light poles in various areas. Siting of these light poles should avoid overspill into bat-roosting sites to avoid permanent impacts to roosting and foraging bats. e. If swallow nests are removed to prevent swallows from nesting in the project area during construction activities, the nests should be inspected for roosting bats by a CDFW-approved bat biologist and removed in the fall (September or October) in a manner that ensures they do not fall to the ground before lack of occupancy has been established. f. To the greatest extent feasible, tree trimming/removal activities shall be performed outside the bat maternity season (April 1-August 31) to avoid direct impacts to non-volant (flightless) young that may roost in trees within the Biological Study Area (BSA). This period also coincides with the typical bird nesting season. If trimming or removal of trees during the bat maternity season cannot be avoided, a qualified biologist shall monitor tree trimming and removal activities.	Project Engineer Biologist Resident Engineer	Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Minimization Measure	Biology	**BIO-5: Compensation for Direct Impacts to Bats.** If permanent, direct impacts to bat-roosting habitat are anticipated and/or a humane eviction/exclusion is performed, alternate roosting habitat shall be provided to ensure no net loss of bat-roosting habitat. The design, numbers, and locations of these roost structures should be determined in consultation with a qualified bat biologist. This action shall be coordinated with the California Department of Transportation (Caltrans), the CDFW, and a qualified bat biologist to ensure that the installed habitat will provide adequate mitigation for impacts.	Project Engineer Biologist Resident Engineer	Construction	No
Project Feature	Population and Housing	**PF-CI-1:** Before Contract acceptance, restore damaged work to the same state of completion as before the damage.	Project Engineer Resident Engineer Contractor	Construction	No
Project Feature	Population and Housing	**PF-CI-2:** The California Department of Transportation (Caltrans) will comply in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.	Project Engineer Resident Engineer Contractor	Construction	No
Project Feature	Population and Housing	**PF-CI-3:** Construction activities must not inconvenience the public or abutting property owners. Schedule and conduct work to avoid unnecessary inconvenience to the public and abutting property owners.	Project Engineer Resident Engineer Contractor	Construction	No
Project Feature	Cultural Resource	**PF-CUL-1:** If cultural materials are discovered during construction activities, the construction contractor will divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, coordination will be maintained with the California Department of Transportation (Caltrans) District 12 Environmental Branch Chief or the District 12 Native American Coordinator to determine an appropriate course of action.	Archaeologist Resident Engineer Contractor	Construction	No
Project Feature	Cultural Resource	**PF-CUL-2:** If human remains are discovered during construction activities, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the Orange County Coroner shall be contacted. If the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who pursuant to	Archaeologist Resident Engineer Contractor	Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
		California Public Resources Code (PRC) Section 5097.98 will then notify the Most Likely Descendant (MLD). At that time, the persons who discovered the remains will contact the Caltrans District 12 Environmental Branch Chief or the District 12 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC 5097.98 are to be followed as applicable.			
Minimization Measure	Noise	**NOI-1:** Noise monitoring will be conducted to ensure that contractors take all reasonable steps to minimize impacts when near sensitive areas**.**	Project Engineer Noise Specialist Resident Engineer	Construction	No
Minimization Measure	Noise	**NOI-2 -** Noise and Vibration Monitoring and Mitigation Plan will be approved by Caltrans prior to start of construction.	Project Engineer Noise Specialist Resident Engineer	Construction	No
Minimization Measure	Noise	**NOI-3:** A community liaison program will be developed that would keep residents informed about construction plans.	Project Engineer Noise Specialist Resident Engineer	Construction	No
Project Feature	Noise	**PF-N-1:** Implementation of PF-N-1 requires construction to be conducted in accordance with California Department of Transportation (Caltrans) provisions in Section 14-8.02. Do not exceed 86 A-weighted decibel (dBA) maximum instantaneous noise level (L_{max}) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. A sound wall will be constructed.	Project Engineer Noise Specialist Resident Engineer	Construction	No
Project Feature	Traffic	**PF-TRA-1:** A Transportation Management Plan (TMP) shall be included in the design plans for implementation by the construction contractor prior to and during construction of any improvements. The TMP shall consist of prior notices, adequate sign posting, detours (including 30- to 90-day closure of the Freeway Trail at the Jeffrey Road and Culver Drive on-ramps), phased construction, and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (e.g., prior notices, sign posting, detours) as determined appropriate by the California Department of Transportation (Caltrans). Adequate local emergency access shall be provided at all times to adjacent uses. Proper detours and warning signs shall be established to ensure	Traffic Engineer Resident Engineer Project Engineer Contractor	Design Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
		public safety. The TMP shall be devised so that construction shall not interfere with any emergency response or evacuation.			
Project Feature	GHG	**PF-GHG-1: Emissions Reduction.** Comply with California Department of Transportation (Caltrans) Standard Specifications Section 7-1.02C. Submit to the Department the following certification before performing the work: *I am aware of the emissions reduction regulations being mandated by the California Air Resources Board. I will comply with such regulations before commencing the performance of the work and maintain compliance throughout the duration of this Contract.*	Generalist Resident Engineer Contractor	Construction	No
Minimization	GHG	**GHG-1: Vehicle Idle Time.** Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment (California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.	Resident Engineer Contractor	Construction	No
Minimization	GHG	**GHG-2: Truck Schedule.** Schedule truck trips outside of peak morning and evening commute hours.	Resident Engineer Contractor	Construction	No
Minimization	GHG	**GHG-3: Construction Waste.** Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).	Project Engineer Resident Engineer Contractor	Design Construction	No
Minimization	GHG	**GHG-4: Recycled Materials.** Maximize use of recycled materials (e.g., tire rubber).	Project Engineer Resident Engineer	Design Construction	No
Minimization	GHG	**GHG-5: Earthwork Balance.** Reduce the need for transport of earthen materials by balancing cut-and-fill quantities.	Project Engineer Resident Engineer	Design Construction	No
Minimization	GHG	**GHG-6: Fuel Efficiency.** Maximize fuel efficiency from construction equipment: (1) maintain equipment in proper tune and working condition, and (2) right size equipment for the job.	Resident Engineer	Construction	No
Minimization	GHG	**GHG-7: Construction Environmental Training.** Supplement existing training with information regarding methods to reduce greenhouse gas (GHG) emissions related to construction.	Project Engineer Resident Engineer	Pre-Construction	No

Avoidance, Minimization, and/or Mitigation Measures Summary

Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Minimization	GHG	**GHG-8: Park-and-Ride Lot.** A park-and-ride lot will be constructed within the project limits at southbound Interstate 405 (I-405) and Bristol Street. The park-and-ride lot will allow motorists to park their vehicles and carpool and ride on public transit buses. There are two nearby transit stops at the intersections of Bristol Street/Anton Boulevard and Bristol Street/Paularino Avenue. The lot will provide parking spaces for an estimated 162 vehicles, reducing the number of single-occupancy vehicles on the highway. The California Department of Transportation (Caltrans) preliminary design includes the following accessories: a bike rack or bike locker; solar panels; electric vehicle (EV) chargers; a pedestrian staircase; and security lighting. Final design of the park-and-ride lot will be completed during the next phase of the project. GHG emissions would be reduced when single-occupancy vehicles use the park-and-ride lot to participate in alternative modes of transportation.	Resident Engineer Contractor	Construction	No
Minimization	GHG	**GHG-9: Operational Improvements.** Operational and Transportation System Management/Transportation Demand Management (TSM/TDM) improvements such as auxiliary lanes, dedicated turn lanes, and Intelligent Transportation System (ITS) elements will contribute to reducing GHG emissions.	Resident Engineer Contractor	Construction	No
Project Feature	Utilities	**PF-UES-1:** During final design, relocation plans for any utilities that will potentially need to be relocated, removed, or protected-in-place will be prepared in consultation with the affected utility relocation providers/owners. If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way or other existing public rights-of-way and/or easements. If relocation outside of existing rights-of-way or additional public rights-of-way and/or easements required for the project are necessary, the final design will focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications. Prior to and during construction, the construction contractor will implement the components of the utility relocation plans provided in the project specifications. Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and will inform affected utility users in advance of the date and timing of potential service disruptions.	Resident Engineer Contractor	Construction	No

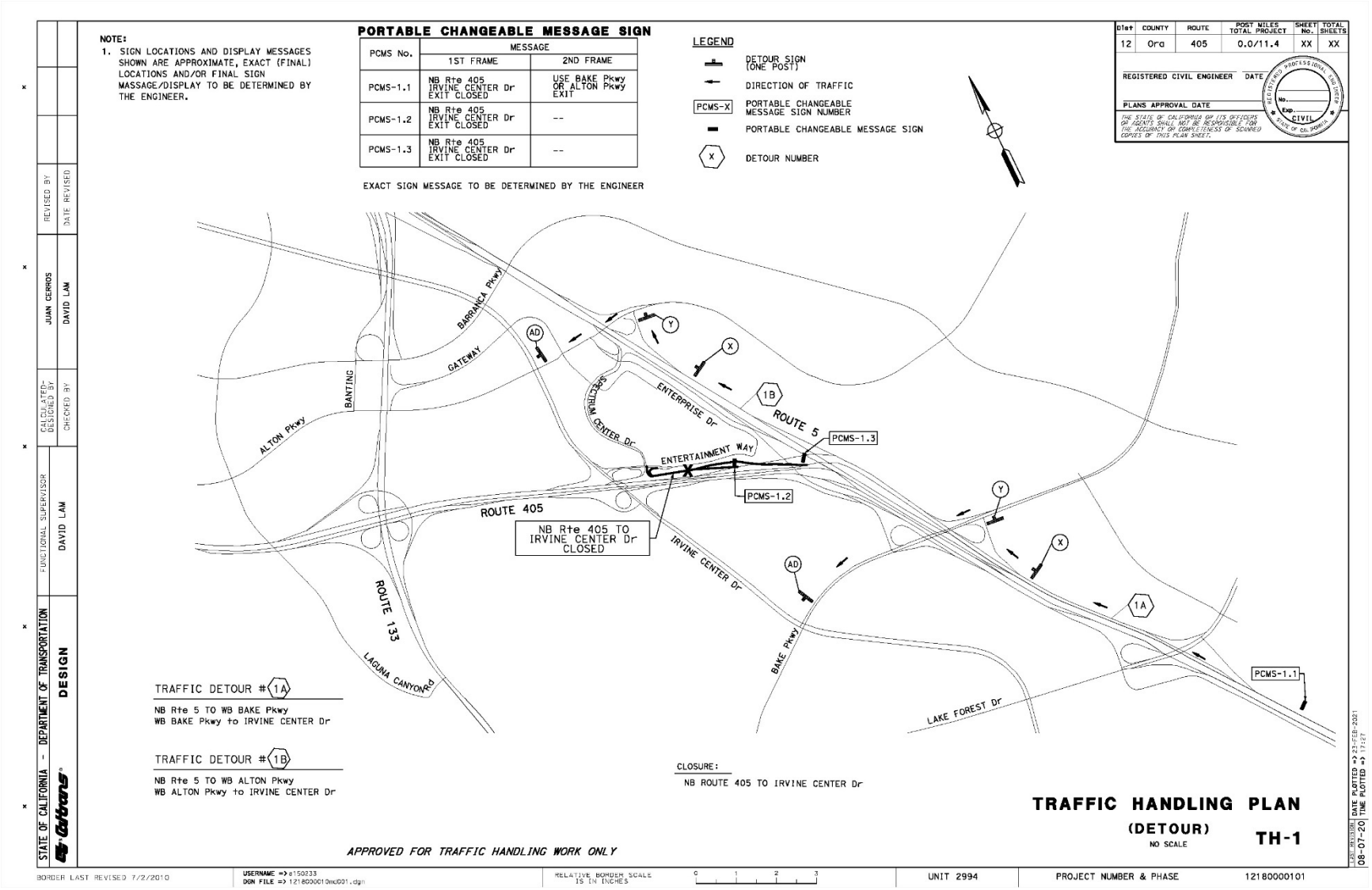
Avoidance, Minimization, and/or Mitigation Measures Summary

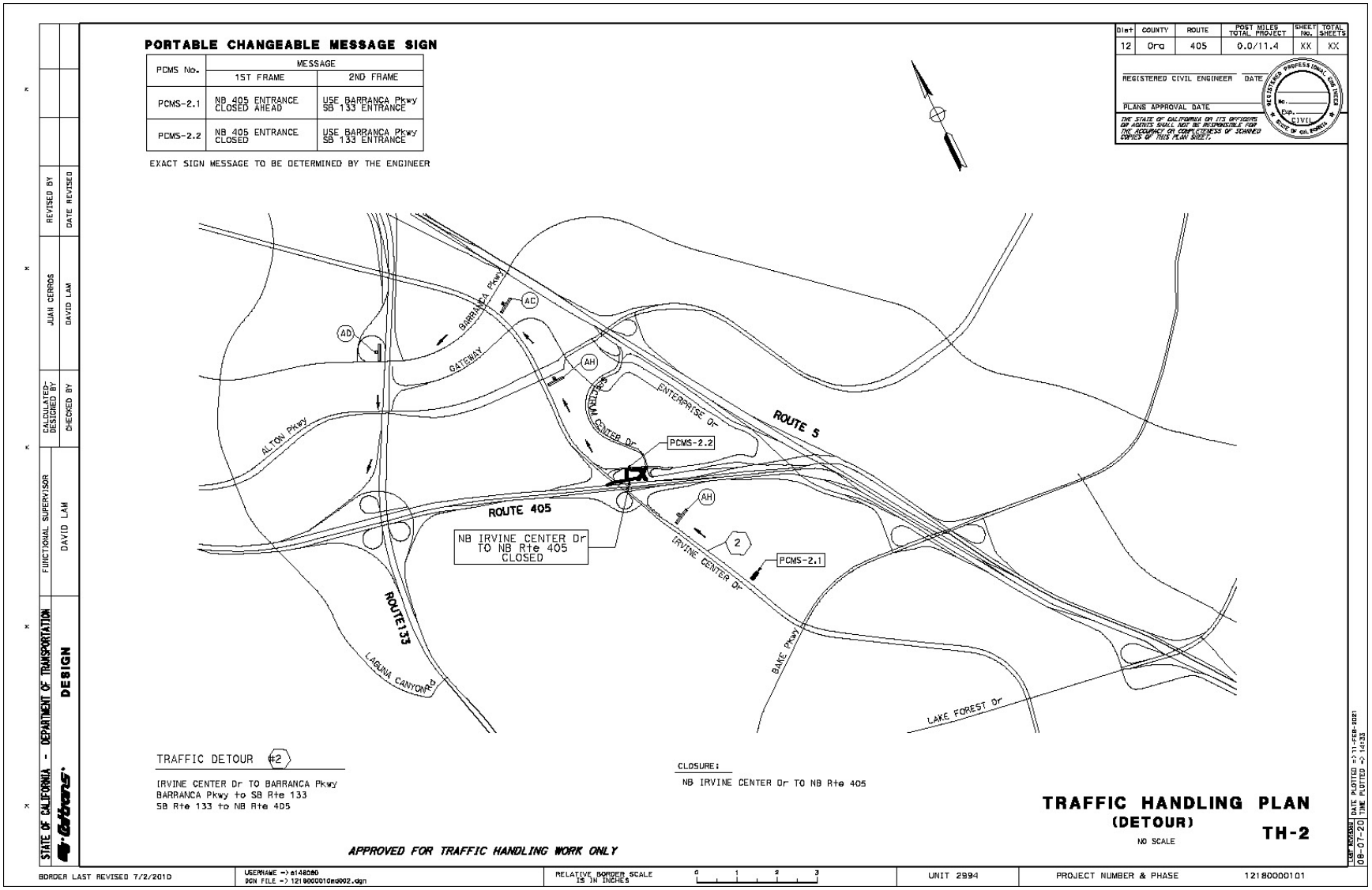
Measure	Resource Area	Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Required
Project Feature	Geology	**PF-GEO-1:** The project will comply with the most current California Department of Transportation (Caltrans) procedures and design criteria regarding seismic design to mitigate any adverse effects related to seismic ground shaking. Earthwork will be performed in accordance with Caltrans Standard Specifications, Section 19, which requires standardized measures related to compacted fill, over-excavation, and re-compaction, among other requirements. Moreover, Caltrans *Highway Design Manual* (HDM) Topic 113, requires the project engineer to review a Geotechnical Design Report, if any, to ascertain the scope of geotechnical involvement for a project.	Project Engineer Resident Engineer	Design Construction	No
Minimization	Geology	**GEO-1:** A site-specific analysis for each location will be provided in the Foundation Report for each individual structure during the design phase.	Project Engineer	Design	No
Minimization	Geology	**GEO-2:** The retaining walls, both bridges, and the park-and-ride facility may require a special design in order to withstand potential geological conditions of the project site (e.g., ground shaking, liquefaction), if necessary.	Project Engineer	Design	No

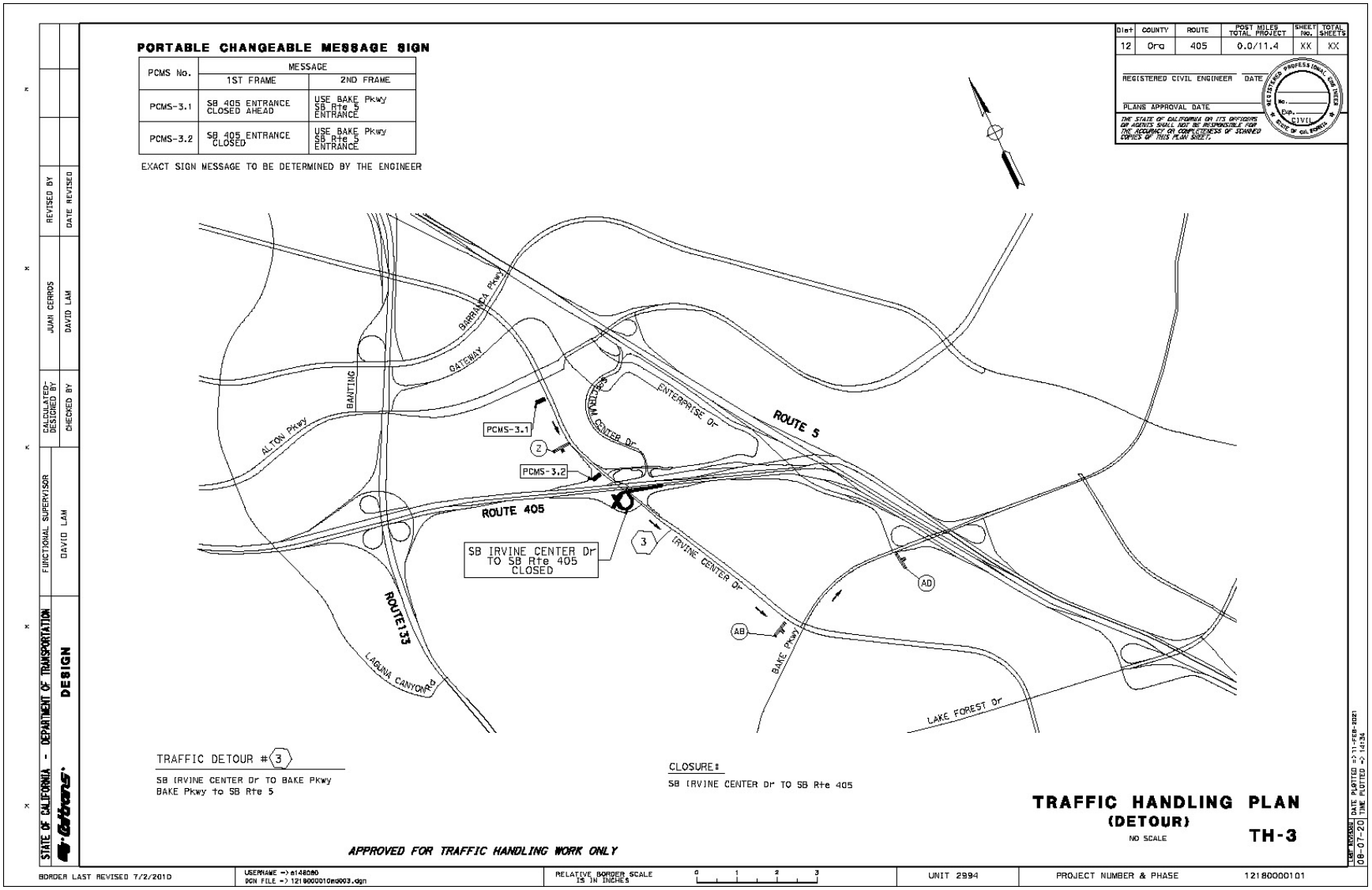
NSSP = Non-Standard Special Provision

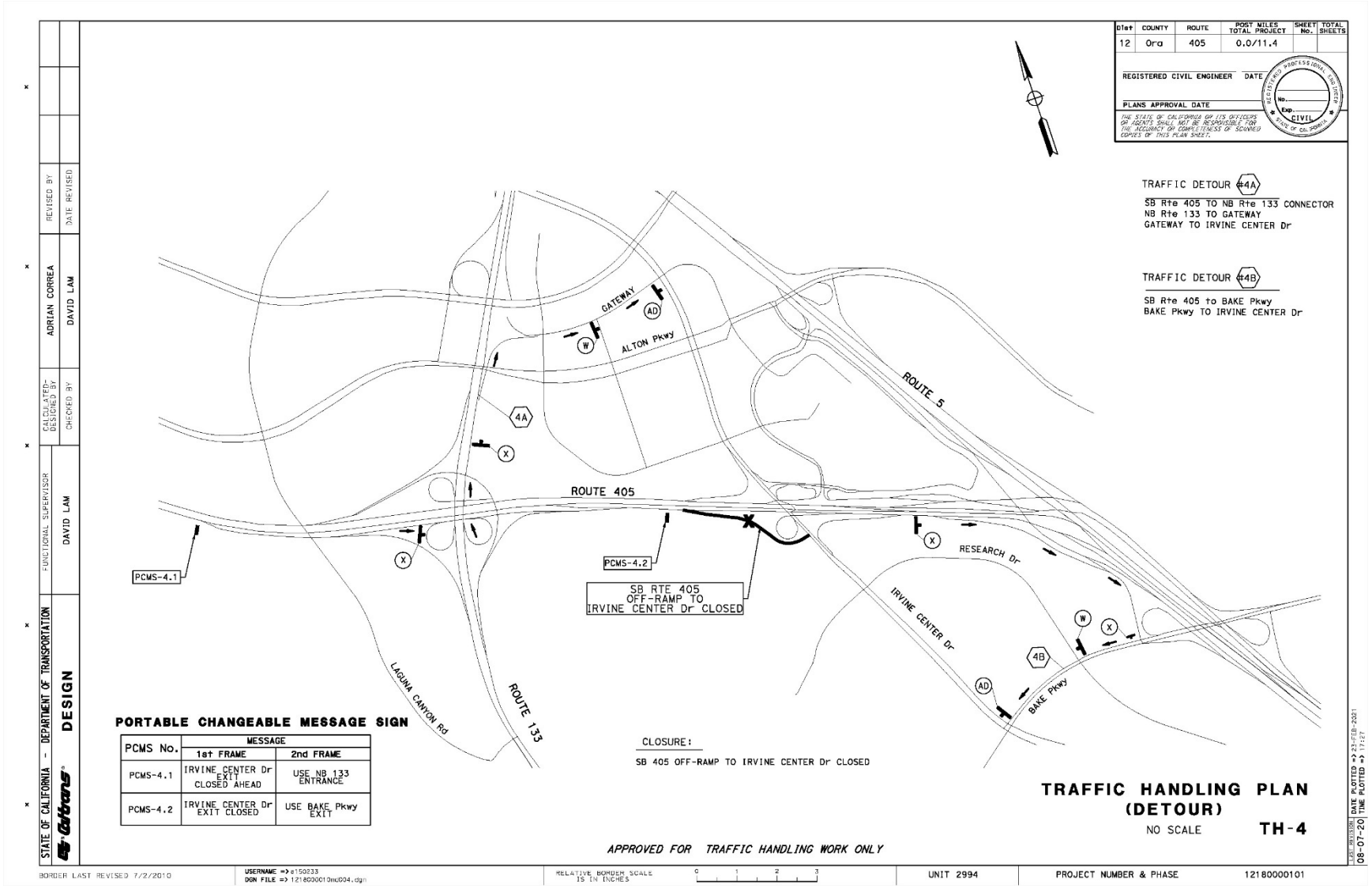
Appendix F – Detour Plans

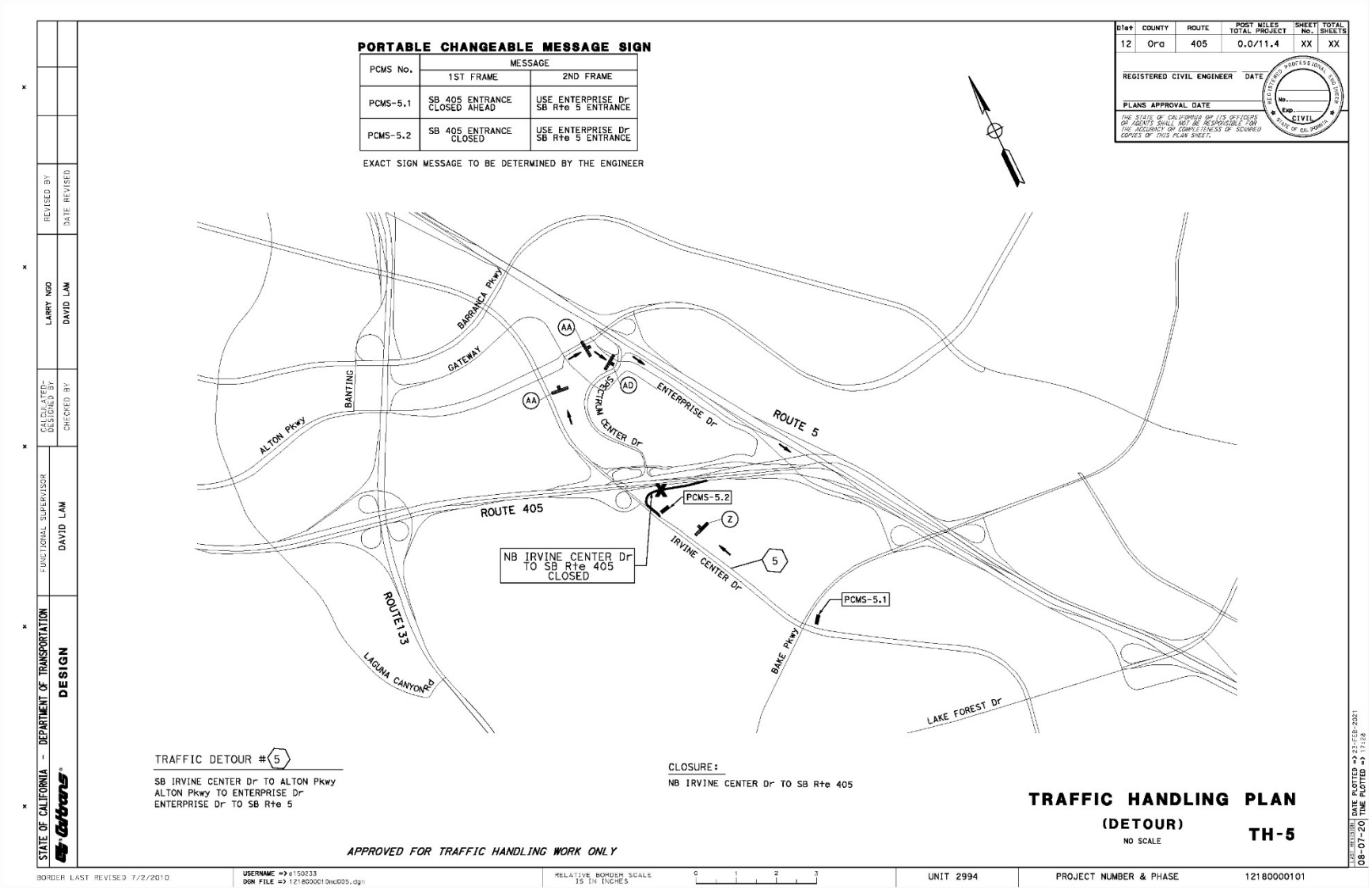
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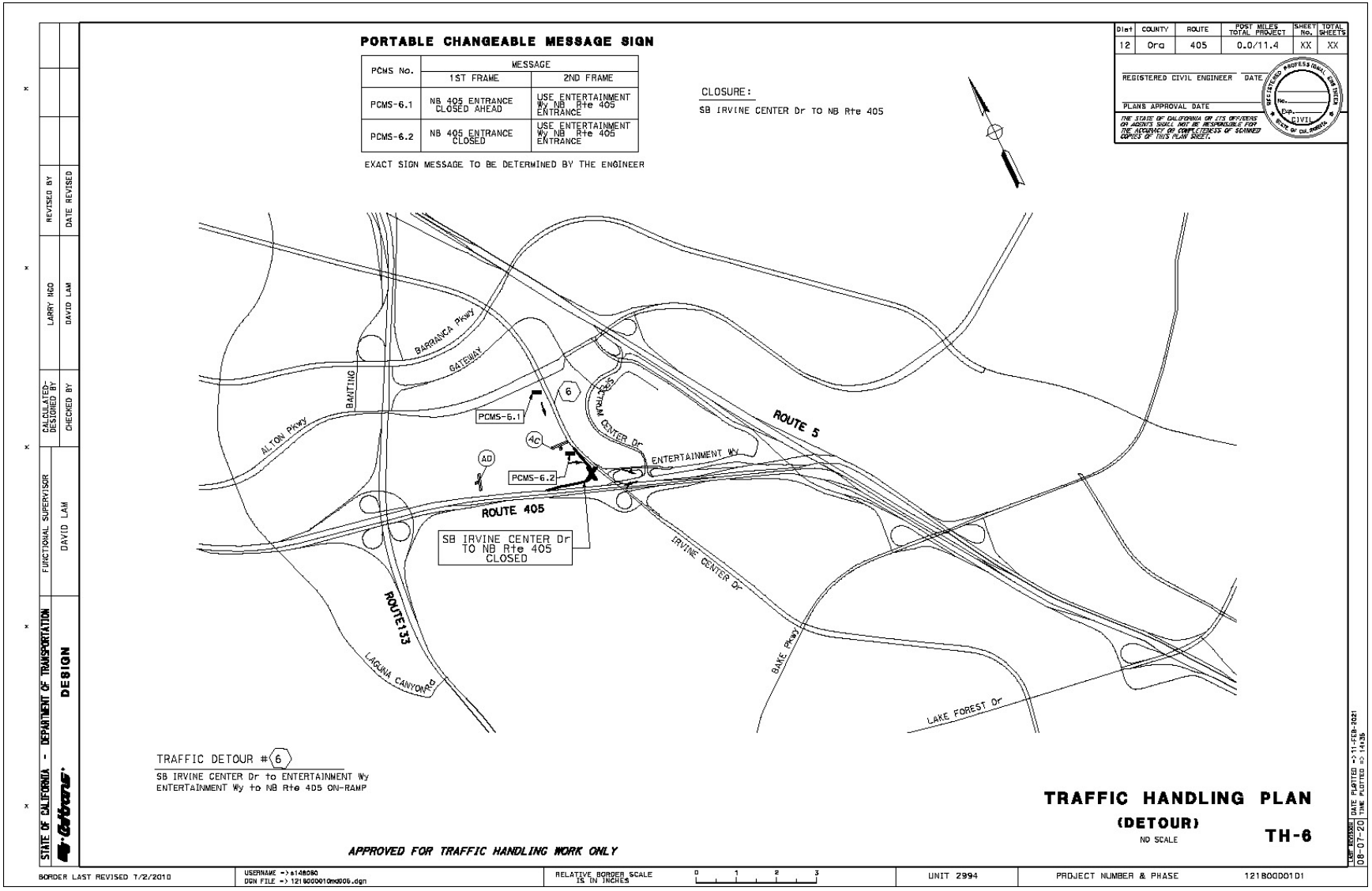

NOTE:
1. SIGN LOCATIONS AND DISPLAY MESSAGES SHOWN ARE APPROXIMATE, EXACT (FINAL) LOCATIONS AND/OR FINAL SIGN MASSAGE/DISPLAY TO BE DETERMINED BY THE ENGINEER.
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | 2ND FRAME
PCMS-1.1 | NB Rte 405 IRVINE CENTER Dr EXIT CLOSED | USE BAKE Pkwy OR ALTON Pkwy EXIT
PCMS-1.2 | NB Rte 405 IRVINE CENTER Dr EXIT CLOSED | --
PCMS-1.3 | NB Rte 405 IRVINE CENTER Dr EXIT CLOSED | --
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
LEGEND
DETOUR SIGN (ONE POST)
DIRECTION OF TRAFFIC
PCMS-X PORTABLE CHANGEABLE MESSAGE SIGN NUMBER
PORTABLE CHANGEABLE MESSAGE SIGN
X DETOUR NUMBER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
BARRANCA Pkwy
GATEWAY
BANTING
ALTON Pkwy
SPECTRUM CENTER Dr
ENTERPRISE Dr
ENTERTAINMENT WAY
ROUTE 5
ROUTE 405
ROUTE 133
LAGUNA CANYON RD
IRVINE CENTER Dr
BAKE Pkwy
LAKE FOREST Dr
NB Rte 405 TO IRVINE CENTER Dr CLOSED
PCMS-1.1
PCMS-1.2
PCMS-1.3
AD
Y
X
1A
1B
TRAFFIC DETOUR #1A
NB Rte 5 TO WB BAKE Pkwy
WB BAKE Pkwy to IRVINE CENTER Dr
TRAFFIC DETOUR #1B
NB Rte 5 TO WB ALTON Pkwy
WB ALTON Pkwy to IRVINE CENTER Dr
CLOSURE:
NB ROUTE 405 TO IRVINE CENTER Dr
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-1
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAW
CALCULATED-DESIGNED BY JUAN CERROS
CHECKED BY DAVID LAW
REVISED BY
DATE REVISED
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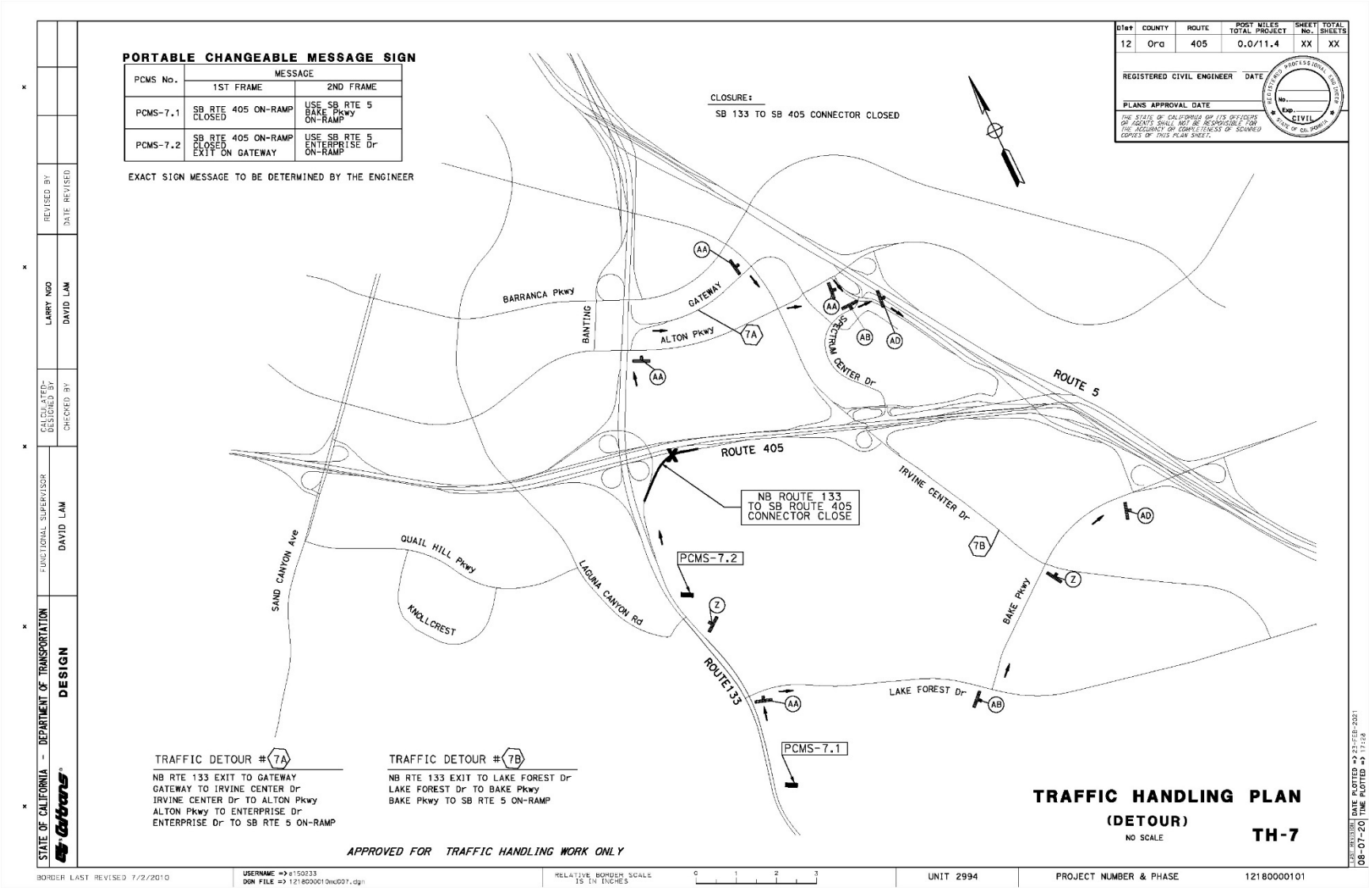

PORTABLE CHANGEABLE MESSAGE SIGN
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2ND FRAME
PCMS-2.1
NB 405 ENTRANCE CLOSED AHEAD
USE BARRANCA Pkwy SB 133 ENTRANCE
PCMS-2.2
NB 405 ENTRANCE CLOSED
USE BARRANCA Pkwy SB 133 ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
BARRANCA Pkwy
GATEWAY
ALTON Pkwy
WORLDPORT
ENTERPRISE Dr
CENTER Dr
ROUTE 5
PCMS-2.2
ROUTE 405
NB IRVINE CENTER Dr TO NB Rte 405 CLOSED
IRVINE CENTER Dr
PCMS-2.1
ROUTE 133
LAGUNA CANYON Rd
BAKE Pkwy
LAKE FOREST Dr
AC
AD
AH
2
TRAFFIC DETOUR #2
IRVINE CENTER Dr TO BARRANCA Pkwy
BARRANCA Pkwy to SB Rte 133
SB Rte 133 to NB Rte 405
CLOSURE:
NB IRVINE CENTER Dr TO NB Rte 405
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-2
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
JUAN CERROS
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:33
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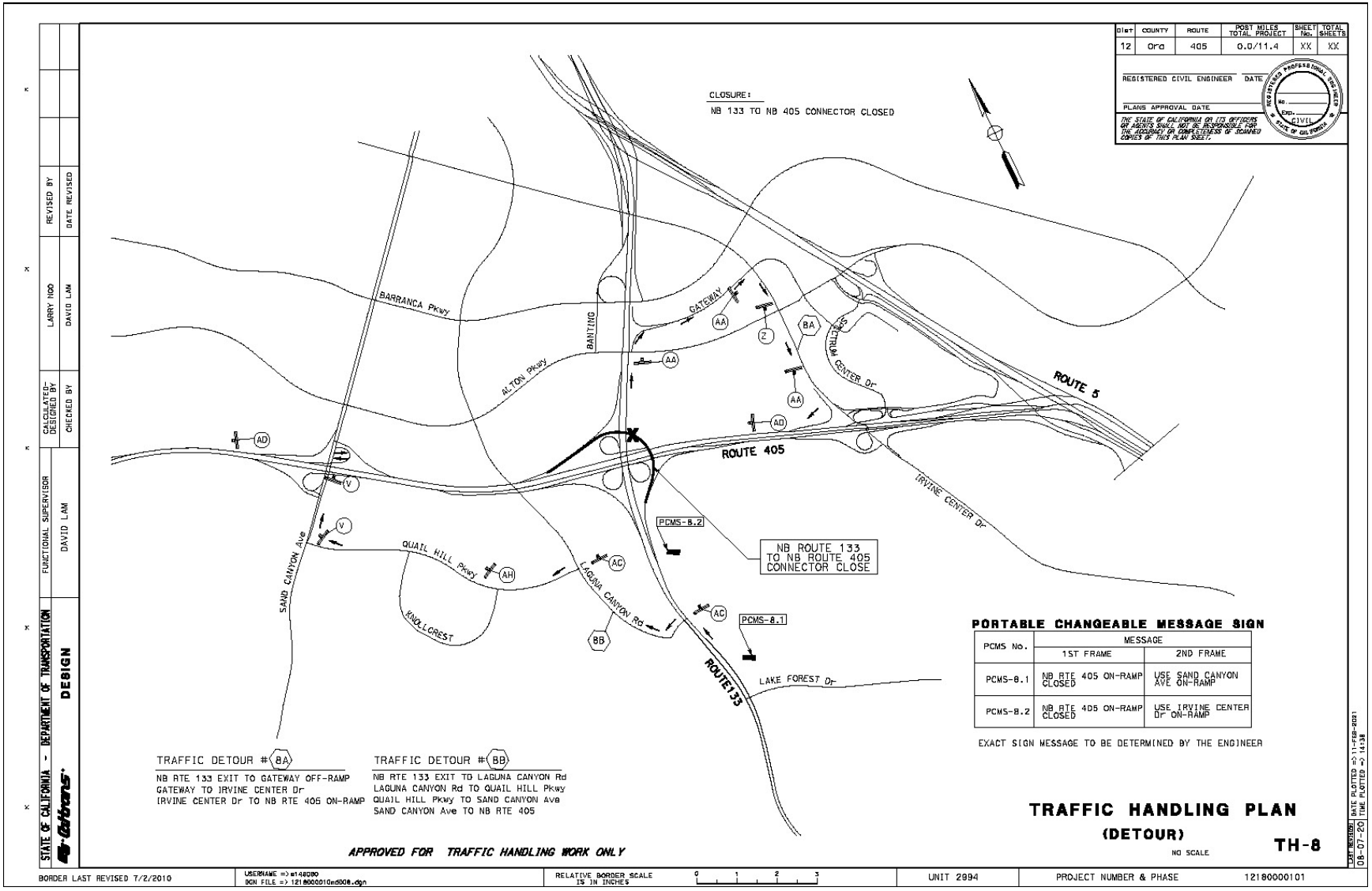

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PCMS-3.2 | SB 405 ENTRANCE CLOSED | USE BAKE Pkwy SB Rte 5 ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
SHAMPAGNE Pkwy
GATEWAY
BAINTING
ALTON Pkwy
WORLDPORT
CENTER Dr
ENTERPRISE Dr
ROUTE 5
PCMS-3.1
2
PCMS-3.2
ROUTE 405
SB IRVINE CENTER Dr TO SB Rte 405 CLOSED
3
IRVINE CENTER Dr
AD
AB
BAKE Pkwy
ROUTE 133
LAGUNA CANYON Rd
LAKE FOREST Dr
TRAFFIC DETOUR #3
SB IRVINE CENTER Dr TO BAKE Pkwy
BAKE Pkwy to SB Rte 5
CLOSURE:
SB IRVINE CENTER Dr TO SB Rte 405
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-3
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY JUAN CERROS
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED DATE PLOTTED => 11-FEB-2021
08-07-20 TIME PLOTTED => 14:34
BORDER LAST REVISED 7/2/2010
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0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 1218000010

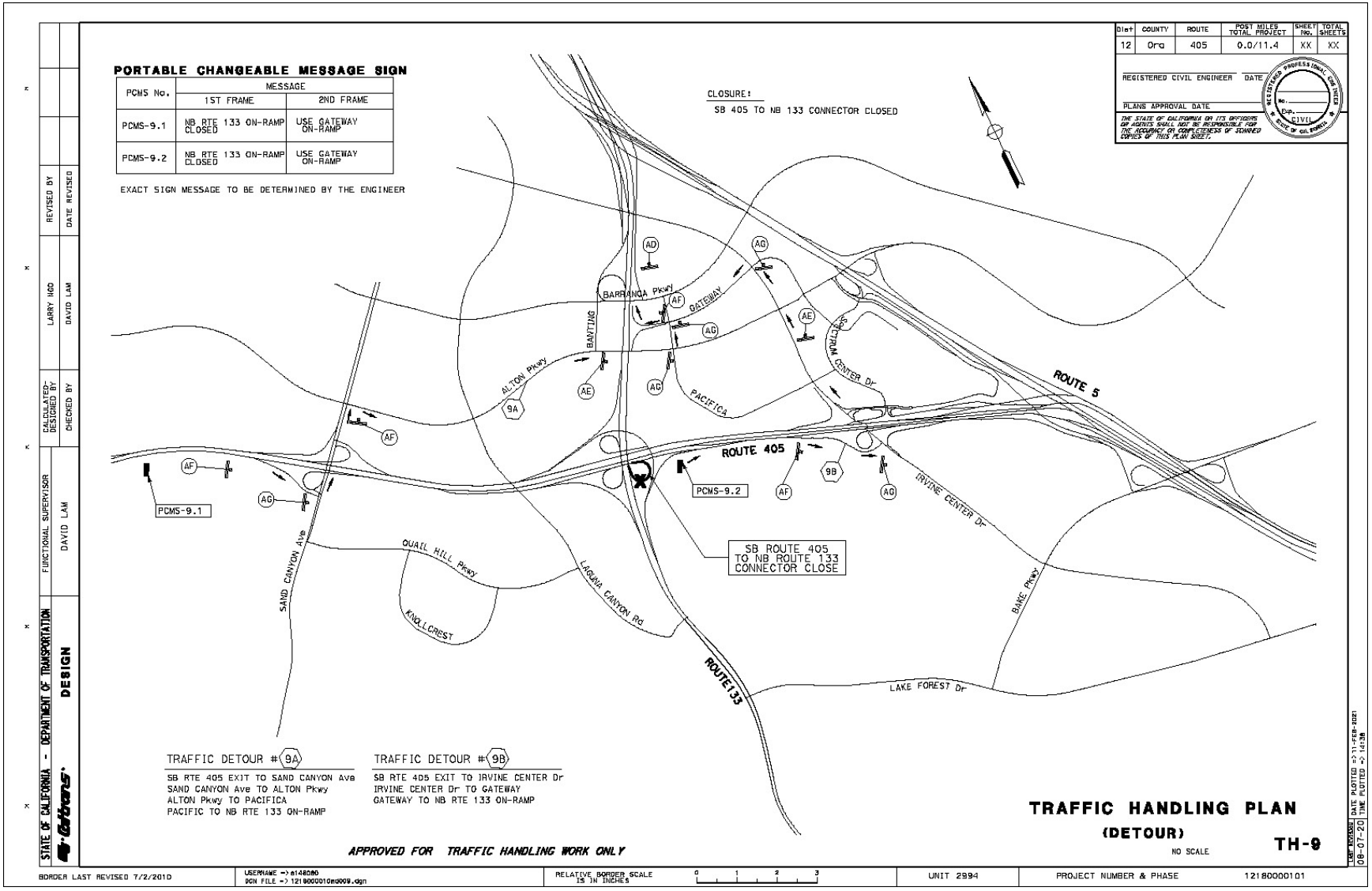

Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
TRAFFIC DETOUR #4A
SB Rte 405 TO NB Rte 133 CONNECTOR
NB Rte 133 TO GATEWAY
GATEWAY TO IRVINE CENTER Dr
TRAFFIC DETOUR #4B
SB Rte 405 to BAKE Pkwy
BAKE Pkwy TO IRVINE CENTER Dr
GATEWAY
ALTON Pkwy
ROUTE 5
ROUTE 405
RESEARCH Dr
IRVINE CENTER Dr
BAKE Pkwy
LAGUNA CANYON Rd
ROUTE 133
PCMS-4.1
PCMS-4.2
SB RTE 405 OFF-RAMP TO IRVINE CENTER Dr CLOSED
CLOSURE:
SB 405 OFF-RAMP TO IRVINE CENTER Dr CLOSED
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1st FRAME | MESSAGE 2nd FRAME
PCMS-4.1 | IRVINE CENTER Dr EXIT CLOSED AHEAD | USE NB 133 ENTRANCE
PCMS-4.2 | IRVINE CENTER Dr EXIT CLOSED | USE BAKE Pkwy EXIT
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-4
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:27
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc004.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

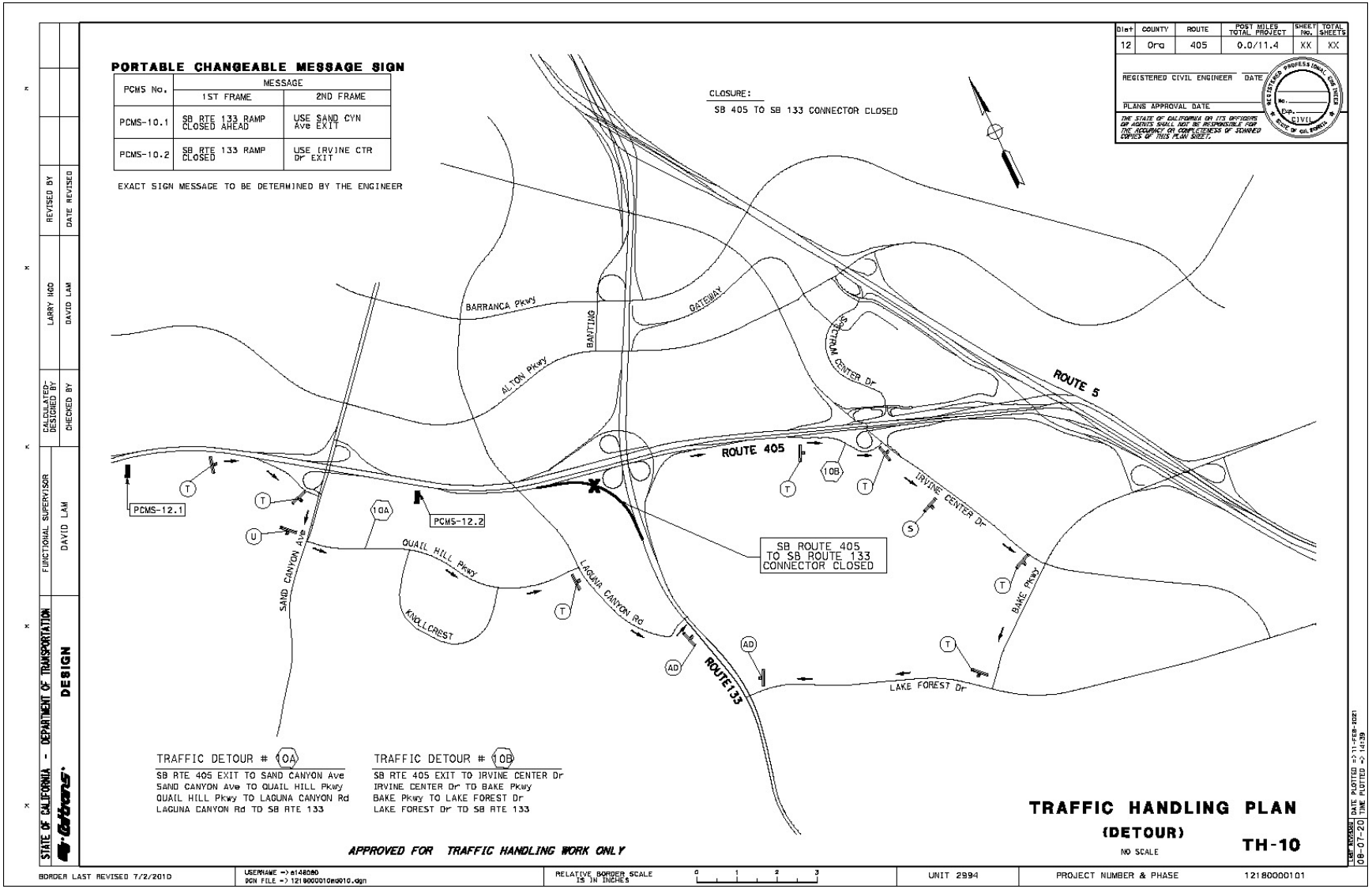

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-5.1 | SB 405 ENTRANCE CLOSED AHEAD | USE ENTERPRISE Dr SB Rte 5 ENTRANCE
PCMS-5.2 | SB 405 ENTRANCE CLOSED | USE ENTERPRISE Dr SB Rte 5 ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
BARRANCA Pkwy
GATEWAY
BANTING
ALTON Pkwy
AA
AD
SPECTRUM CENTER Dr
ENTERPRISE Dr
ROUTE 5
ROUTE 405
PCMS-5.2
Z
5
NB IRVINE CENTER Dr TO SB Rte 405 CLOSED
IRVINE CENTER Dr
PCMS-5.1
ROUTE 133
LAGUNA CANYON Rd
BAKE Pkwy
LAKE FOREST Dr
TRAFFIC DETOUR #5
SB IRVINE CENTER Dr TO ALTON Pkwy
ALTON Pkwy TO ENTERPRISE Dr
ENTERPRISE Dr TO SB Rte 5
CLOSURE:
NB IRVINE CENTER Dr TO SB Rte 405
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-5
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY LARRY NGO
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISION DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:28
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc005.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

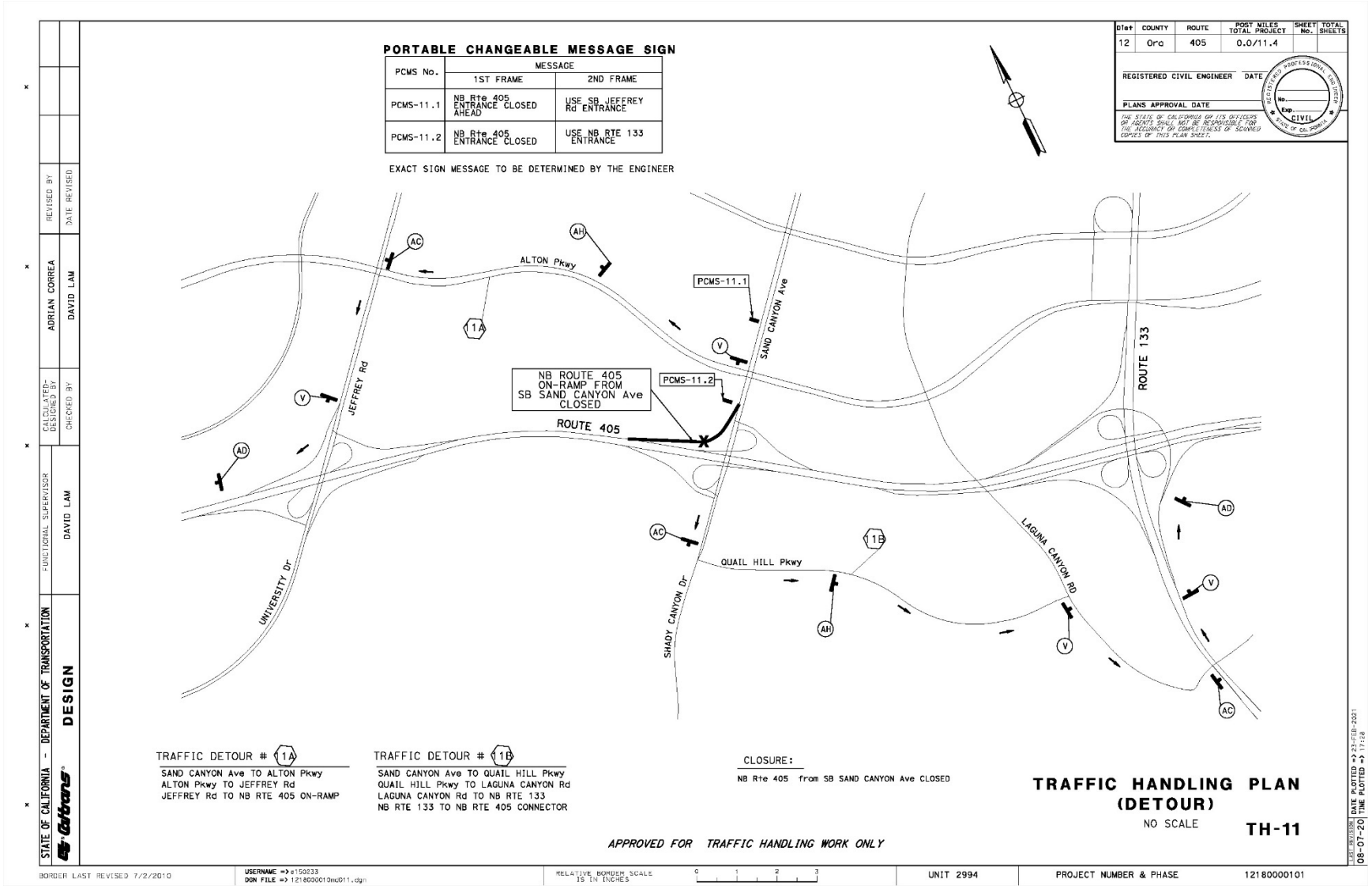

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-6.1
NB 405 ENTRANCE CLOSED AHEAD
USE ENTERTAINMENT Wy NB Rte 405 ENTRANCE
PCMS-6.2
NB 405 ENTRANCE CLOSED
USE ENTERTAINMENT Wy NB Rte 405 ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
CLOSURE:
SB IRVINE CENTER Dr TO NB Rte 405
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
BARRANCA Pkwy
GATEWAY
BANNING
ALTON Pkwy
PCMS-6.1
6
AC
AD
PCMS-6.2
ROUTE 5
CENTRUM CENTER Dr
ENTERTAINMENT Wy
ROUTE 405
SB IRVINE CENTER Dr TO NB Rte 405 CLOSED
IRVINE CENTER Dr
ROUTE 133
LAGUNA CANYON Rd
BAKE Pkwy
LAKE FOREST Dr
TRAFFIC DETOUR #6
SB IRVINE CENTER Dr to ENTERTAINMENT Wy
ENTERTAINMENT Wy to NB Rte 405 ON-RAMP
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-6
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
LARRY NGO
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:35
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 12180D0D01mk005.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
12180D0D01

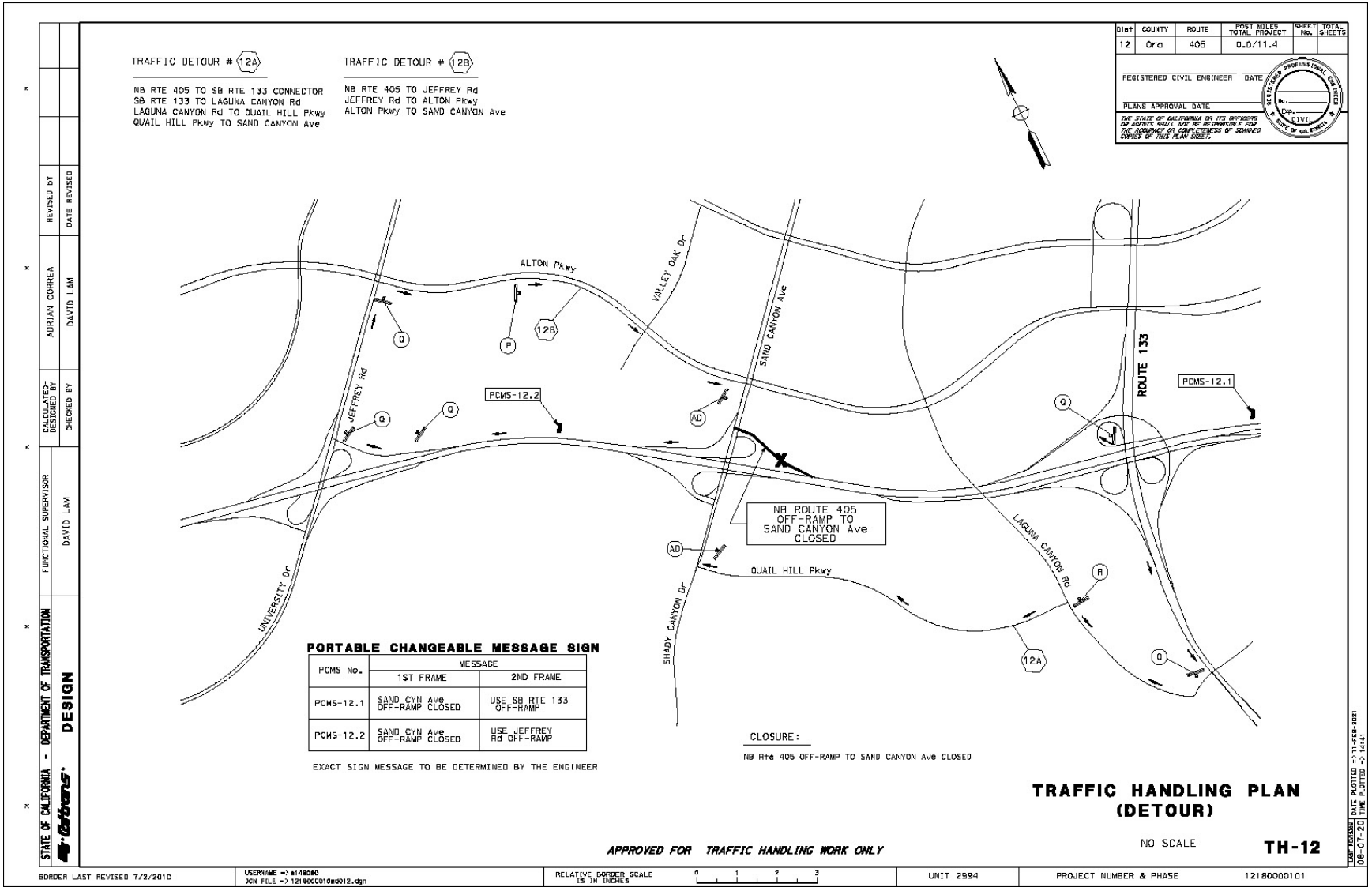

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-7.1 | SB RTE 405 ON-RAMP CLOSED | USE SB RTE 5 BAKE Pkwy ON-RAMP
PCMS-7.2 | SB RTE 405 ON-RAMP CLOSED EXIT ON GATEWAY | USE SB RTE 5 ENTERPRISE Dr ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
CLOSURE:
SB 133 TO SB 405 CONNECTOR CLOSED
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
BARRANCA Pkwy
GATEWAY
BANTING
ALTON Pkwy
7A
SPECTRUM CENTER Dr
ROUTE 5
ROUTE 405
NB ROUTE 133 TO SB ROUTE 405 CONNECTOR CLOSE
IRVINE CENTER Dr
7B
PCMS-7.2
SAND CANYON Ave
QUAIL HILL Pkwy
KNOLLCREST
LAGUNA CANYON Rd
ROUTE133
BAKE Pkwy
LAKE FOREST Dr
PCMS-7.1
TRAFFIC DETOUR #7A
NB RTE 133 EXIT TO GATEWAY
GATEWAY TO IRVINE CENTER Dr
IRVINE CENTER Dr TO ALTON Pkwy
ALTON Pkwy TO ENTERPRISE Dr
ENTERPRISE Dr TO SB RTE 5 ON-RAMP
TRAFFIC DETOUR #7B
NB RTE 133 EXIT TO LAKE FOREST Dr
LAKE FOREST Dr TO BAKE Pkwy
BAKE Pkwy TO SB RTE 5 ON-RAMP
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-7
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAW
CALCULATED-DESIGNED BY LARRY NGO
CHECKED BY DAVID LAW
REVISED BY
DATE REVISED
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:28
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc007.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

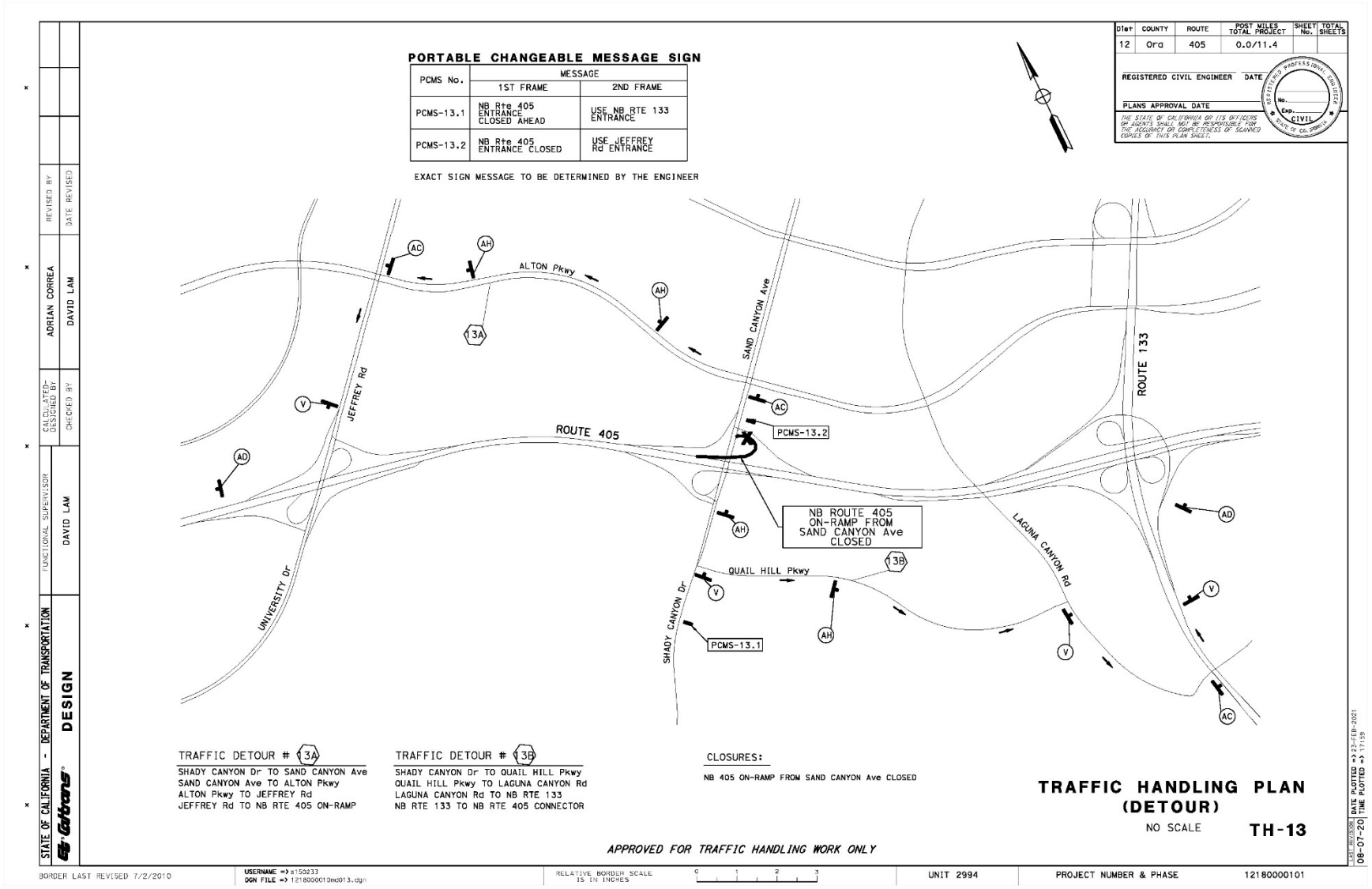

CLOSURE:
NB 133 TO NB 405 CONNECTOR CLOSED
BARRANCA Pkwy
ALTON Pkwy
BANTING
GATEWAY
SPECTRUM CENTER Dr
ROUTE 5
ROUTE 405
IRVINE CENTER Dr
SAND CANYON Ave
QUAIL HILL Pkwy
KNOLLCREST
LAGUNA CANYON Rd
ROUTE 133
LAKE FOREST Dr
PCMS-8.2
NB ROUTE 133
TO NB ROUTE 405
CONNECTOR CLOSE
PCMS-8.1
TRAFFIC DETOUR #8A
NB RTE 133 EXIT TO GATEWAY OFF-RAMP
GATEWAY TO IRVINE CENTER Dr
IRVINE CENTER Dr TO NB RTE 405 ON-RAMP
TRAFFIC DETOUR #8B
NB RTE 133 EXIT TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO SAND CANYON Ave
SAND CANYON Ave TO NB RTE 405
APPROVED FOR TRAFFIC HANDLING WORK ONLY
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-8.1 | NB RTE 405 ON-RAMP CLOSED | USE SAND CANYON AVE ON-RAMP
PCMS-8.2 | NB RTE 405 ON-RAMP CLOSED | USE IRVINE CENTER Dr ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-8
DIST 12 | COUNTY Ora | ROUTE 405 | POST MILES TOTAL PROJECT 0.0/11.4 | SHEET No. XX | TOTAL SHEETS XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY LARRY NGO
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
DIST REVISED
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:38
08-07-20
BORDER LAST REVISED 7/2/2010
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RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

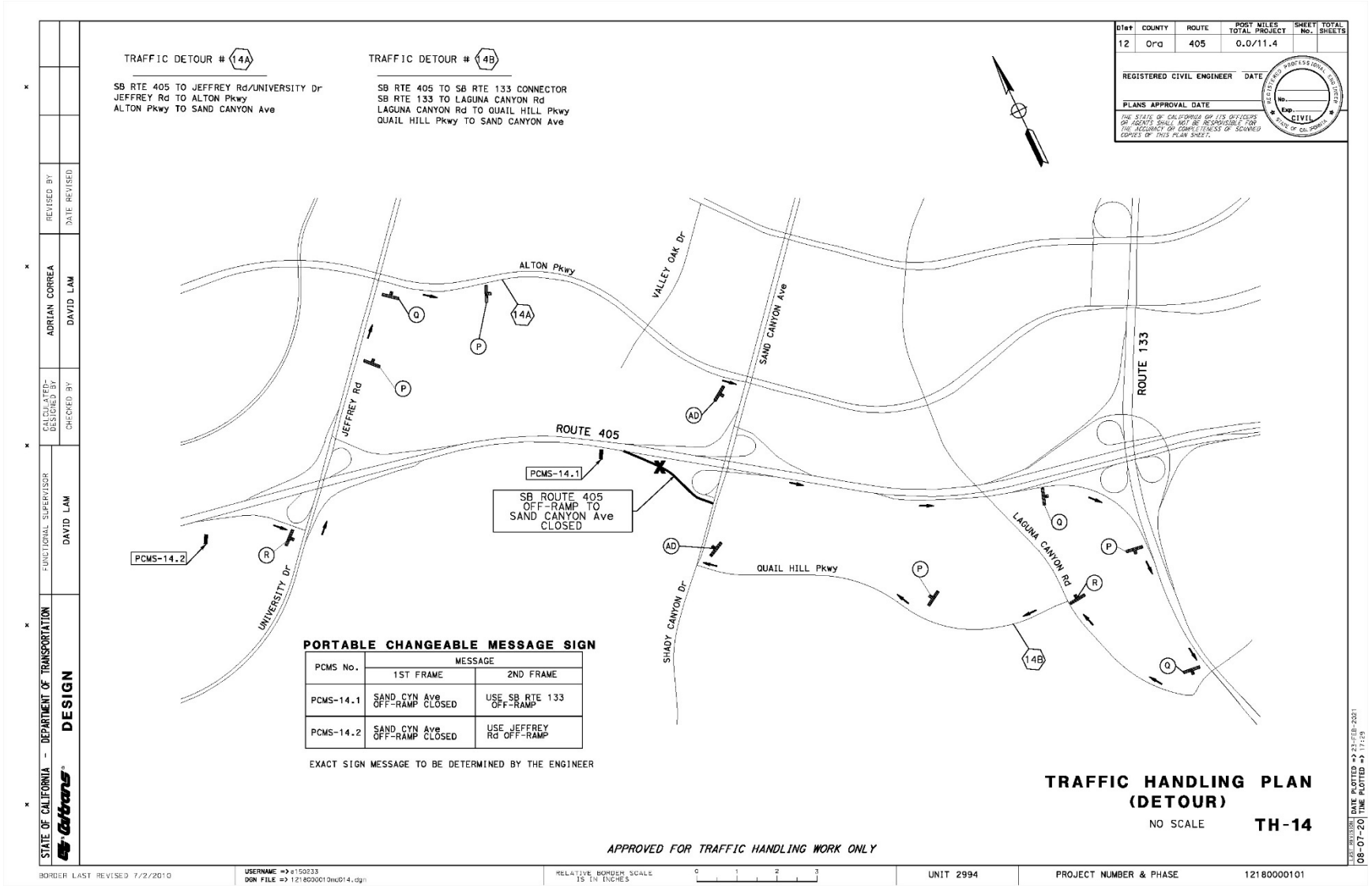

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-9.1 | NB RTE 133 ON-RAMP CLOSED | USE GATEWAY ON-RAMP
PCMS-9.2 | NB RTE 133 ON-RAMP CLOSED | USE GATEWAY ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
CLOSURE:
SB 405 TO NB 133 CONNECTOR CLOSED
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
ROUTE 405
ROUTE 5
ROUTE 133
BARRANCA Pkwy
GATEWAY
BANTING
ALTON Pkwy
PACIFICA
SPECTRUM CENTER Dr
IRVINE CENTER Dr
SAND CANYON Ave
QUAIL HILL Pkwy
KNOLLCREST
LAGUNA CANYON Rd
BAKE Pkwy
LAKE FOREST Dr
PCMS-9.1
PCMS-9.2
SB ROUTE 405 TO NB ROUTE 133 CONNECTOR CLOSE
TRAFFIC DETOUR #9A
SB RTE 405 EXIT TO SAND CANYON Ave
SAND CANYON Ave TO ALTON Pkwy
ALTON Pkwy TO PACIFICA
PACIFIC TO NB RTE 133 ON-RAMP
TRAFFIC DETOUR #9B
SB RTE 405 EXIT TO IRVINE CENTER Dr
IRVINE CENTER Dr TO GATEWAY
GATEWAY TO NB RTE 133 ON-RAMP
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-9
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY LARRY HOD
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:38
BORDER LAST REVISED 7/2/2010
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UNIT 2994
PROJECT NUMBER & PHASE 1218000010

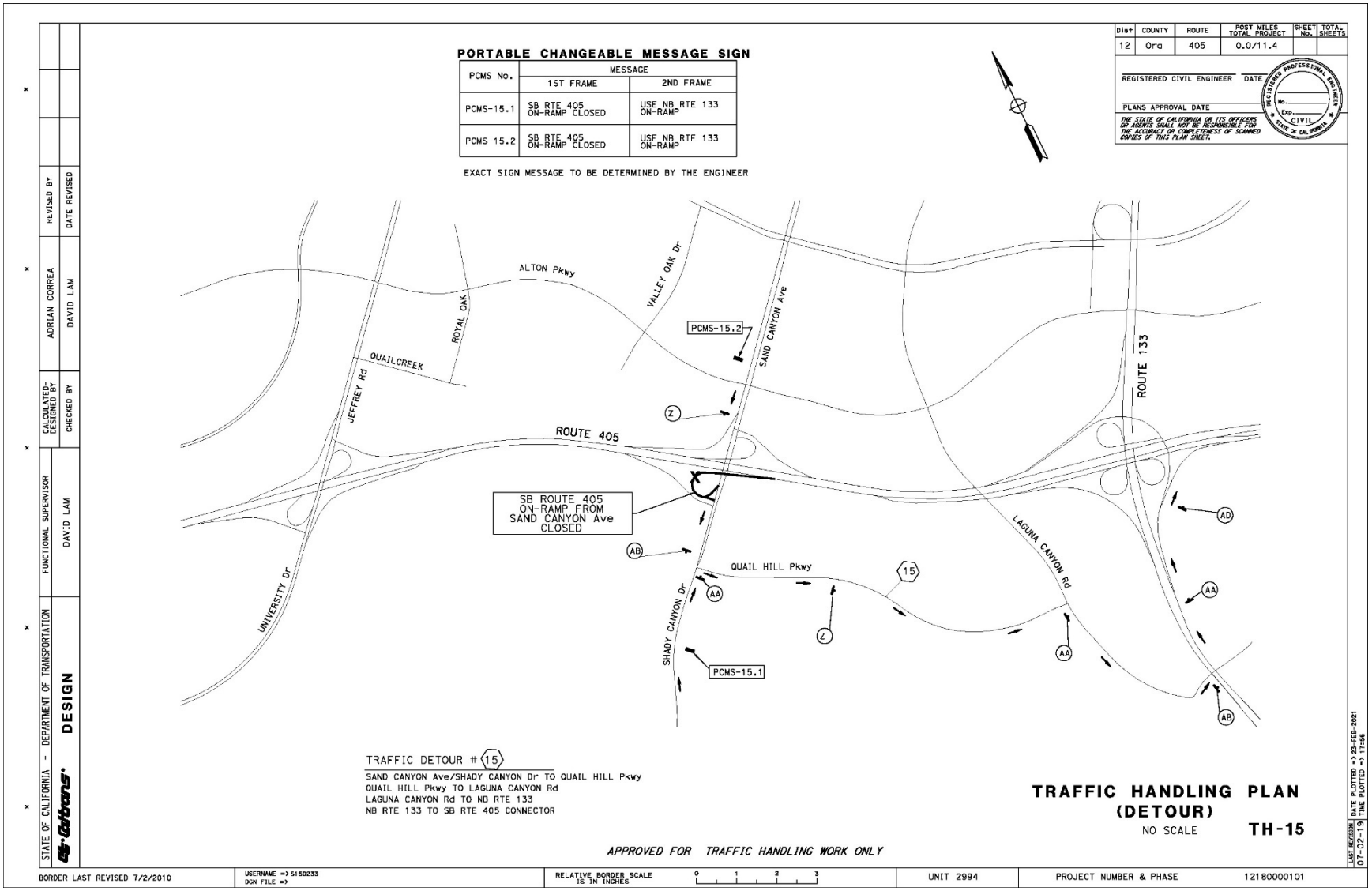

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-10.1 | SB RTE 133 RAMP CLOSED AHEAD | USE SAND CYN Ave EXIT
PCMS-10.2 | SB RTE 133 RAMP CLOSED | USE IRVINE CTR Dr EXIT
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
CLOSURE:
SB 405 TO SB 133 CONNECTOR CLOSED
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
BARRANCA Pkwy
BANTING
GATEWAY
ALTON Pkwy
SPECTRUM CENTER Dr
ROUTE 5
ROUTE 405
PCMS-12.1
PCMS-12.2
SAND CANYON Ave
QUAIL HILL Pkwy
KNOLLCREST
LAGUNA CANYON Rd
ROUTE 133
IRVINE CENTER Dr
BAKE Pkwy
LAKE FOREST Dr
SB ROUTE 405 TO SB ROUTE 133 CONNECTOR CLOSED
TRAFFIC DETOUR # 10A
SB RTE 405 EXIT TO SAND CANYON Ave
SAND CANYON Ave TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO SB RTE 133
TRAFFIC DETOUR # 10B
SB RTE 405 EXIT TO IRVINE CENTER Dr
IRVINE CENTER Dr TO BAKE Pkwy
BAKE Pkwy TO LAKE FOREST Dr
LAKE FOREST Dr TO SB RTE 133
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-10
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY LARRY HOD
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:39
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UNIT 2994
PROJECT NUMBER & PHASE 1218000010

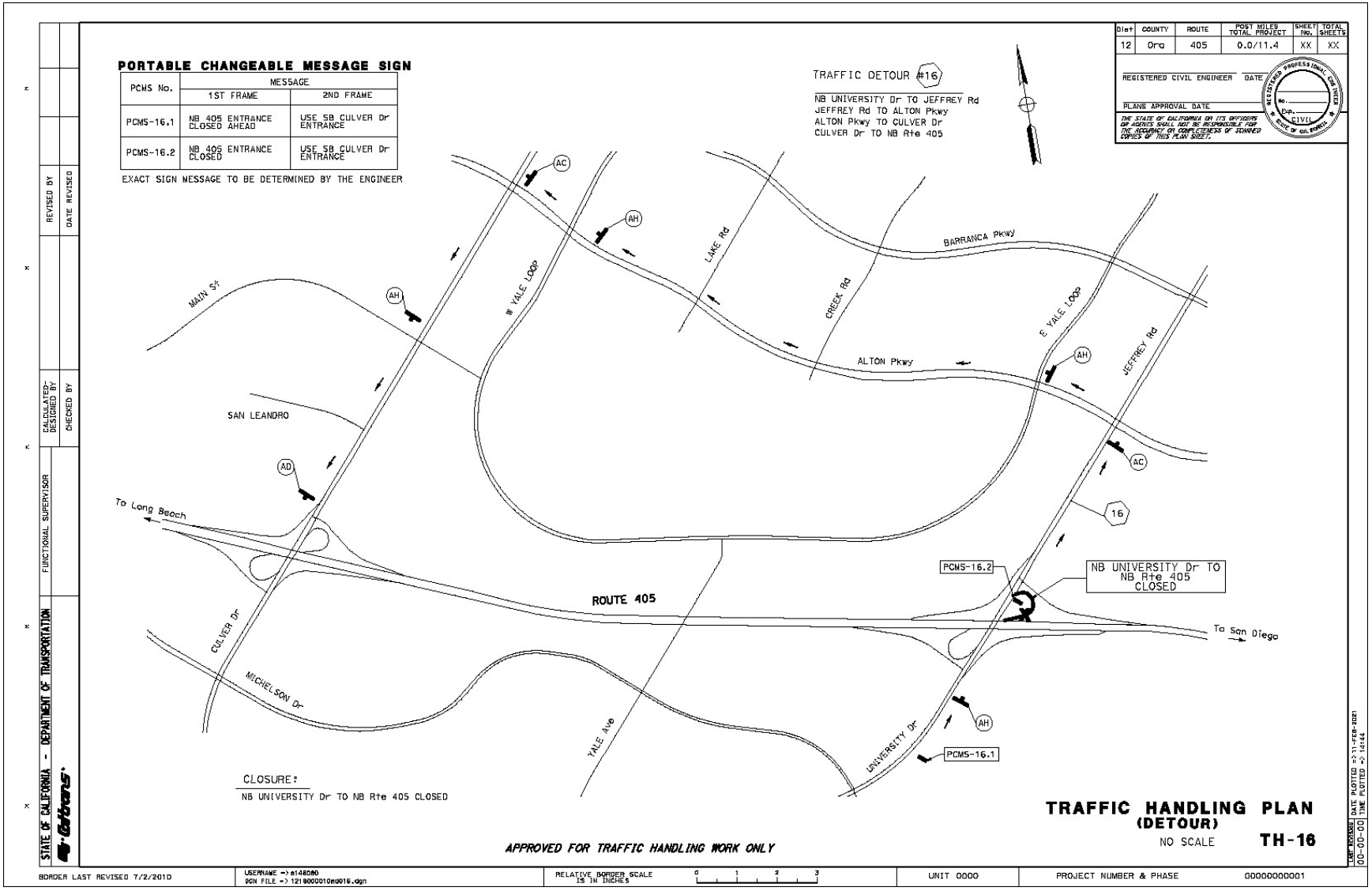

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-11.1 | NB Rte 405 ENTRANCE CLOSED AHEAD | USE SB JEFFREY Rd ENTRANCE
PCMS-11.2 | NB Rte 405 ENTRANCE CLOSED | USE NB RTE 133 ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
ALTON Pkwy
JEFFREY Rd
SAND CANYON Ave
ROUTE 133
ROUTE 405
NB ROUTE 405 ON-RAMP FROM SB SAND CANYON Ave CLOSED
PCMS-11.1
PCMS-11.2
UNIVERSITY Dr
SHADY CANYON Dr
QUAIL HILL Pkwy
LAGUNA CANYON RD
1A
1B
AC
AD
AH
V
TRAFFIC DETOUR # 1A
SAND CANYON Ave TO ALTON Pkwy
ALTON Pkwy TO JEFFREY Rd
JEFFREY Rd TO NB RTE 405 ON-RAMP
TRAFFIC DETOUR # 1B
SAND CANYON Ave TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO NB RTE 133
NB RTE 133 TO NB RTE 405 CONNECTOR
CLOSURE:
NB Rte 405 from SB SAND CANYON Ave CLOSED
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-11
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc011.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:28
08-07-20

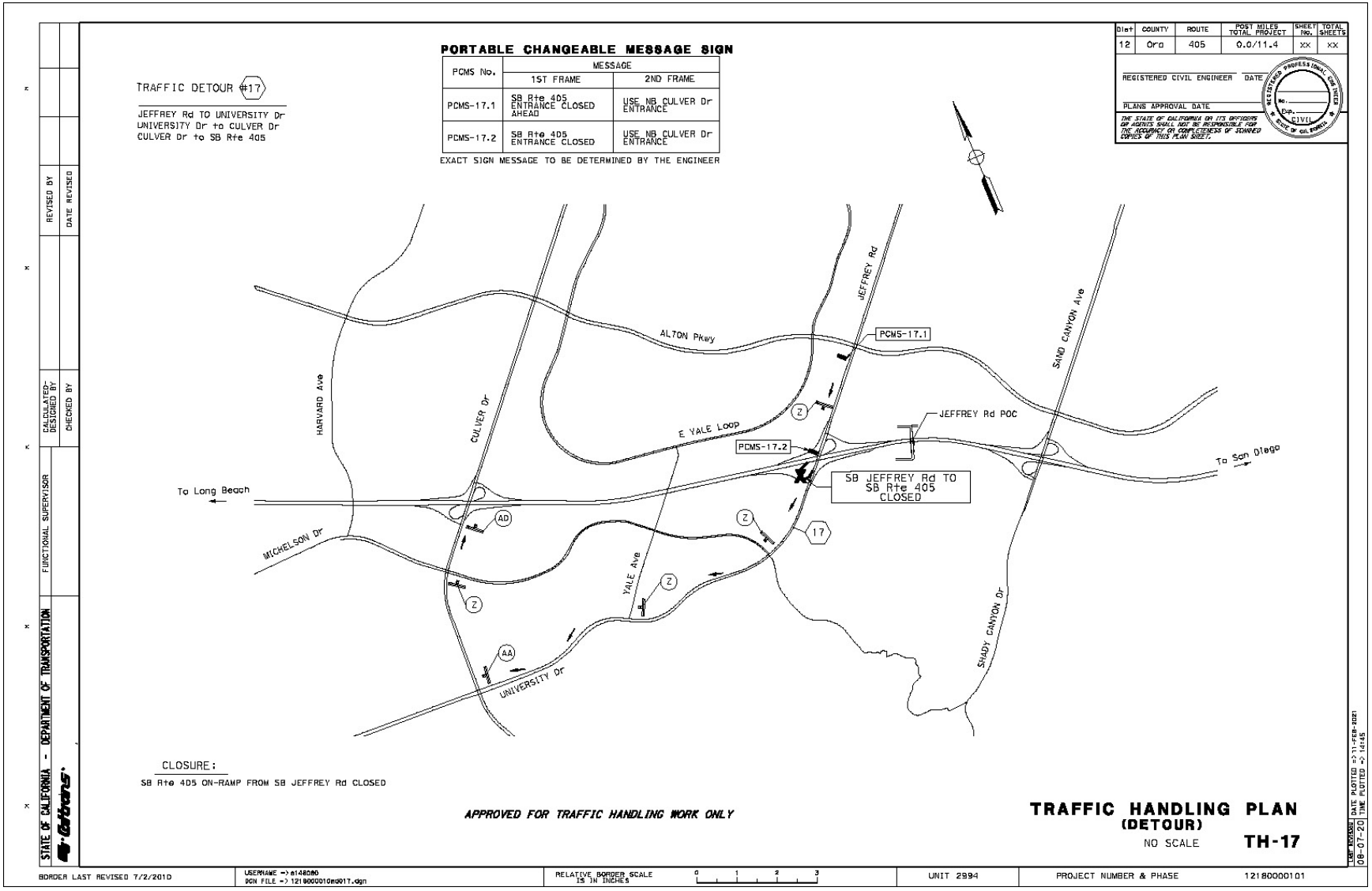

TRAFFIC DETOUR # 12A
NB RTE 405 TO SB RTE 133 CONNECTOR
SB RTE 133 TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO SAND CANYON Ave
TRAFFIC DETOUR # 12B
NB RTE 405 TO JEFFREY Rd
JEFFREY Rd TO ALTON Pkwy
ALTON Pkwy TO SAND CANYON Ave
Dist 12 | COUNTY Ora | ROUTE 405 | POST MILES TOTAL PROJECT 0.0/11.4 | SHEET No. | TOTAL SHEETS
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
ALTON Pkwy
VALLEY OAK Dr
SAND CANYON Ave
ROUTE 133
JEFFREY Rd
PCMS-12.2
PCMS-12.1
NB ROUTE 405 OFF-RAMP TO SAND CANYON Ave CLOSED
QUAIL HILL Pkwy
LAGUNA CANYON Rd
SHADY CANYON Dr
UNIVERSITY Dr
12A
12B
P
Q
AD
R
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-12.1 | SAND CYN Ave OFF-RAMP CLOSED | USE SB RTE 133 OFF-RAMP
PCMS-12.2 | SAND CYN Ave OFF-RAMP CLOSED | USE JEFFREY Rd OFF-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
CLOSURE:
NB Rte 405 OFF-RAMP TO SAND CANYON Ave CLOSED
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-12
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:41
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 12180000101sd012.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

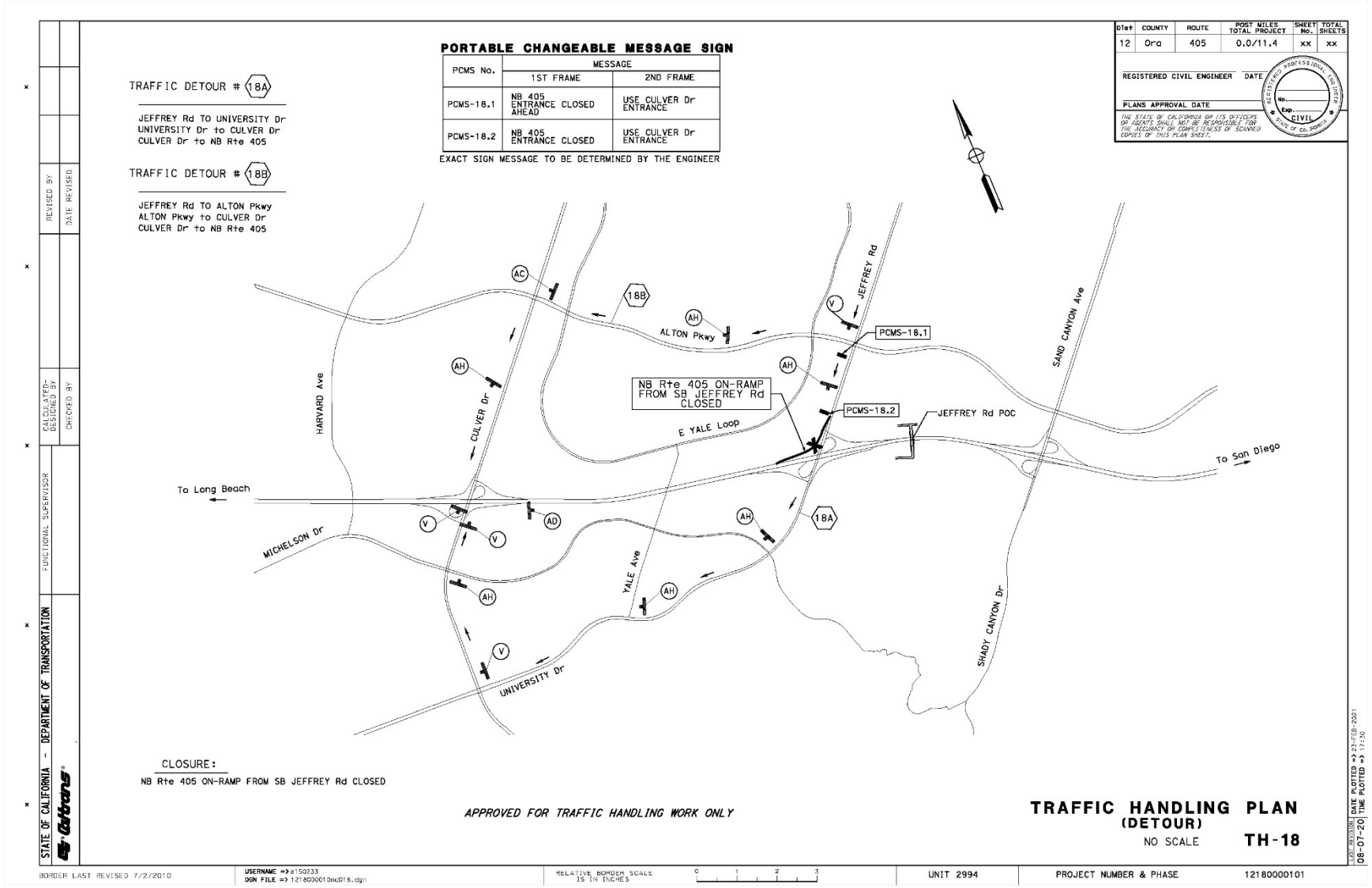

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-13.1 | NB Rte 405 ENTRANCE CLOSED AHEAD | USE NB RTE 133 ENTRANCE
PCMS-13.2 | NB Rte 405 ENTRANCE CLOSED | USE JEFFREY Rd ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
ALTON Pkwy
JEFFREY Rd
SAND CANYON Ave
ROUTE 133
ROUTE 405
PCMS-13.2
NB ROUTE 405 ON-RAMP FROM SAND CANYON Ave CLOSED
LAGUNA CANYON Rd
QUAIL HILL Pkwy
SHADY CANYON Dr
UNIVERSITY Dr
PCMS-13.1
TRAFFIC DETOUR # 13A
SHADY CANYON Dr TO SAND CANYON Ave
SAND CANYON Ave TO ALTON Pkwy
ALTON Pkwy TO JEFFREY Rd
JEFFREY Rd TO NB RTE 405 ON-RAMP
TRAFFIC DETOUR # 13B
SHADY CANYON Dr TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO NB RTE 133
NB RTE 133 TO NB RTE 405 CONNECTOR
CLOSURES:
NB 405 ON-RAMP FROM SAND CANYON Ave CLOSED
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-13
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: DAVID LAM
CALCULATED-DESIGNED BY: ADRIAN CORREA
CHECKED BY: DAVID LAM
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
USERNAME => s150233
DGN FILE => 12180000101mod013.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:39
08-07-20

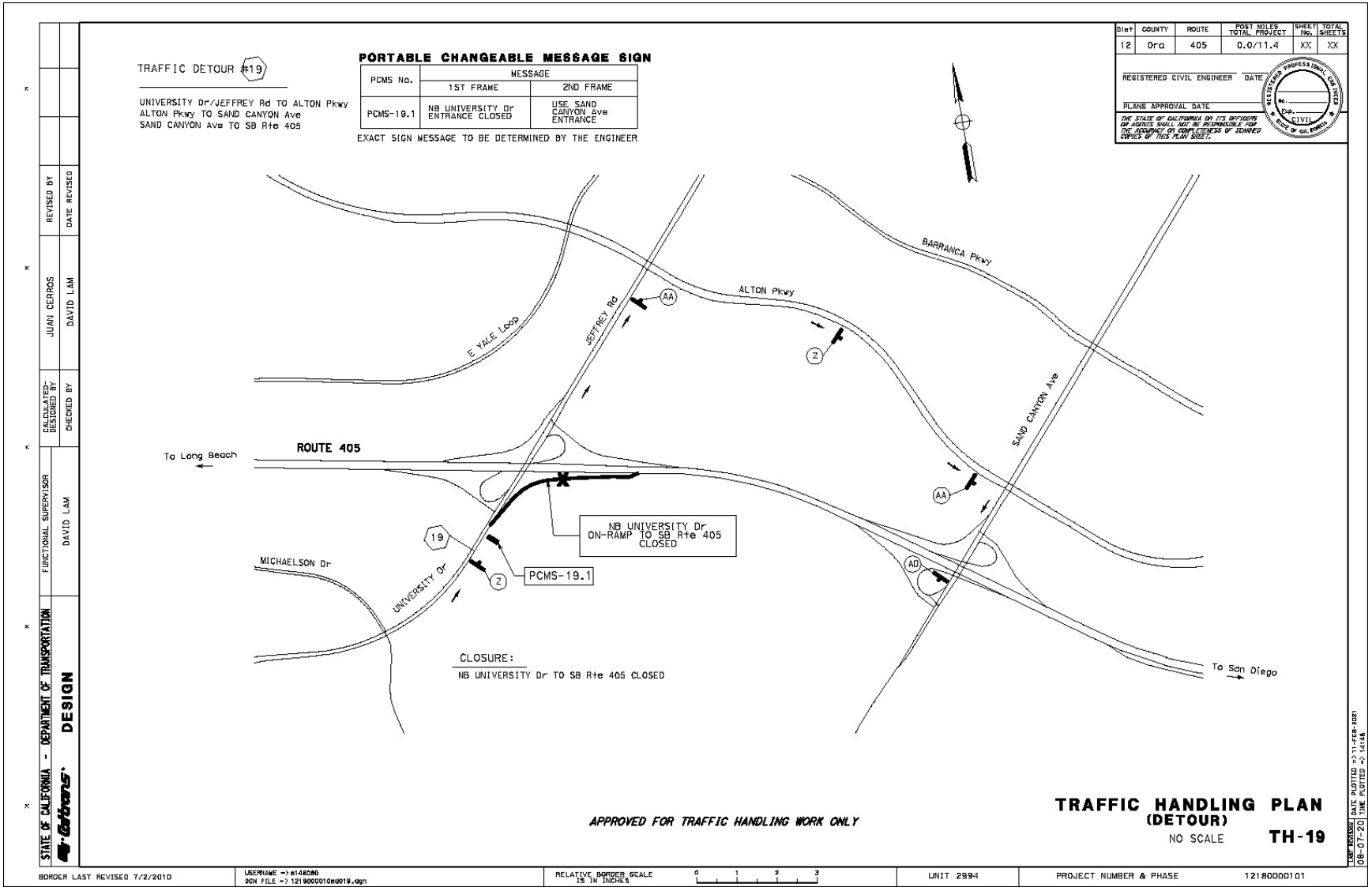

TRAFFIC DETOUR # 14A
SB RTE 405 TO JEFFREY Rd/UNIVERSITY Dr
JEFFREY Rd TO ALTON Pkwy
ALTON Pkwy TO SAND CANYON Ave
TRAFFIC DETOUR # 14B
SB RTE 405 TO SB RTE 133 CONNECTOR
SB RTE 133 TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO SAND CANYON Ave
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
ALTON Pkwy
VALLEY OAK Dr
SAND CANYON Ave
ROUTE 133
JEFFREY Rd
ROUTE 405
PCMS-14.1
SB ROUTE 405 OFF-RAMP TO SAND CANYON Ave CLOSED
PCMS-14.2
UNIVERSITY Dr
QUAIL HILL Pkwy
SHADY CANYON Dr
LAGUNA CANYON Rd
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE | 1ST FRAME | 2ND FRAME
PCMS-14.1 | SAND CYN Ave OFF-RAMP CLOSED | USE SB RTE 133 OFF-RAMP
PCMS-14.2 | SAND CYN Ave OFF-RAMP CLOSED | USE JEFFREY Rd OFF-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-14
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc014.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:29
08-07-20

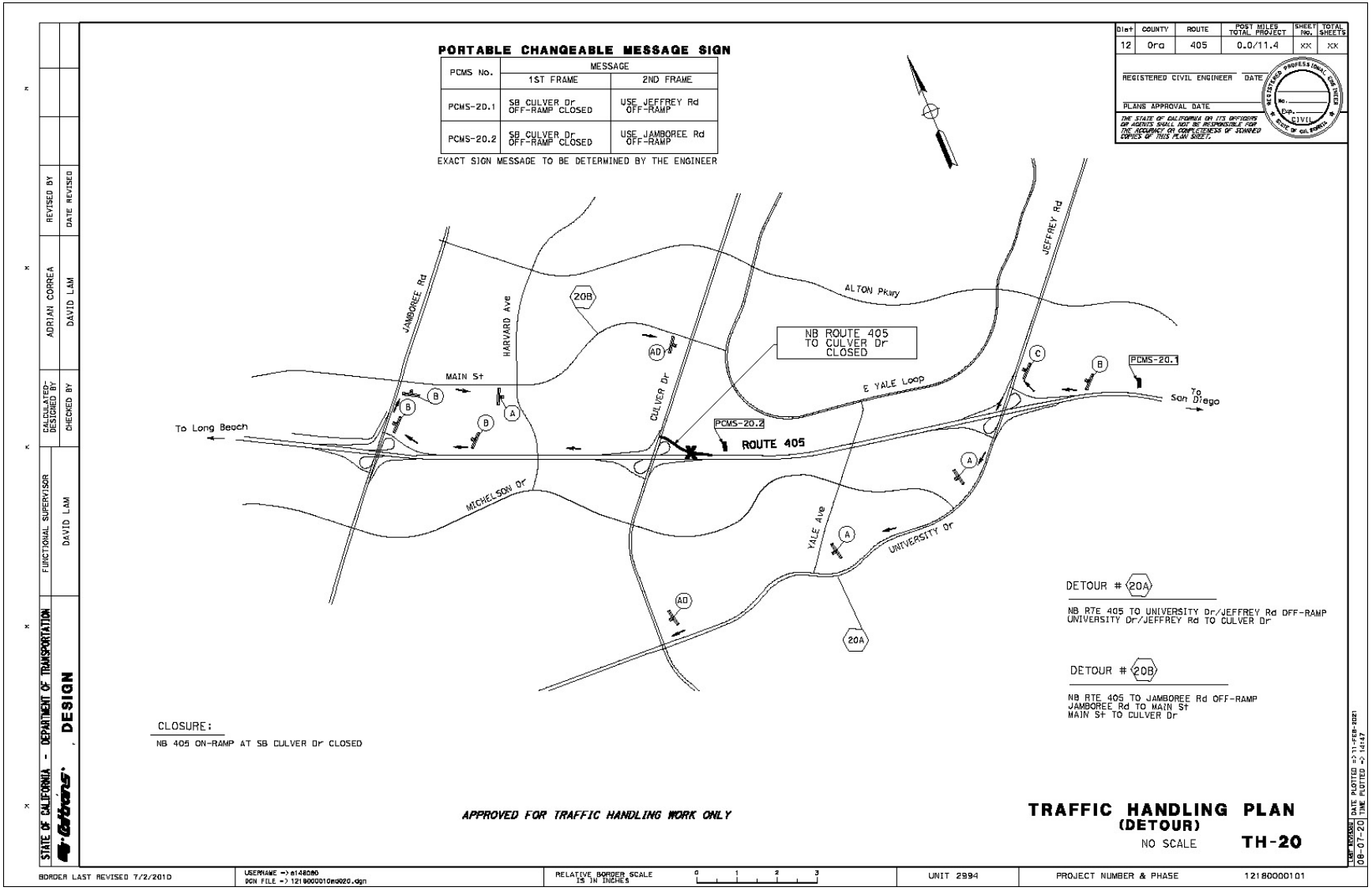

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-15.1 | SB RTE 405 ON-RAMP CLOSED | USE NB RTE 133 ON-RAMP
PCMS-15.2 | SB RTE 405 ON-RAMP CLOSED | USE NB RTE 133 ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
ALTON Pkwy
VALLEY OAK Dr
ROYAL OAK
QUAILCREEK
JEFFREY Rd
SAND CANYON Ave
PCMS-15.2
ROUTE 133
ROUTE 405
SB ROUTE 405 ON-RAMP FROM SAND CANYON Ave CLOSED
QUAIL HILL Pkwy
LAGUNA CANYON Rd
UNIVERSITY Dr
SHADY CANYON Dr
PCMS-15.1
TRAFFIC DETOUR #15
SAND CANYON Ave/SHADY CANYON Dr TO QUAIL HILL Pkwy
QUAIL HILL Pkwy TO LAGUNA CANYON Rd
LAGUNA CANYON Rd TO NB RTE 133
NB RTE 133 TO SB RTE 405 CONNECTOR
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-15
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISION DATE PLOTTED => 23-FEB-2021
07-02-19 TIME PLOTTED => 17:56
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180000101

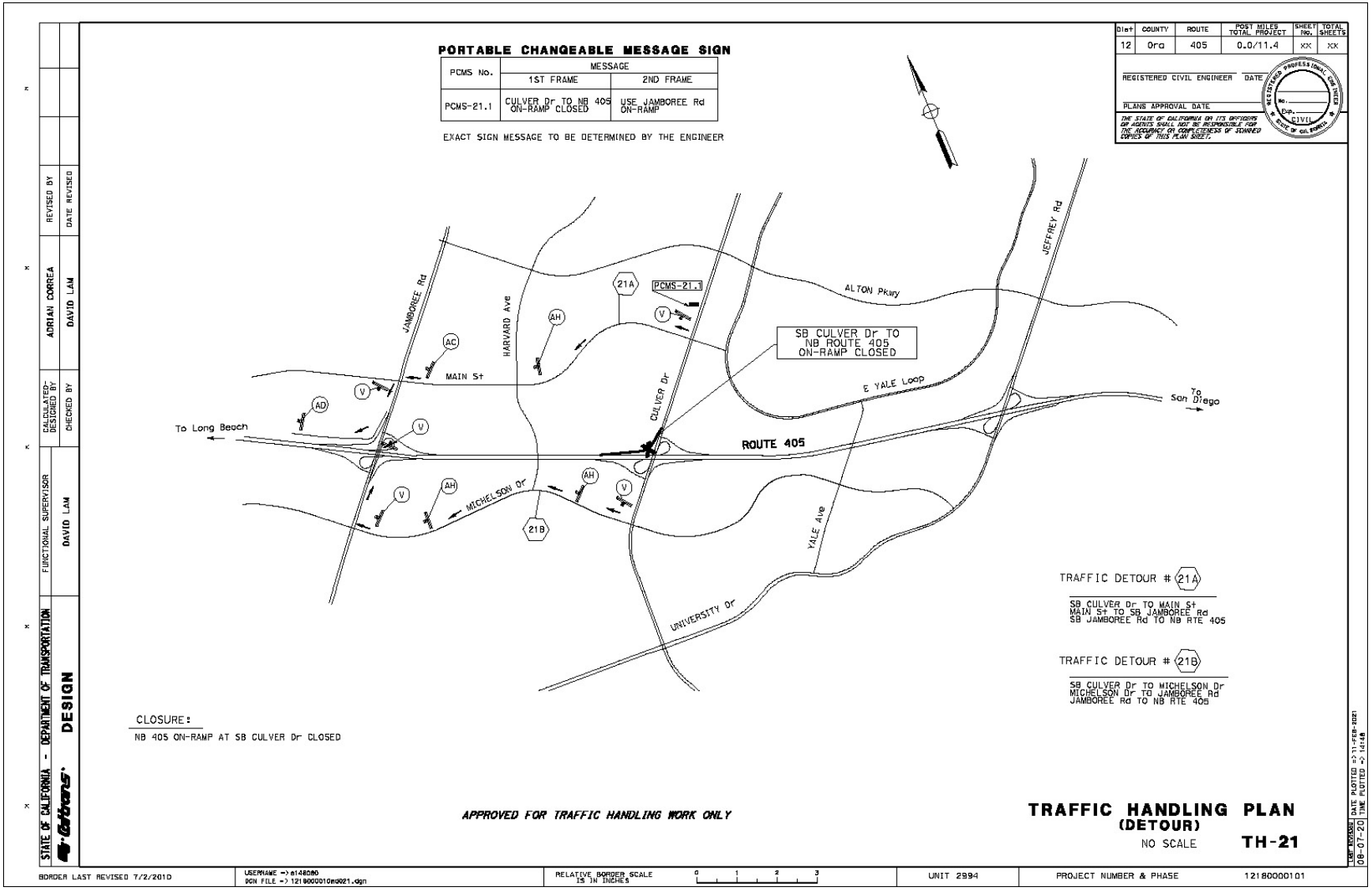

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-16.1 | NB 405 ENTRANCE CLOSED AHEAD | USE SB CULVER Dr ENTRANCE
PCMS-16.2 | NB 405 ENTRANCE CLOSED | USE SB CULVER Dr ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC DETOUR #16
NB UNIVERSITY Dr TO JEFFREY Rd
JEFFREY Rd TO ALTON Pkwy
ALTON Pkwy TO CULVER Dr
CULVER Dr TO NB Rte 405
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
MAIN St
W YALE LOOP
LAKE Rd
CREEK Rd
BARRANCA Pkwy
E YALE LOOP
JEFFREY Rd
ALTON Pkwy
SAN LEANDRO
To Long Beach
ROUTE 405
CULVER Dr
MICHELSON Dr
YALE Ave
UNIVERSITY Dr
To San Diego
PCMS-16.2
NB UNIVERSITY Dr TO NB Rte 405 CLOSED
PCMS-16.1
16
AC
AH
AD
CLOSURE:
NB UNIVERSITY Dr TO NB Rte 405 CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-16
LAST REVISED 00-00-00
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:44
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 12160000104d016.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0000
PROJECT NUMBER & PHASE 0000000001

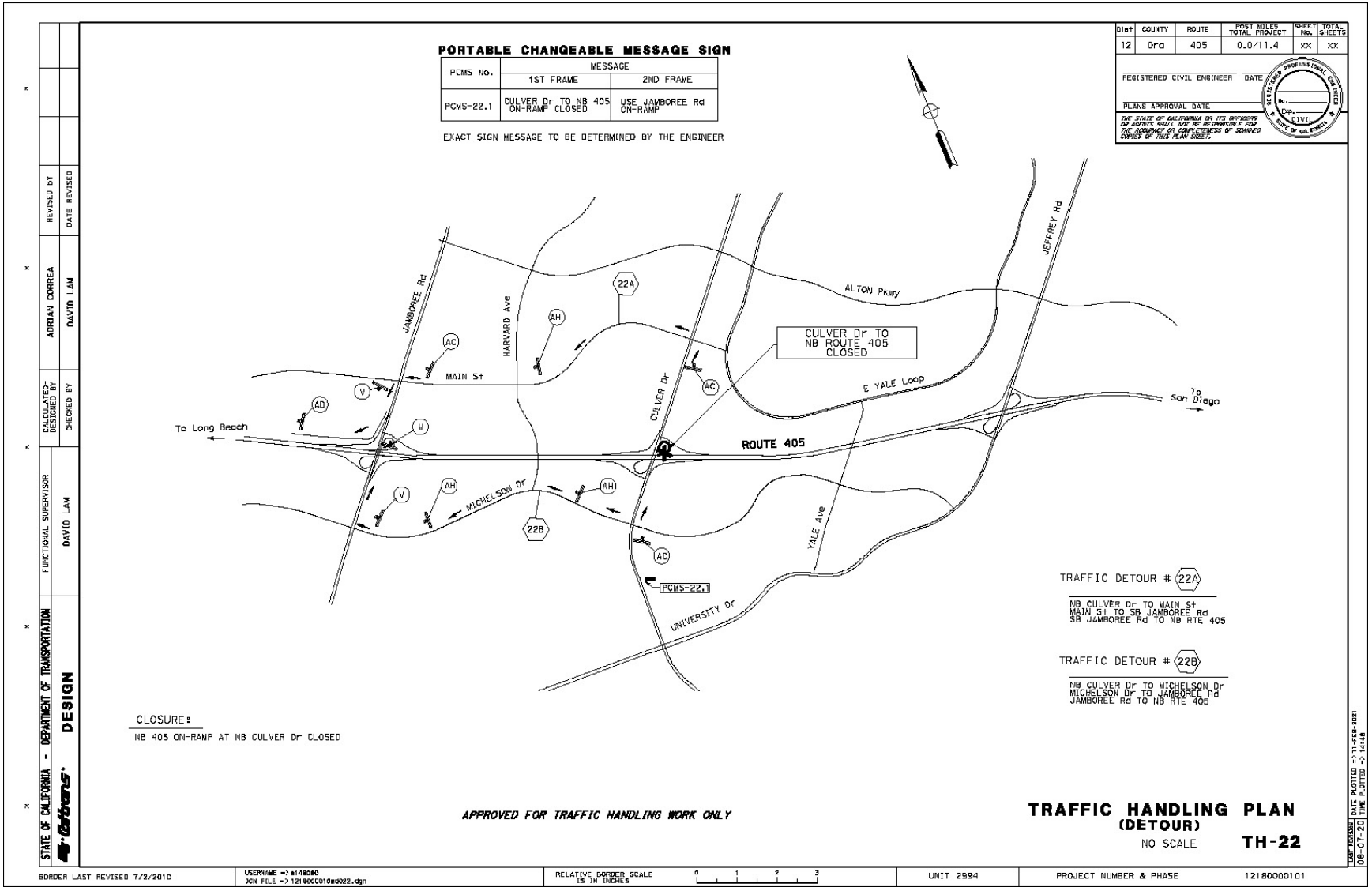

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-17.1 | SB Rte 405 ENTRANCE CLOSED AHEAD | USE NB CULVER Dr ENTRANCE
PCMS-17.2 | SB Rte 405 ENTRANCE CLOSED | USE NB CULVER Dr ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC DETOUR #17
JEFFREY Rd TO UNIVERSITY Dr
UNIVERSITY Dr to CULVER Dr
CULVER Dr to SB Rte 405
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | xx | xx
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
ALTON Pkwy
JEFFREY Rd
SAND CANYON Ave
HARVARD Ave
CULVER Dr
E YALE Loop
PCMS-17.1
PCMS-17.2
JEFFREY Rd POC
To San Diego
To Long Beach
SB JEFFREY Rd TO SB Rte 405 CLOSED
MICHELSON Dr
YALE Ave
SHADY CANYON Dr
UNIVERSITY Dr
AD
AA
Z
17
CLOSURE:
SB Rte 405 ON-RAMP FROM SB JEFFREY Rd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-17
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:45
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 1218000010md01T.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

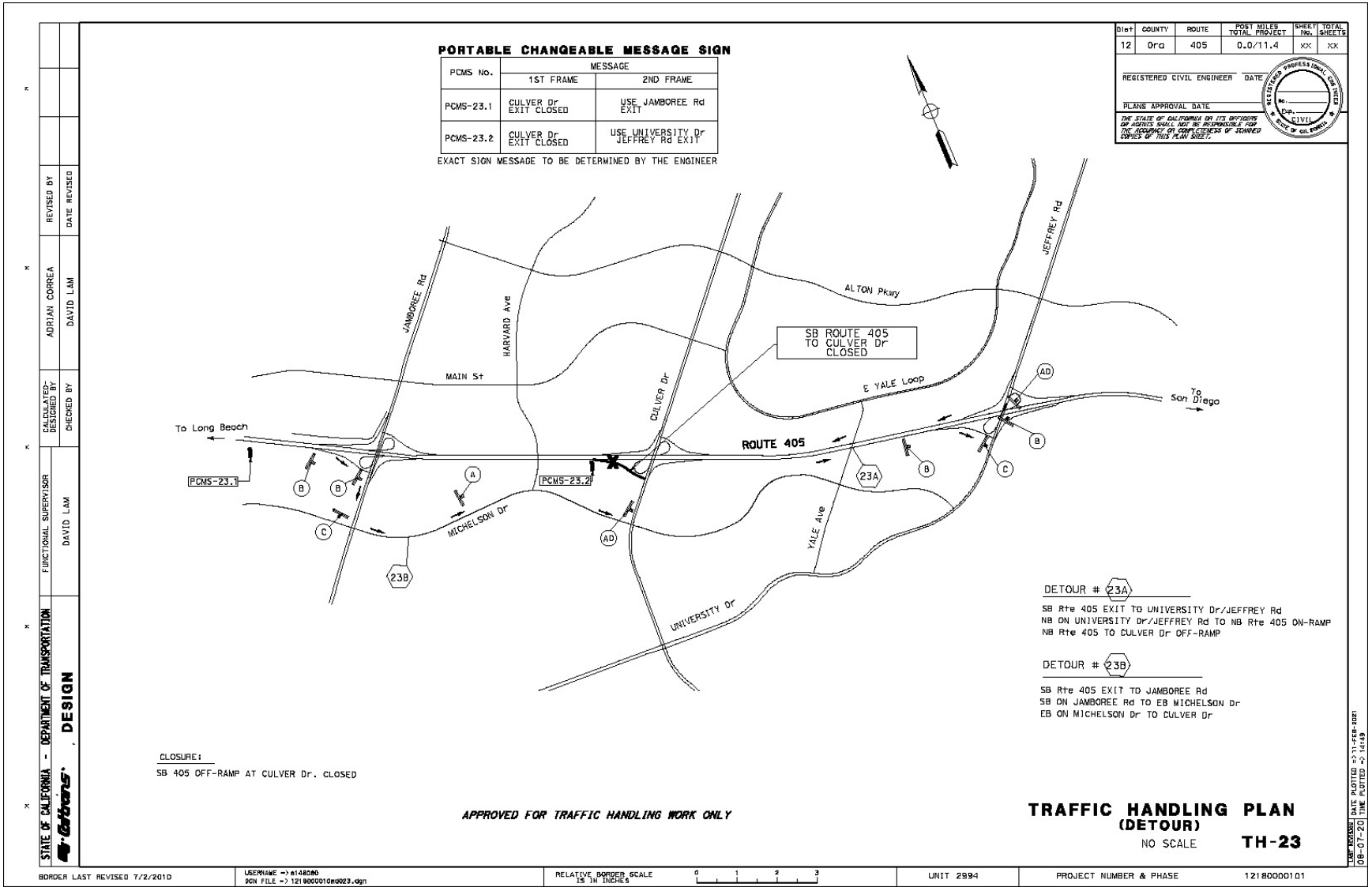

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-18.1 | NB 405 ENTRANCE CLOSED AHEAD | USE CULVER Dr ENTRANCE
PCMS-18.2 | NB 405 ENTRANCE CLOSED | USE CULVER Dr ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC DETOUR # 18A
JEFFREY Rd TO UNIVERSITY Dr
UNIVERSITY Dr to CULVER Dr
CULVER Dr to NB Rte 405
TRAFFIC DETOUR # 18B
JEFFREY Rd TO ALTON Pkwy
ALTON Pkwy to CULVER Dr
CULVER Dr to NB Rte 405
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | xx | xx
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
HARVARD Ave
CULVER Dr
JEFFREY Rd
SAND CANYON Ave
ALTON Pkwy
PCMS-18.1
PCMS-18.2
NB Rte 405 ON-RAMP FROM SB JEFFREY Rd CLOSED
E YALE Loop
JEFFREY Rd POC
To San Diego
To Long Beach
MICHELSON Dr
YALE Ave
SHADY CANYON Dr
UNIVERSITY Dr
18A
18B
AC
AH
AD
V
CLOSURE:
NB Rte 405 ON-RAMP FROM SB JEFFREY Rd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-18
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
USERNAME => e150233
DGN FILE => 12180000101mc018.dgn
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12180000101
DATE PLOTTED => 23-FEB-2021
TIME PLOTTED => 17:30
08-07-20

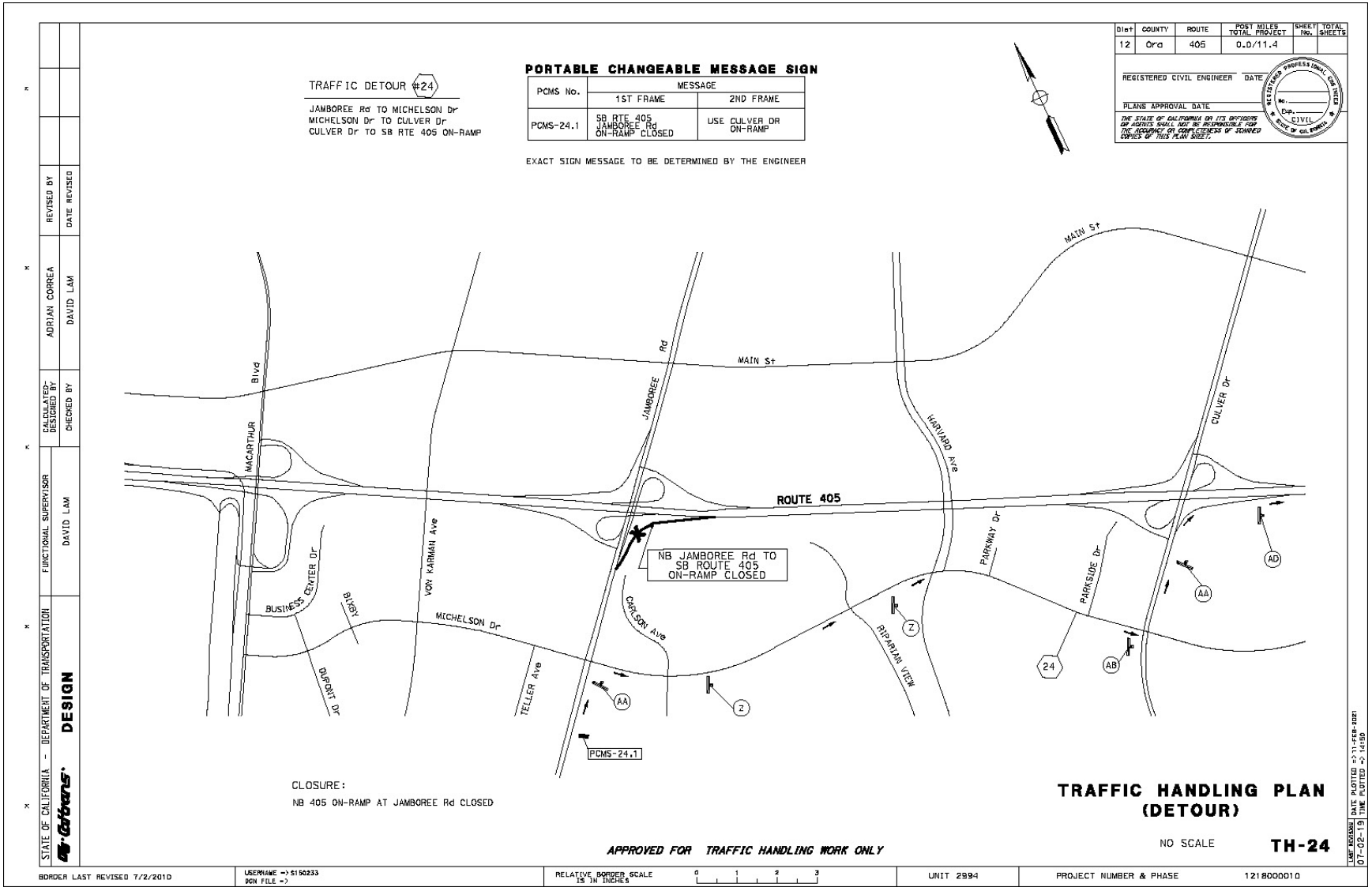

TRAFFIC DETOUR #19
UNIVERSITY Dr/JEFFREY Rd TO ALTON Pkwy
ALTON Pkwy TO SAND CANYON Ave
SAND CANYON Ave TO SB Rte 405
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-19.1
NB UNIVERSITY Dr ENTRANCE CLOSED
USE SAND CANYON Ave ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REVISED BY
DATE REVISED
JUAN CERROS
DAVID LAM
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
DAVID LAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
E YALE Loop
JEFFREY Rd
ALTON Pkwy
BARRANCA Pkwy
SAND CANYON Ave
To Long Beach
ROUTE 405
NB UNIVERSITY Dr ON-RAMP TO SB Rte 405 CLOSED
PCMS-19.1
MICHAELSON Dr
UNIVERSITY Dr
CLOSURE:
NB UNIVERSITY Dr TO SB Rte 405 CLOSED
To San Diego
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-19
LAST REVISED
DATE PLOTTED => 11-FEB-2021
08-07-20
TIME PLOTTED => 14:46
BORDER LAST REVISED 7/2/2010
USERNAME => e148080
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RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

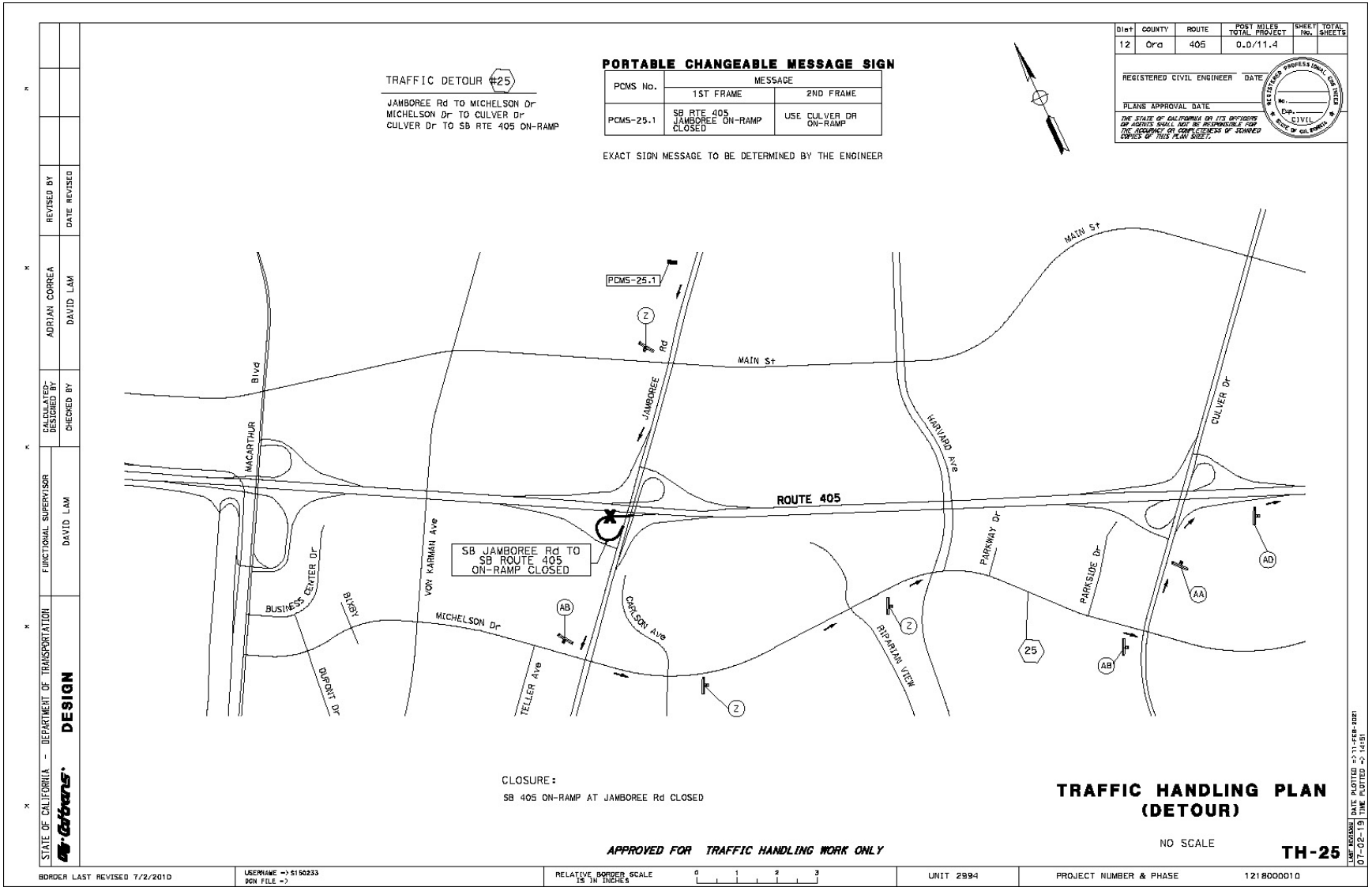

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-20.1
SB CULVER Dr OFF-RAMP CLOSED
USE JEFFREY Rd OFF-RAMP
PCMS-20.2
SB CULVER Dr OFF-RAMP CLOSED
USE JAMBOREE Rd OFF-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
NB ROUTE 405 TO CULVER Dr CLOSED
ALTON Pkwy
JEFFREY Rd
JAMBOREE Rd
HARVARD Ave
MAIN St
CULVER Dr
E YALE Loop
PCMS-20.1
PCMS-20.2
ROUTE 405
To Long Beach
To San Diego
MICHELSON Dr
YALE Ave
UNIVERSITY Dr
20A
20B
AD
A
B
C
DETOUR # 20A
NB RTE 405 TO UNIVERSITY Dr/JEFFREY Rd OFF-RAMP
UNIVERSITY Dr/JEFFREY Rd TO CULVER Dr
DETOUR # 20B
NB RTE 405 TO JAMBOREE Rd OFF-RAMP
JAMBOREE Rd TO MAIN St
MAIN St TO CULVER Dr
CLOSURE:
NB 405 ON-RAMP AT SB CULVER Dr CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-20
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:47
BORDER LAST REVISED 7/2/2010
USERNAME => a148080
DGN FILE => 12180000101m0020.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
12180000101

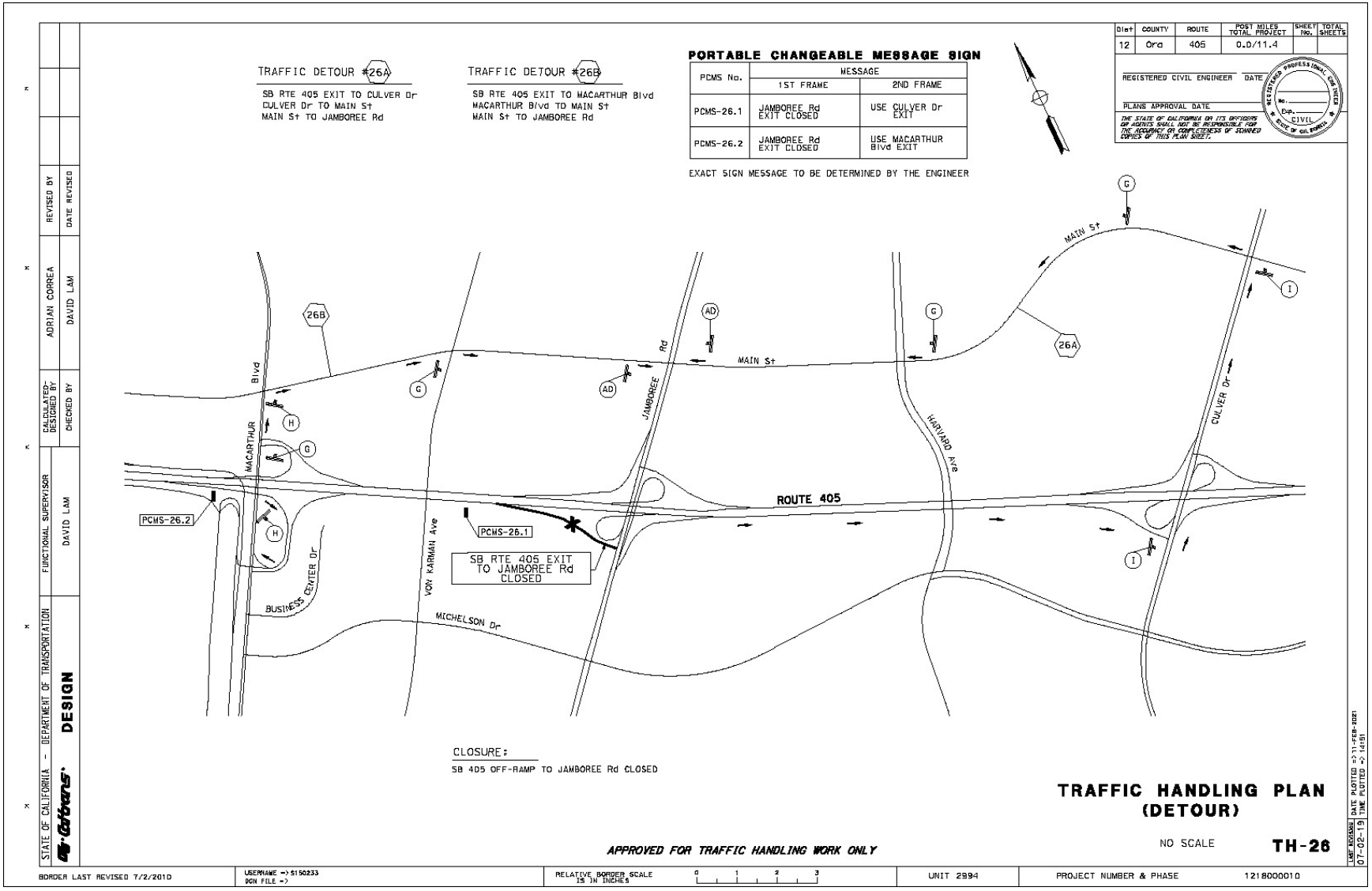

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-21.1
CULVER Dr TO NB 405 ON-RAMP CLOSED
USE JAMBOREE Rd ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
JAMBOREE Rd
HARVARD Ave
MAIN St
ALTON Pkwy
JEFFREY Rd
21A
PCMS-21.1
SB CULVER Dr TO NB ROUTE 405 ON-RAMP CLOSED
CULVER Dr
E YALE Loop
To San Diego
To Long Beach
ROUTE 405
MICHELSON Dr
21B
YALE Ave
UNIVERSITY Dr
TRAFFIC DETOUR # 21A
SB CULVER Dr TO MAIN St
MAIN St TO SB JAMBOREE Rd
SB JAMBOREE Rd TO NB RTE 405
TRAFFIC DETOUR # 21B
SB CULVER Dr TO MICHELSON Dr
MICHELSON Dr TO JAMBOREE Rd
JAMBOREE Rd TO NB RTE 405
CLOSURE:
NB 405 ON-RAMP AT SB CULVER Dr CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-21
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:48
LAST REVISED
08-07-20
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 1218000010sd021.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

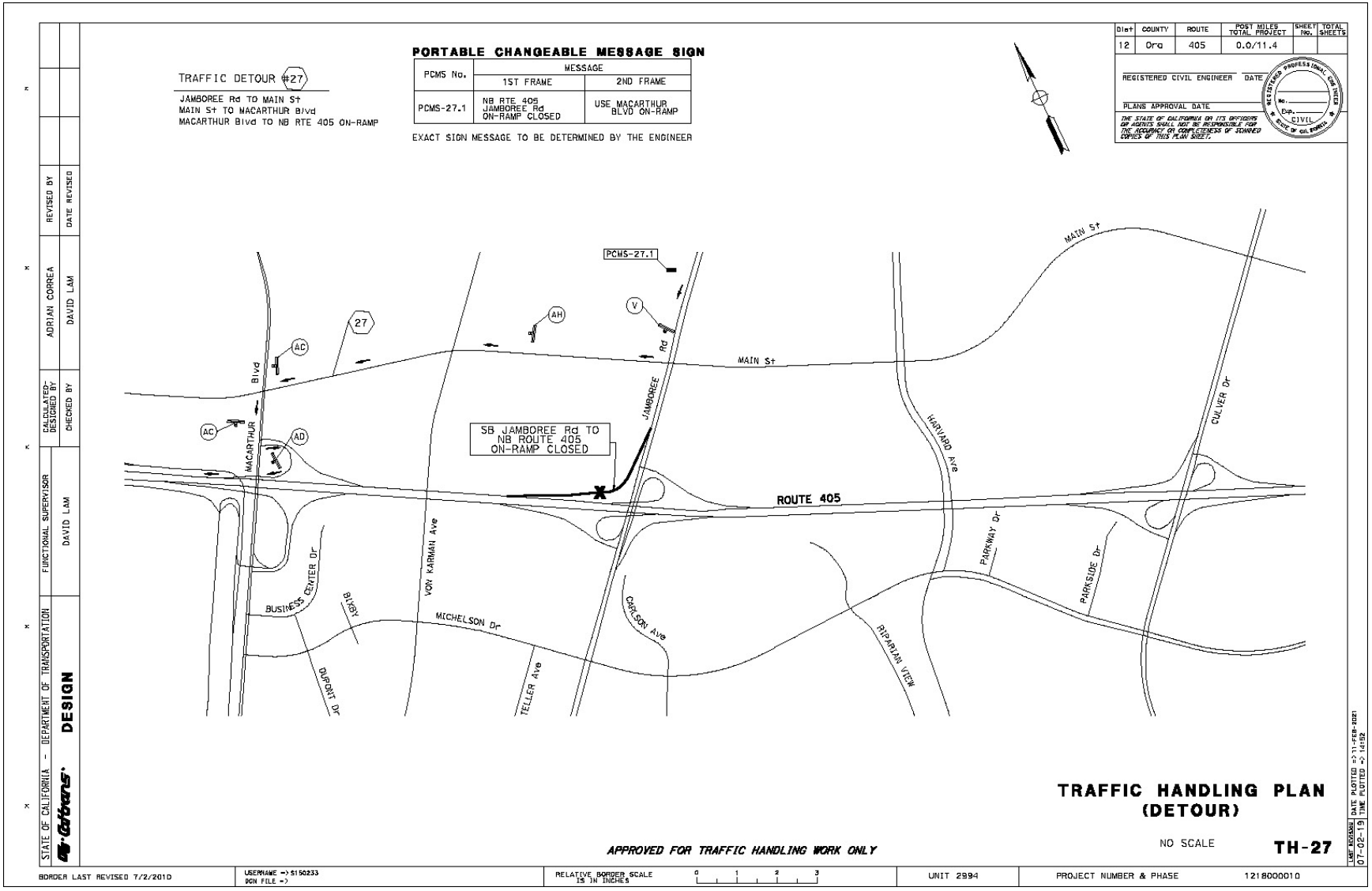

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-22.1
CULVER Dr TO NB 405 ON-RAMP CLOSED
USE JAMBOREE Rd ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
JEFFREY Rd
ALTON Pkwy
JAMBOREE Rd
HARVARD Ave
MAIN St
CULVER Dr
E YALE Loop
CULVER Dr TO NB ROUTE 405 CLOSED
To Long Beach
To San Diego
ROUTE 405
MICHELSON Dr
YALE Ave
UNIVERSITY Dr
PCMS-22.1
22A
22B
AC
AH
AD
V
TRAFFIC DETOUR # 22A
NB CULVER Dr TO MAIN St
MAIN St TO SB JAMBOREE Rd
SB JAMBOREE Rd TO NB RTE 405
TRAFFIC DETOUR # 22B
NB CULVER Dr TO MICHELSON Dr
MICHELSON Dr TO JAMBOREE Rd
JAMBOREE Rd TO NB RTE 405
CLOSURE:
NB 405 ON-RAMP AT NB CULVER Dr CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-22
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:48
BORDER LAST REVISED 7/2/2010
USERNAME => a148080
DGN FILE => 12180000101md022.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
12180000101

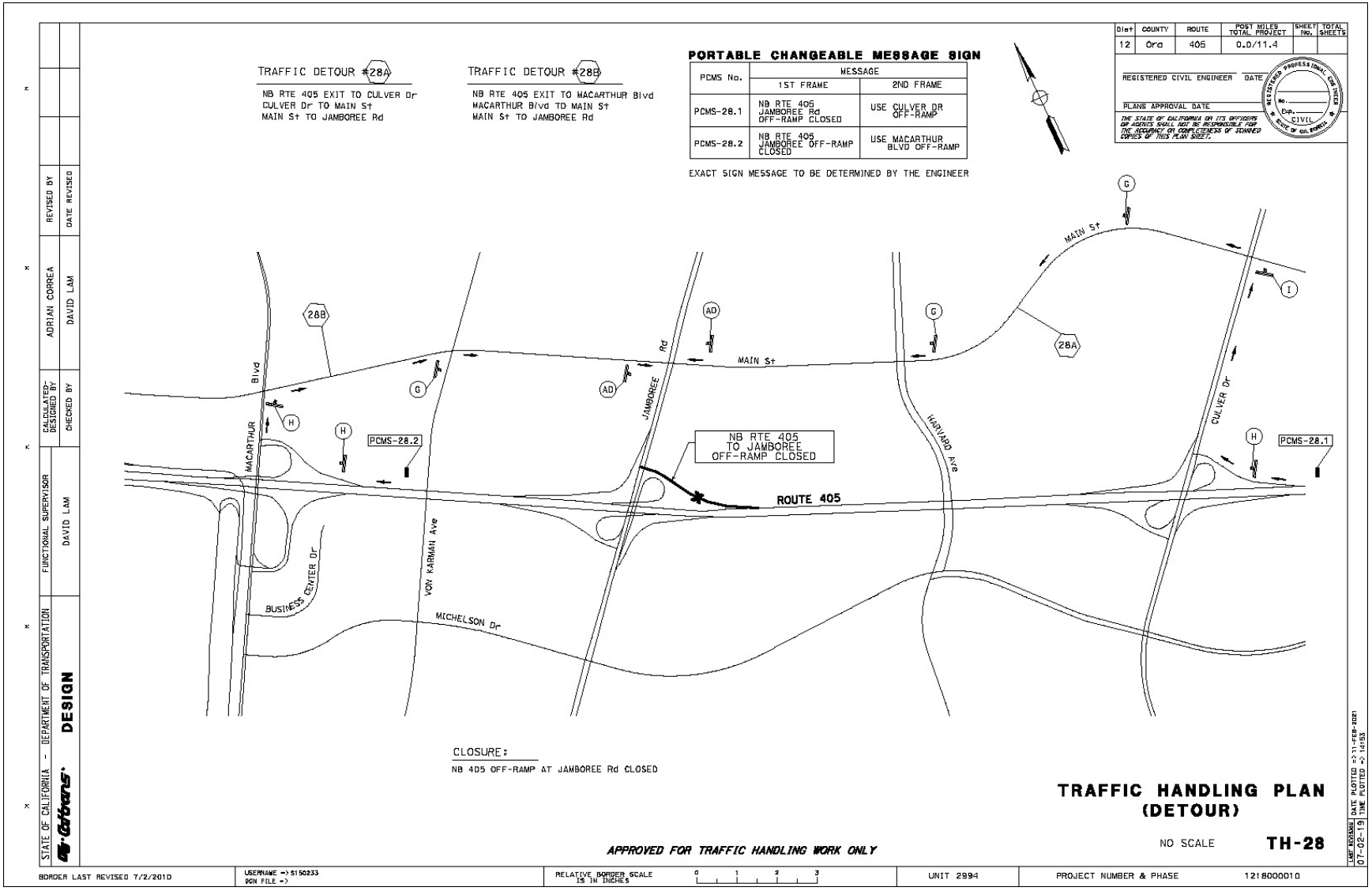

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-23.1 | CULVER Dr EXIT CLOSED | USE JAMBOREE Rd EXIT
PCMS-23.2 | CULVER Dr EXIT CLOSED | USE UNIVERSITY Dr JEFFREY Rd EXIT
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA
SB ROUTE 405 TO CULVER Dr CLOSED
ALTON Pkwy
JAMBOREE Rd
HARVARD Ave
MAIN St
CULVER Dr
JEFFREY Rd
E YALE Loop
To San Diego
To Long Beach
ROUTE 405
PCMS-23.1
PCMS-23.2
MICHELSON Dr
YALE Ave
UNIVERSITY Dr
23A
23B
AD
A
B
C
DETOUR # 23A
SB Rte 405 EXIT TO UNIVERSITY Dr/JEFFREY Rd
NB ON UNIVERSITY Dr/JEFFREY Rd TO NB Rte 405 ON-RAMP
NB Rte 405 TO CULVER Dr OFF-RAMP
DETOUR # 23B
SB Rte 405 EXIT TO JAMBOREE Rd
SB ON JAMBOREE Rd TO EB MICHELSON Dr
EB ON MICHELSON Dr TO CULVER Dr
CLOSURE:
SB 405 OFF-RAMP AT CULVER Dr. CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-23
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 08-07-20
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:49
BORDER LAST REVISED 7/2/2010
USERNAME => a148080
DGN FILE => 1218000010m0023.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 1218000010

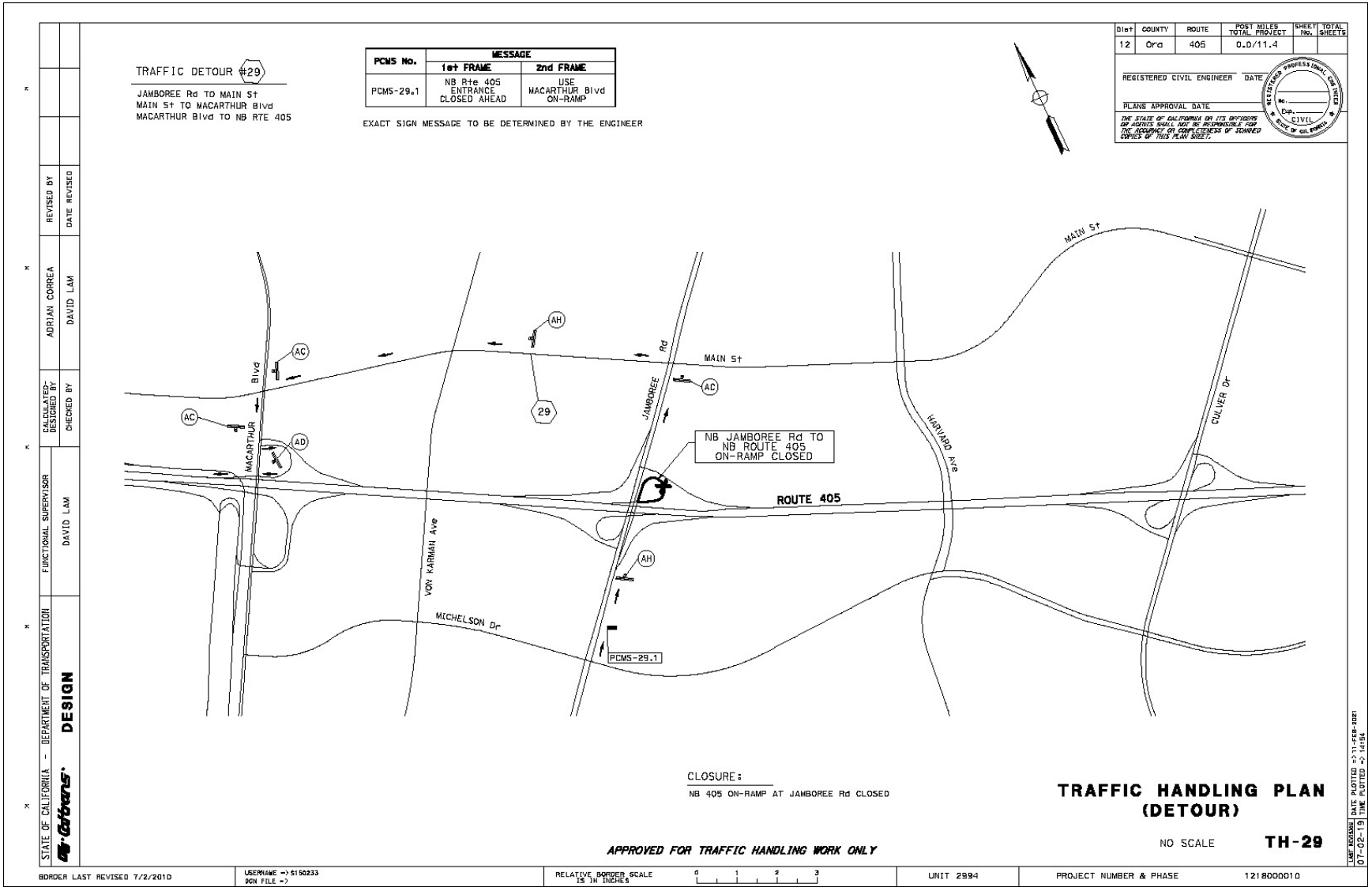

TRAFFIC DETOUR #24
JAMBOREE Rd TO MICHELSON Dr
MICHELSON Dr TO CULVER Dr
CULVER Dr TO SB RTE 405 ON-RAMP
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-24.1
SB RTE 405 JAMBOREE Rd ON-RAMP CLOSED
USE CULVER DR ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
MACARTHUR Blvd
MAIN St
JAMBOREE Rd
HARVARD Ave
CULVER Dr
ROUTE 405
NB JAMBOREE Rd TO SB ROUTE 405 ON-RAMP CLOSED
VON KARMAN Ave
BUSINESS CENTER Dr
BIXBY
MICHELSON Dr
DUPONT Dr
TELLER Ave
CARLSON Ave
PARKWAY Dr
PARKSIDE Dr
RIPARIAN VIEW
AA
AB
AD
Z
24
PCMS-24.1
CLOSURE:
NB 405 ON-RAMP AT JAMBOREE Rd CLOSED
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-24
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:50
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

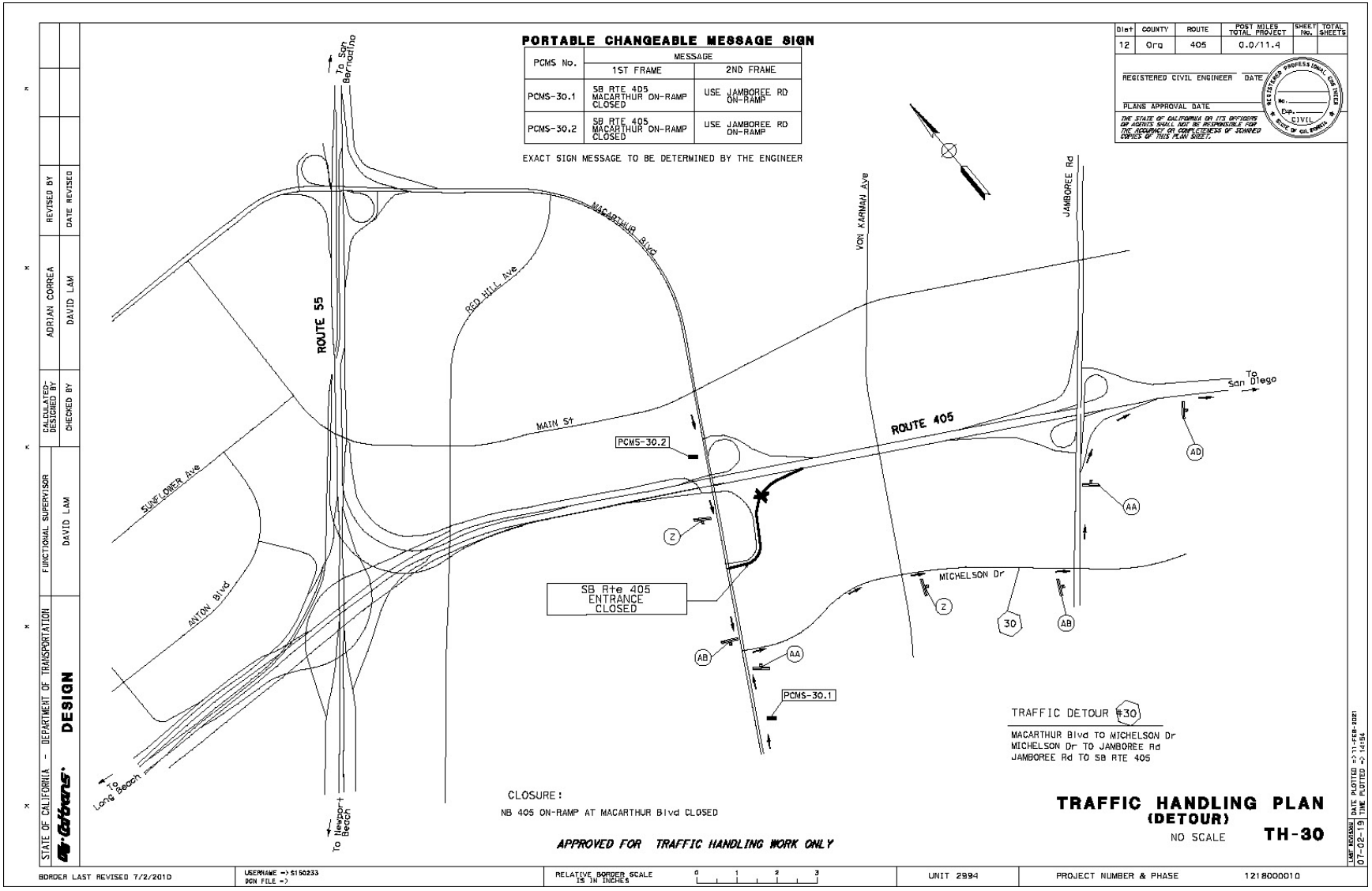

TRAFFIC DETOUR #25
JAMBOREE Rd TO MICHELSON Dr
MICHELSON Dr TO CULVER Dr
CULVER Dr TO SB RTE 405 ON-RAMP
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-25.1
SB RTE 405 JAMBOREE ON-RAMP CLOSED
USE CULVER DR ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
REVISED BY
DATE REVISED
ADRIAN CORREA
DAVID LAM
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
DAVID LAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
PCMS-25.1
MAIN St
MACARTHUR Blvd
JAMBOREE Rd
HARVARD Ave
CULVER Dr
ROUTE 405
SB JAMBOREE Rd TO SB ROUTE 405 ON-RAMP CLOSED
VON KARMAN Ave
BUSINESS CENTER Dr
IRVINE BLVD
MICHELSON Dr
DUPONT Dr
TELLER Ave
CARLSON Ave
RIPARIAN VIEW
PARKWAY Dr
PARKSIDE Dr
25
AA
AB
AD
CLOSURE:
SB 405 ON-RAMP AT JAMBOREE Rd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-25
LAST REVISED 07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:51
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

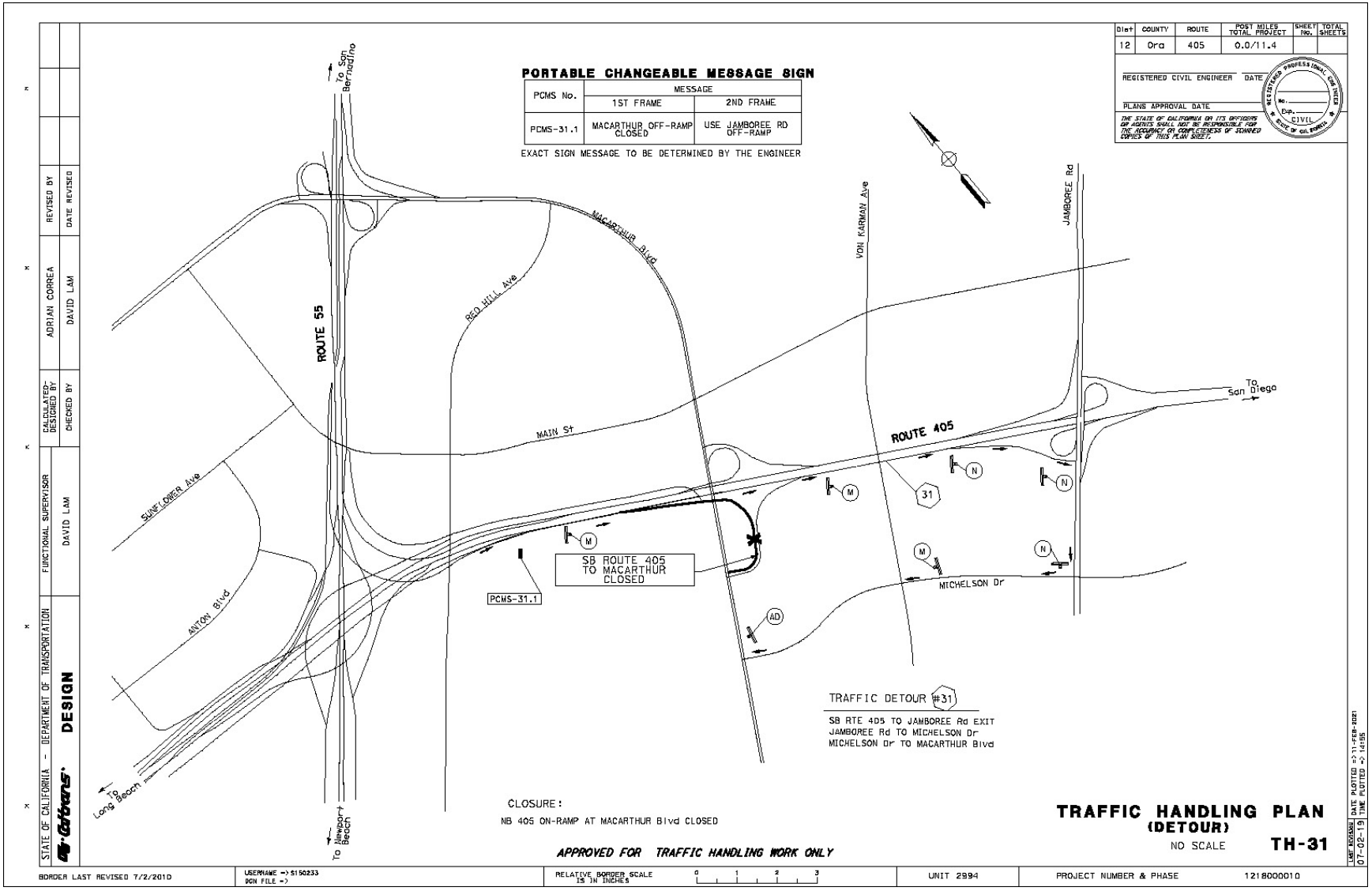

TRAFFIC DETOUR #26A
SB RTE 405 EXIT TO CULVER Dr
CULVER Dr TO MAIN St
MAIN St TO JAMBOREE Rd
TRAFFIC DETOUR #26B
SB RTE 405 EXIT TO MACARTHUR Blvd
MACARTHUR Blvd TO MAIN St
MAIN St TO JAMBOREE Rd
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-26.1
JAMBOREE Rd EXIT CLOSED
USE CULVER Dr EXIT
PCMS-26.2
JAMBOREE Rd EXIT CLOSED
USE MACARTHUR Blvd EXIT
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
MAIN St
26B
26A
MACARTHUR Blvd
JAMBOREE Rd
HARVARD Ave
CULVER Dr
ROUTE 405
PCMS-26.2
PCMS-26.1
SB RTE 405 EXIT TO JAMBOREE Rd CLOSED
VON KARMAN Ave
BUSINESS CENTER Dr
MICHELSON Dr
CLOSURE:
SB 405 OFF-RAMP TO JAMBOREE Rd CLOSED
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-26
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:51
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

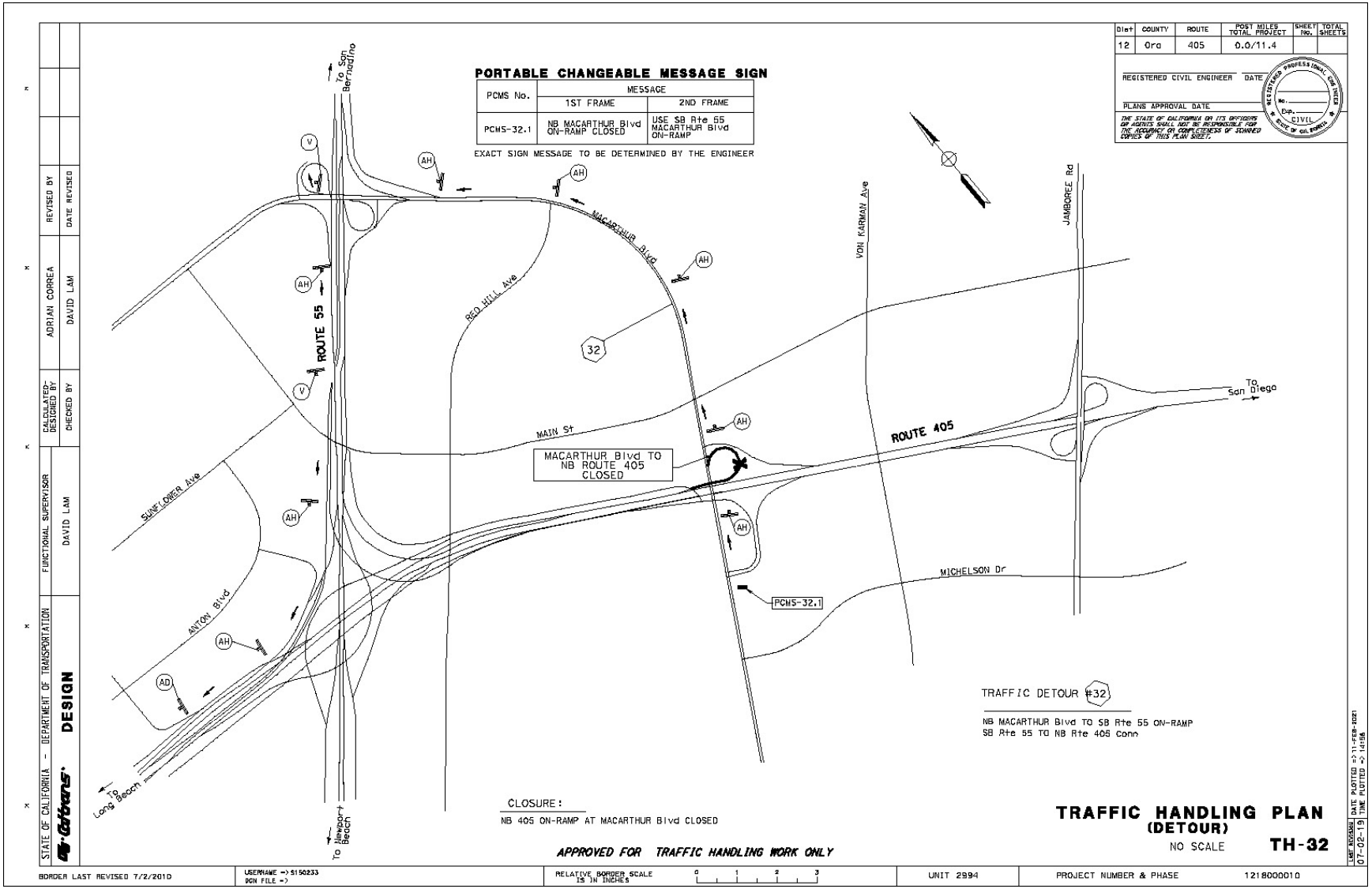

TRAFFIC DETOUR #27
JAMBOREE Rd TO MAIN St
MAIN St TO MACARTHUR Blvd
MACARTHUR Blvd TO NB RTE 405 ON-RAMP
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-27.1
NB RTE 405 JAMBOREE Rd ON-RAMP CLOSED
USE MACARTHUR BLVD ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
PCMS-27.1
MAIN St
MACARTHUR Blvd
JAMBOREE Rd
SB JAMBOREE Rd TO NB ROUTE 405 ON-RAMP CLOSED
ROUTE 405
HARVARD Ave
CULVER Dr
PARKWAY Dr
PARKSIDE Dr
VON KARMAN Ave
BUSINESS CENTER Dr
BIVEN
MICHELSON Dr
DUPONT Dr
TELLER Ave
CARLSON Ave
RIPARIAN VIEW
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-27
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:52
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

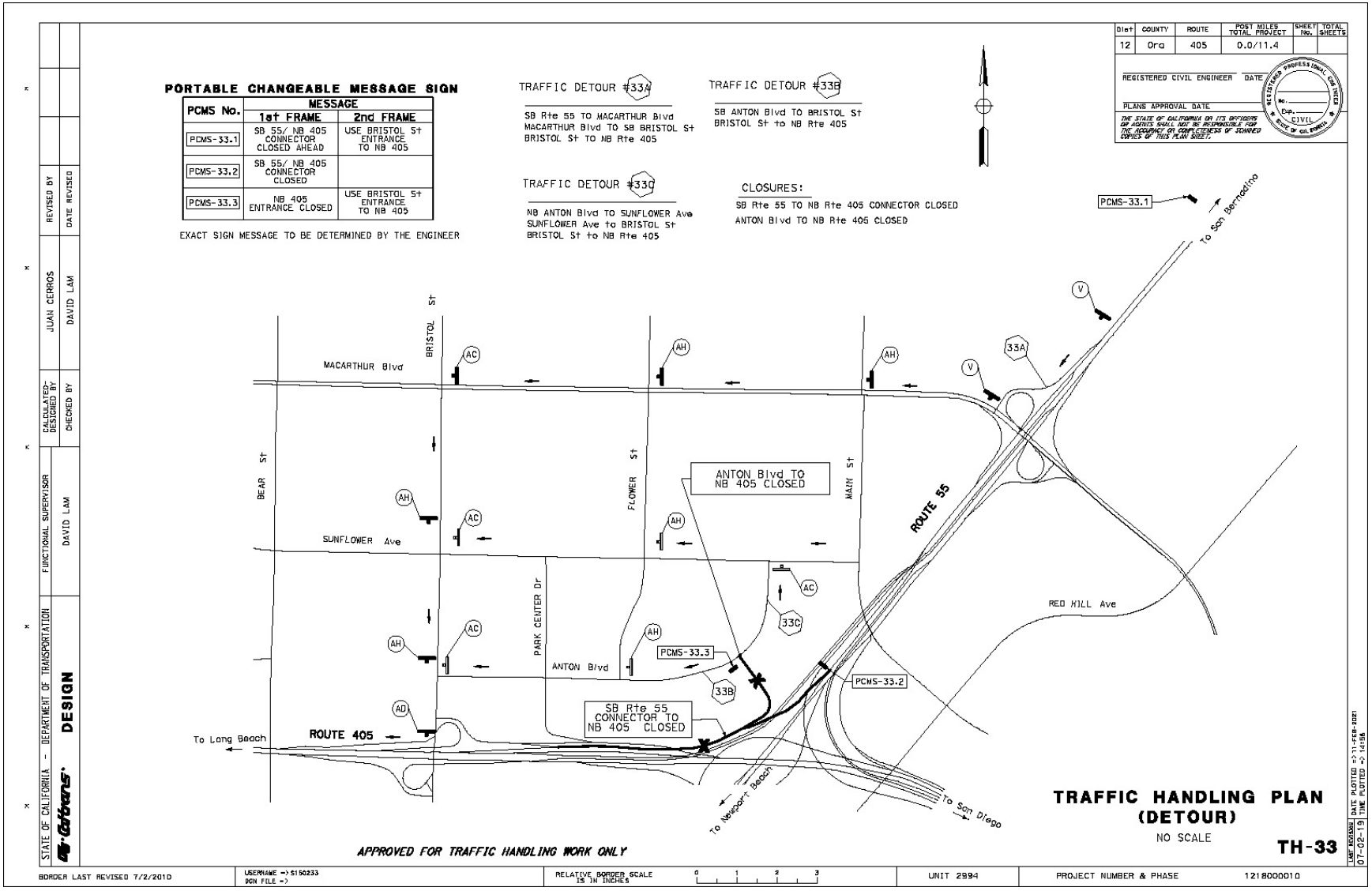

TRAFFIC DETOUR #28A
NB RTE 405 EXIT TO CULVER Dr
CULVER Dr TO MAIN St
MAIN St TO JAMBOREE Rd
TRAFFIC DETOUR #28B
NB RTE 405 EXIT TO MACARTHUR Blvd
MACARTHUR Blvd TO MAIN St
MAIN St TO JAMBOREE Rd
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-28.1
NB RTE 405 JAMBOREE Rd OFF-RAMP CLOSED
USE CULVER DR OFF-RAMP
PCMS-28.2
NB RTE 405 JAMBOREE OFF-RAMP CLOSED
USE MACARTHUR BLVD OFF-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
MAIN St
MACARTHUR Blvd
JAMBOREE Rd
HARVARD Ave
CULVER Dr
VON KARMAN Ave
BUSINESS CENTER Dr
MICHELSON Dr
ROUTE 405
NB RTE 405 TO JAMBOREE OFF-RAMP CLOSED
PCMS-28.2
PCMS-28.1
28B
28A
G
H
AD
I
CLOSURE:
NB 405 OFF-RAMP AT JAMBOREE Rd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-28
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:53
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

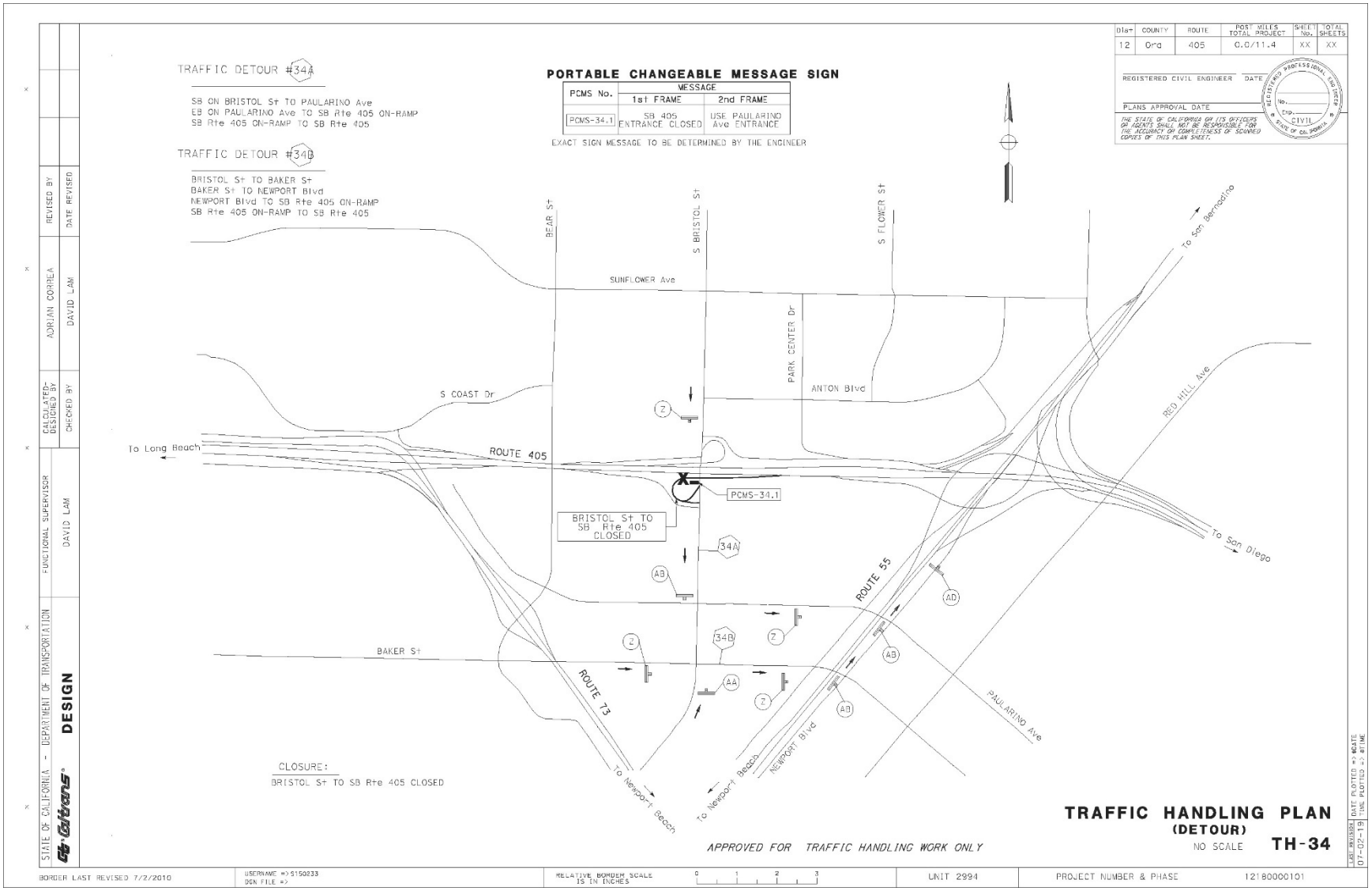

TRAFFIC DETOUR #29
JAMBOREE Rd TO MAIN St
MAIN St TO MACARTHUR Blvd
MACARTHUR Blvd TO NB RTE 405
PCMS No.
MESSAGE
1st FRAME
2nd FRAME
PCMS-29.1
NB Rte 405 ENTRANCE CLOSED AHEAD
USE MACARTHUR Blvd ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
MAIN St
MACARTHUR Blvd
JAMBOREE Rd
HARVARD Ave
CULVER Dr
VON KARMAN Ave
MICHELSON Dr
ROUTE 405
29
AC
AD
AH
NB JAMBOREE Rd TO NB ROUTE 405 ON-RAMP CLOSED
PCMS-29.1
CLOSURE:
NB 405 ON-RAMP AT JAMBOREE Rd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-29
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:54
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

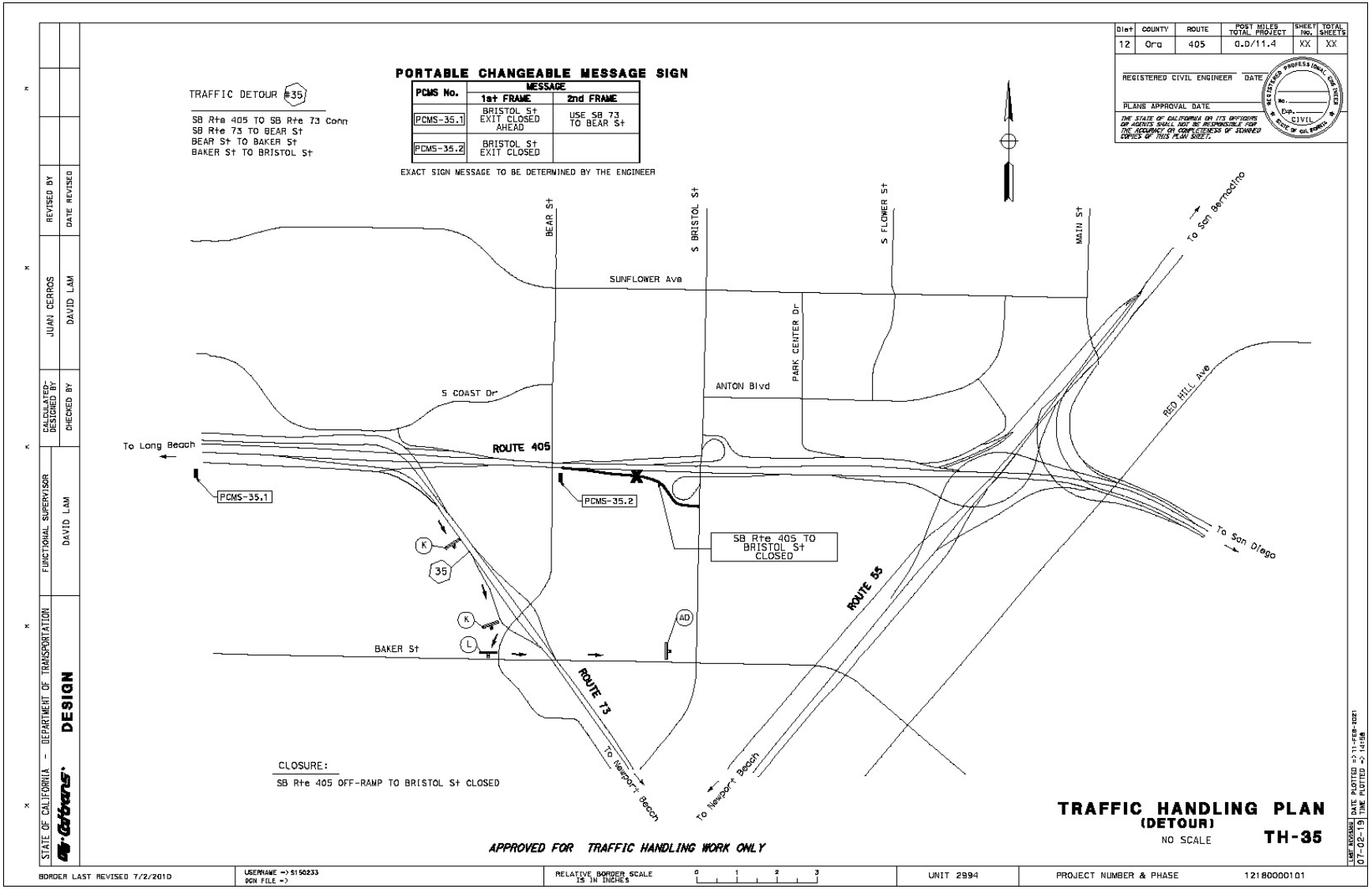

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1ST FRAME | MESSAGE 2ND FRAME
PCMS-30.1 | SB RTE 405 MACARTHUR ON-RAMP CLOSED | USE JAMBOREE RD ON-RAMP
PCMS-30.2 | SB RTE 405 MACARTHUR ON-RAMP CLOSED | USE JAMBOREE RD ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist 12 | COUNTY Org | ROUTE 405 | POST MILES TOTAL PROJECT 0.0/11.4 | SHEET No. | TOTAL SHEETS
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
To San Bernardino
To Long Beach
To Newport Beach
ROUTE 55
ROUTE 405
MACARTHUR Blvd
RED HILL Ave
MAIN St
SUNFLOWER Ave
ANTON Blvd
VON KARMAN Ave
JAMBOREE Rd
MICHELSON Dr
To San Diego
PCMS-30.2
PCMS-30.1
SB Rte 405 ENTRANCE CLOSED
Z
AA
AB
AD
30
TRAFFIC DETOUR #30
MACARTHUR Blvd TO MICHELSON Dr
MICHELSON Dr TO JAMBOREE Rd
JAMBOREE Rd TO SB RTE 405
CLOSURE:
NB 405 ON-RAMP AT MACARTHUR Blvd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-30
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY ADRIAN CORREA
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 07-02-19 DATE PLOTTED => 11-FEB-2021 TIME PLOTTED => 14:54
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 1218000010

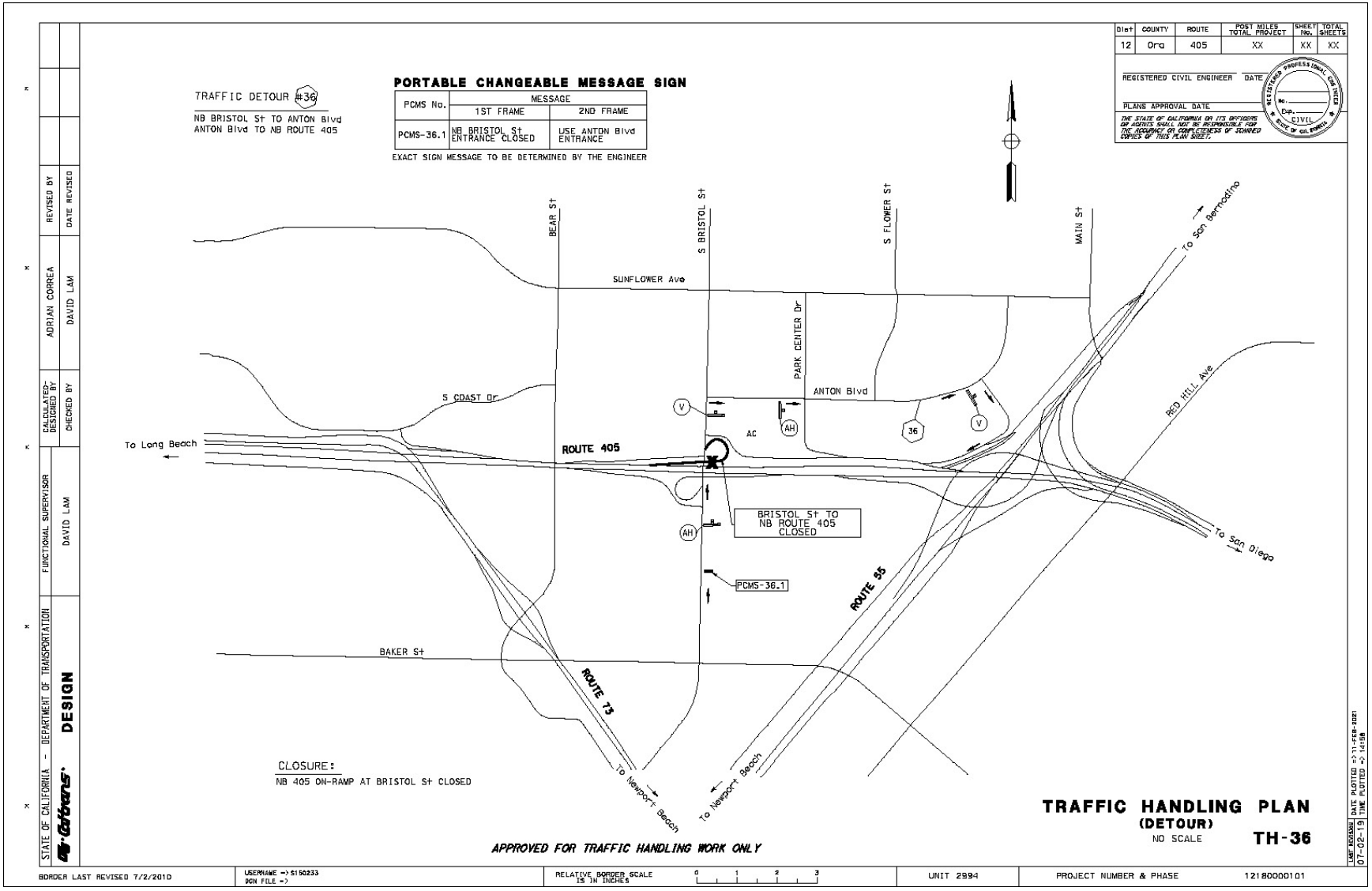

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-31.1
MACARTHUR OFF-RAMP CLOSED
USE JAMBOREE RD OFF-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
To San Bernardino
ROUTE 55
RED HILL Ave
MACARTHUR Blvd
VON KARMAN Ave
JAMBOREE Rd
To San Diego
ROUTE 405
MAIN St
SUNFLOWER Ave
ANTON Blvd
MICHELSON Dr
SB ROUTE 405 TO MACARTHUR CLOSED
PCMS-31.1
31
M
N
AD
To Long Beach
To Newport Beach
TRAFFIC DETOUR #31
SB RTE 405 TO JAMBOREE Rd EXIT
JAMBOREE Rd TO MICHELSON Dr
MICHELSON Dr TO MACARTHUR Blvd
CLOSURE:
NB 405 ON-RAMP AT MACARTHUR Blvd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-31
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:55
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

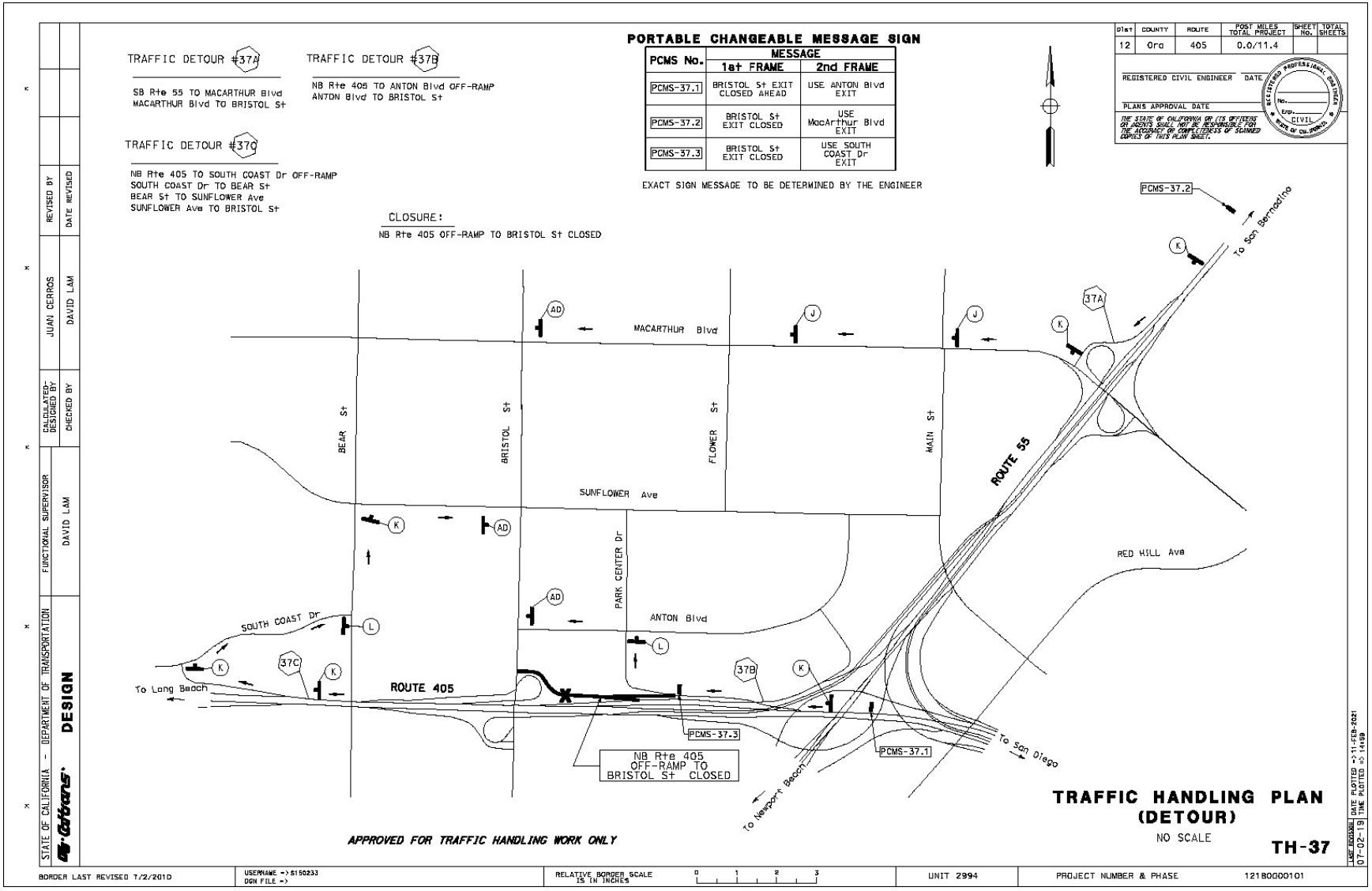

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-32.1
NB MACARTHUR Blvd ON-RAMP CLOSED
USE SB Rte 55 MACARTHUR Blvd ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist 12
COUNTY Ora
ROUTE 405
POST MILES TOTAL PROJECT 0.0/11.4
SHEET No.
TOTAL SHEETS
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
To San Bernardino
MACARTHUR Blvd
RED HILL Ave
VON KARMAN Ave
JAMBOREE Rd
ROUTE 55
ROUTE 405
MAIN St
SUNFLOWER Ave
ANTON Blvd
MICHELSON Dr
To San Diego
To Long Beach
To Newport Beach
MACARTHUR Blvd TO NB ROUTE 405 CLOSED
PCMS-32.1
TRAFFIC DETOUR #32
NB MACARTHUR Blvd TO SB Rte 55 ON-RAMP
SB Rte 55 TO NB Rte 405 Conn
CLOSURE:
NB 405 ON-RAMP AT MACARTHUR Blvd CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-32
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:56
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

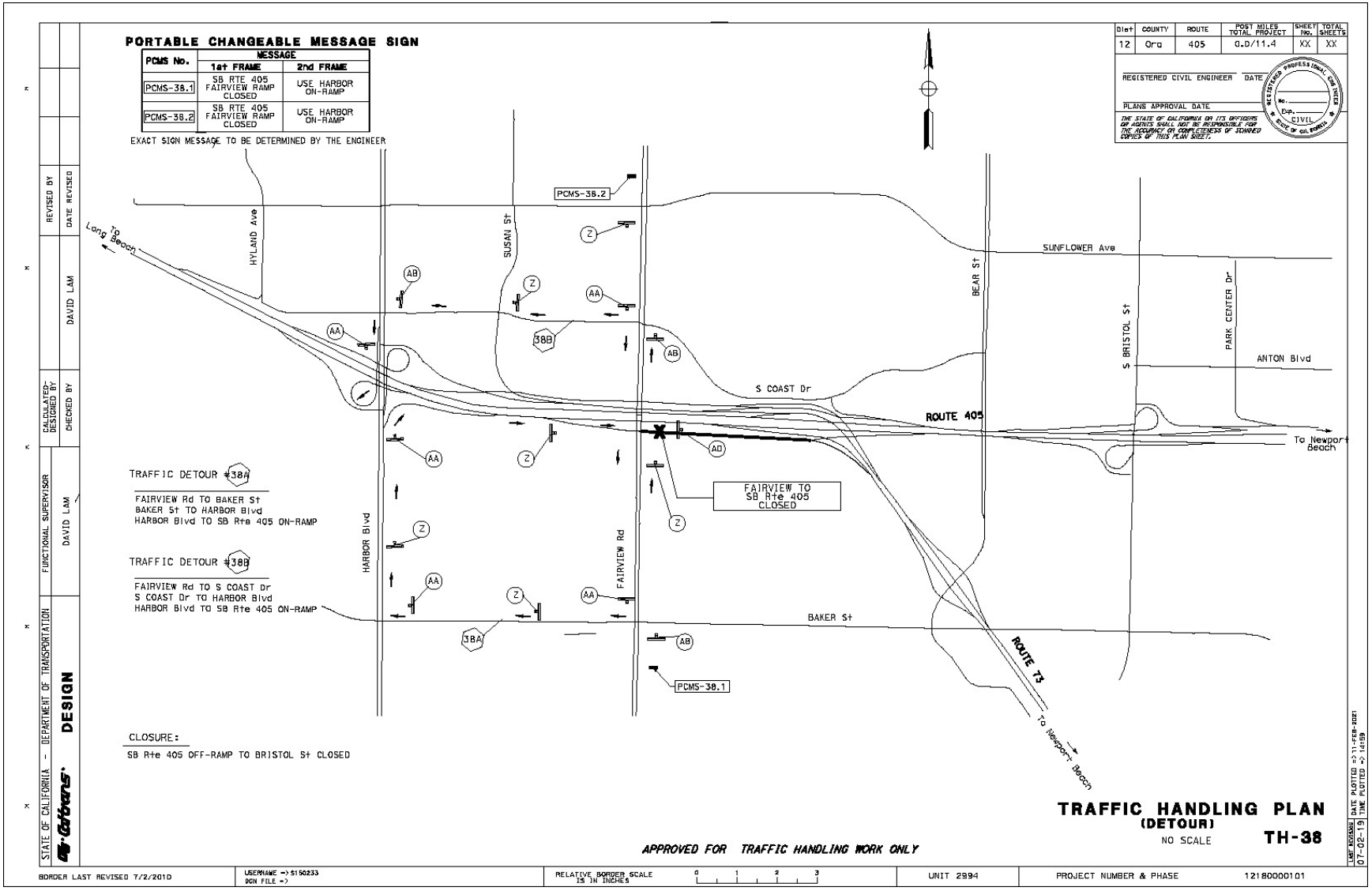

PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1st FRAME | 2nd FRAME
PCMS-33.1 | SB 55/ NB 405 CONNECTOR CLOSED AHEAD | USE BRISTOL St ENTRANCE TO NB 405
PCMS-33.2 | SB 55/ NB 405 CONNECTOR CLOSED |
PCMS-33.3 | NB 405 ENTRANCE CLOSED | USE BRISTOL St ENTRANCE TO NB 405
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC DETOUR #33A
SB Rte 55 TO MACARTHUR Blvd
MACARTHUR Blvd TO SB BRISTOL St
BRISTOL St TO NB Rte 405
TRAFFIC DETOUR #33B
SB ANTON Blvd TO BRISTOL St
BRISTOL St to NB Rte 405
TRAFFIC DETOUR #33C
NB ANTON Blvd TO SUNFLOWER Ave
SUNFLOWER Ave to BRISTOL St
BRISTOL St to NB Rte 405
CLOSURES:
SB Rte 55 TO NB Rte 405 CONNECTOR CLOSED
ANTON Blvd TO NB Rte 405 CLOSED
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
PCMS-33.1
To San Bernardino
MACARTHUR Blvd
BRISTOL St
BEAR St
FLOWER St
MAIN St
SUNFLOWER Ave
PARK CENTER Dr
ANTON Blvd
ANTON Blvd TO NB 405 CLOSED
SB Rte 55 CONNECTOR TO NB 405 CLOSED
PCMS-33.3
PCMS-33.2
ROUTE 55
ROUTE 405
To Long Beach
To Newport Beach
To San Diego
RED HILL Ave
33A
33B
33C
AC
AD
AH
V
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY JUAN CERROS
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-33
LAST REVISED 07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:56
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 1218000010


TRAFFIC DETOUR #34A
SB ON BRISTOL St TO PAULARINO Ave
EB ON PAULARINO Ave TO SB Rte 405 ON-RAMP
SB Rte 405 ON-RAMP TO SB Rte 405
TRAFFIC DETOUR #34B
BRISTOL St TO BAKER St
BAKER St TO NEWPORT Blvd
NEWPORT Blvd TO SB Rte 405 ON-RAMP
SB Rte 405 ON-RAMP TO SB Rte 405
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1st FRAME
2nd FRAME
PCMS-34.1
SB 405 ENTRANCE CLOSED
USE PAULARINO Ave ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
CIVIL
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
BEAR St
S BRISTOL St
S FLOWER St
SUNFLOWER Ave
PARK CENTER Dr
ANTON Blvd
S COAST Dr
To Long Beach
ROUTE 405
PCMS-34.1
BRISTOL St TO SB Rte 405 CLOSED
34A
34B
AB
AD
AA
Z
ROUTE 55
BAKER St
ROUTE 73
To Newport Beach
NEWPORT Blvd
PAULARINO Ave
To San Bernardino
RED HILL Ave
To San Diego
CLOSURE:
BRISTOL St TO SB Rte 405 CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-34
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
DATE PLOTTED = %DATE
TIME PLOTTED = %TIME
07-02-19
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
12180000101


PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1st FRAME | MESSAGE 2nd FRAME
PCMS-35.1 | BRISTOL St EXIT CLOSED AHEAD | USE SB 73 TO BEAR St
PCMS-35.2 | BRISTOL St EXIT CLOSED |
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
TRAFFIC DETOUR #35
SB Rte 405 TO SB Rte 73 Conn
SB Rte 73 TO BEAR St
BEAR St TO BAKER St
BAKER St TO BRISTOL St
Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
12 | Ora | 405 | 0.0/11.4 | XX | XX
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
BEAR St
S BRISTOL St
S FLOWER St
MAIN St
SUNFLOWER Ave
PARK CENTER Dr
ANTON Blvd
S COAST Dr
To Long Beach
ROUTE 405
PCMS-35.1
PCMS-35.2
SB Rte 405 TO BRISTOL St CLOSED
BAKER St
ROUTE 73
ROUTE 55
To Newport Beach
To San Bernadino
RED HILL Ave
To San Diego
CLOSURE:
SB Rte 405 OFF-RAMP TO BRISTOL St CLOSED
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-35
APPROVED FOR TRAFFIC HANDLING WORK ONLY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY JUAN CERROS
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
LAST REVISED 07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:58
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 1218000101


TRAFFIC DETOUR #36
NB BRISTOL St TO ANTON Blvd
ANTON Blvd TO NB ROUTE 405
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1ST FRAME
2ND FRAME
PCMS-36.1
NB BRISTOL St ENTRANCE CLOSED
USE ANTON Blvd ENTRANCE
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
XX
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
BEAR St
S BRISTOL St
S FLOWER St
MAIN St
SUNFLOWER Ave
PARK CENTER Dr
ANTON Blvd
S COAST Dr
To Long Beach
ROUTE 405
AC
36
RED HILL Ave
To San Bernadino
To San Diego
BRISTOL St TO NB ROUTE 405 CLOSED
PCMS-36.1
ROUTE 55
BAKER St
ROUTE 73
To Newport Beach
To Newport Beach
CLOSURE:
NB 405 ON-RAMP AT BRISTOL St CLOSED
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-36
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR
DAVID LAM
CALCULATED-DESIGNED BY
ADRIAN CORREA
CHECKED BY
DAVID LAM
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000101
LAST REVISED
07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:58


TRAFFIC DETOUR #37A
SB Rte 55 TO MACARTHUR Blvd
MACARTHUR Blvd TO BRISTOL St
TRAFFIC DETOUR #37B
NB Rte 405 TO ANTON Blvd OFF-RAMP
ANTON Blvd TO BRISTOL St
TRAFFIC DETOUR #37C
NB Rte 405 TO SOUTH COAST Dr OFF-RAMP
SOUTH COAST Dr TO BEAR St
BEAR St TO SUNFLOWER Ave
SUNFLOWER Ave TO BRISTOL St
CLOSURE:
NB Rte 405 OFF-RAMP TO BRISTOL St CLOSED
PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No. | MESSAGE 1st FRAME | 2nd FRAME
PCMS-37.1 | BRISTOL St EXIT CLOSED AHEAD | USE ANTON Blvd EXIT
PCMS-37.2 | BRISTOL St EXIT CLOSED | USE MacArthur Blvd EXIT
PCMS-37.3 | BRISTOL St EXIT CLOSED | USE SOUTH COAST Dr EXIT
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist 12 | COUNTY Ora | ROUTE 405 | POST MILES TOTAL PROJECT 0.0/11.4 | SHEET No. | TOTAL SHEETS
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER No. EXP. CIVIL STATE OF CALIFORNIA
PCMS-37.2
To San Bernardino
MACARTHUR Blvd
BEAR St
BRISTOL St
FLOWER St
MAIN St
ROUTE 55
SUNFLOWER Ave
PARK CENTER Dr
RED HILL Ave
ANTON Blvd
SOUTH COAST Dr
37A
37B
37C
To Long Beach
ROUTE 405
PCMS-37.3
PCMS-37.1
NB Rte 405 OFF-RAMP TO BRISTOL St CLOSED
To Newport Beach
To San Diego
APPROVED FOR TRAFFIC HANDLING WORK ONLY
TRAFFIC HANDLING PLAN (DETOUR)
NO SCALE
TH-37
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR DAVID LAM
CALCULATED-DESIGNED BY JUAN CERROS
CHECKED BY DAVID LAM
REVISED BY
DATE REVISED
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:59
LAST REVISED 07-02-19
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180000101


PORTABLE CHANGEABLE MESSAGE SIGN
PCMS No.
MESSAGE
1st FRAME
2nd FRAME
PCMS-38.1
SB RTE 405 FAIRVIEW RAMP CLOSED
USE HARBOR ON-RAMP
PCMS-38.2
SB RTE 405 FAIRVIEW RAMP CLOSED
USE HARBOR ON-RAMP
EXACT SIGN MESSAGE TO BE DETERMINED BY THE ENGINEER
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
0.0/11.4
XX
XX
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
REVISED BY
DATE REVISED
DAVID LAM
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
DAVID LAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
Long Beach
HYLAND Ave
SUSAN St
PCMS-38.2
SUNFLOWER Ave
BEAR St
S BRISTOL St
PARK CENTER Dr
ANTON Blvd
S COAST Dr
ROUTE 405
To Newport Beach
38B
AA
AB
Z
AD
TRAFFIC DETOUR #38A
FAIRVIEW Rd TO BAKER St
BAKER St TO HARBOR Blvd
HARBOR Blvd TO SB Rte 405 ON-RAMP
TRAFFIC DETOUR #38B
FAIRVIEW Rd TO S COAST Dr
S COAST Dr TO HARBOR Blvd
HARBOR Blvd TO SB Rte 405 ON-RAMP
HARBOR Blvd
FAIRVIEW Rd
FAIRVIEW TO SB Rte 405 CLOSED
BAKER St
38A
PCMS-38.1
ROUTE 73
To Newport Beach
CLOSURE:
SB Rte 405 OFF-RAMP TO BRISTOL St CLOSED
TRAFFIC HANDLING PLAN
(DETOUR)
NO SCALE
TH-38
APPROVED FOR TRAFFIC HANDLING WORK ONLY
LAST REVISED 07-02-19
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 14:59
BORDER LAST REVISED 7/2/2010
USERNAME => S150233
DGN FILE =>
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000101

NOTES:

1) LOCATIONS OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE.
EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

LEGENDS:

(X) CONSTRUCTION AREA SIGN No.

CONSTRUCTION AREA SIGN, 1-POST

TYPE III BARRICADE

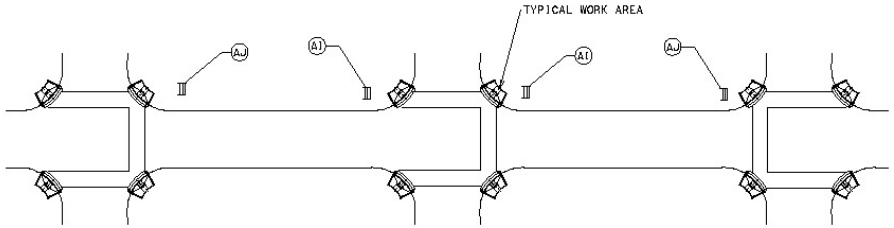
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA



TYPICAL PEDESTRIAN DETOUR

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN (PEDESTRIAN DETOUR)

NO SCALE

TH-39

REVISED BY	DATE REVISED
LARRY NGO	

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR: DAVID LAM

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans DESIGN

LAST REVISED 08-21-20 DATE PLOTTED => 11-FEB-2021 TIME PLOTTED => 14:59

BORDER LAST REVISED 7/2/2010 | USERNAME => e148080 DGN FILE => 12180D0D1Dm0039.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2994 | PROJECT NUMBER & PHASE 12180D0D1D1

NOTES:

1) LOCATIONS OF CONSTRUCTION AREA SIGNS ARE APPROXIMATE.
EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

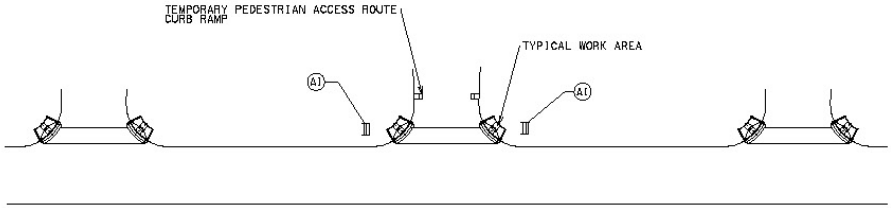
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA



TYPICAL PEDESTRIAN DETOUR WITH ONE-SIDE SIDEWALK

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING PLAN (PEDESTRIAN DETOUR)

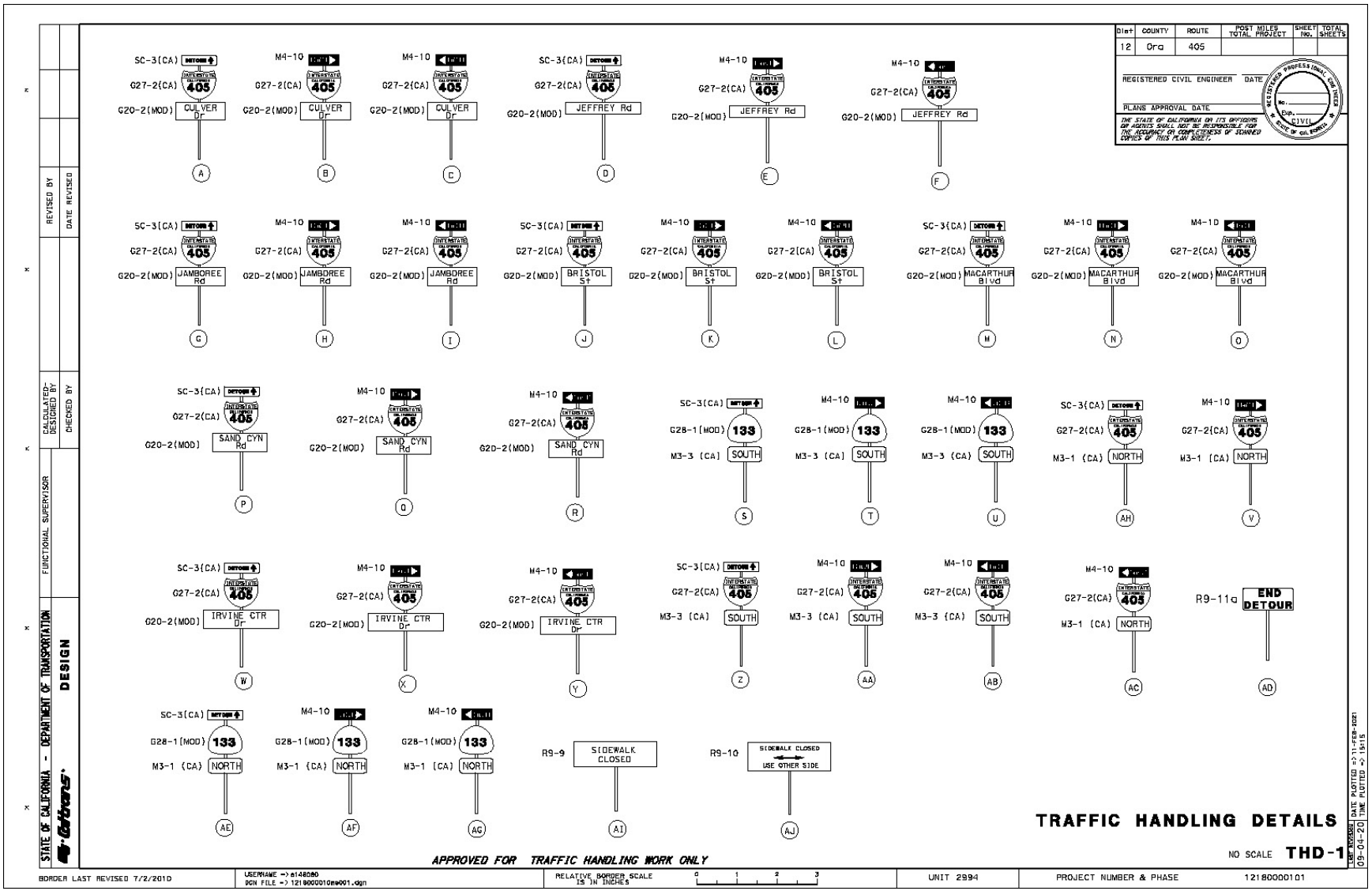
NO SCALE

TH-40

REVISED BY	LARRY NGO
DATE REVISED	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	DAVID LAM
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN

LAST REVISED 08-21-20 DATE PLOTTED => 11-FEB-2021 TIME PLOTTED => 14:59

BORDER LAST REVISED 7/2/2010 | USERNAME => e148080 DGN FILE => 12180000101a040.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2994 | PROJECT NUMBER & PHASE 12180000101


SC-3(CA)
M4-10
G27-2(CA)
405
G20-2(MOD)
CULVER Dr
A
B
C
JEFFREY Rd
D
E
F
JAMBOREE Rd
G
H
I
BRISTOL St
J
K
L
MACARTHUR Blvd
M
N
O
SAND CYN Rd
P
Q
R
G28-1(MOD)
133
M3-3 (CA)
SOUTH
S
T
U
M3-1 (CA)
NORTH
AH
V
IRVINE CTR Dr
W
X
Y
Z
AA
AB
AC
AE
AF
AG
R9-9
SIDEWALK CLOSED
AI
R9-10
SIDEWALK CLOSED
USE OTHER SIDE
AJ
R9-11a
END DETOUR
AD
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12
Ora
405
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA
REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
TRAFFIC HANDLING DETAILS
NO SCALE
THD-1
APPROVED FOR TRAFFIC HANDLING WORK ONLY
DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 15:15
LAST REVISED
09-04-20
BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 1218000010sh001.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE
1218000010

NOTE:

SIGNS SHOWN ON THIS SHEET ARE IN ADDITION TO THOSE SIGNS SHOWN ON SHEET CS-1 AND SC-1

ABBREVIATION:

(S) STATIONARY MOUNTED SIGN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN SYMBOL	SIGN CODE	PANEL SIZE (in)	No. OF SIGNS	No. OF POST AND SIZE (in)	SIGN MESSAGE
A	SC-3(CA)	48 x 18	4	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	54 x 24			
B	M4-10 (Rt)	48 x 18	8	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	54 x 24			
C	M4-10 (Lt)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	54 x 24			
D	SC-3(CA)	48 x 18	0	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
E	M4-10(CA)	48 x 18	0	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
F	M4-10 (Lt)	48 x 18	0	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
G	SC-3(CA)	48 x 18	7	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
H	M4-10	48 x 18	5	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
I	M4-10 (Lt)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
J	SC-3(CA)	48 x 18	2	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	48 x 24			
K	M4-10 (Rt)	48 x 18	8	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	48 x 24			
L	M4-10 (Lt)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	48 x 24			
M	SC-3(CA)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
N	M4-10 (Rt)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			

SIGN SYMBOL	SIGN CODE	PANEL SIZE (in)	No. OF SIGNS	No. OF POST AND SIZE (in)	SIGN MESSAGE
O	M4-10(Lt)	48 x 18	0	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
P	SC-3(CA)	48 x 18	5	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
Q	M4-10 (Rt)	48 x 18	8	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
R	M4-10(Lt)	48 x 18	3	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
S	SC-3(CA)	48 x 18	1	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-3(CA)	36 x 18			
T	M4-10 (Rt)	48 x 18	7	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-3(CA)	36 x 18			
U	M4-10 (Lt)	48 x 18	1	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-3(CA)	36 x 18			
V	M4-10(Rt)	48 x 18	29	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	M3-1(CA)	36 x 18			
W	SC-3(CA)	48 x 18	11	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
X	M4-10 (Rt)	48 x 18	12	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
Y	M4-10 (Lt)	48 x 18	7	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	60 x 24			
Z	SC-3(CA)	48 x 18	21	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	M3-3(CA)	36 x 18			

TRAFFIC HANDLING QUANTITIES (DETOUR PLAN)

NO SCALE

THQ-1

APPROVED FOR TRAFFIC HANDLING WORK ONLY

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

BORDER LAST REVISED 7/2/2010

USERNAME => e150233

DGN FILE => 12180000101mf001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2994

PROJECT NUMBER & PHASE 12120000181

LAST REVISION | DATE PLOTTED => 23-FEB-2021

05-05-16 | TIME PLOTTED => 17:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4		

REGISTERED CIVIL ENGINEER DATE

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STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN SYMBOL	SIGN CODE	PANEL SIZE (in)	No. OF SIGNS	No. OF POST AND SIZE (in)	SIGN MESSAGE
AA	M4-10(R+)	48 x 18	22	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	M3-3(CA)	36 x 18			
AB	M4-10 (L+)	48 x 18	12	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	M3-3(CA)	36 x 18			
AC	M4-10 (L+)	48 x 18	25	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	G20-2(MOD)	48 x 24			
AD	R9-11a	24 x 12	50	1 - 4 x 4	SEE THD-1 FOR DETAIL
AE	SC-3(CA)	48 x 18	6	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-1(CA)	36 x 18			
AF	M4-10 (R+)	48 x 18	4	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-1(CA)	36 x 18			
AG	M4-10 (L+)	48 x 18	5	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G28-1(MOD)	35 x 32			
	M3-1(CA)	36 x 18			
AH	SC-3(CA)	48 x 18	40	1 - 4 x 4	SEE THD-1 FOR DETAIL
	G27-2(CA)	36 x 36			
	M3-1(CA)	36 x 18			

PORTABLE CHANGABLE MESSAGE SIGN

PCMS No.	SIGN MESSAGE	
	1ST FRAME	2ND FRAME
PCMS-1.1	NB Rte 405 IRVINE CENTER Dr EXIT CLOSED	USE BAKE Pkwy OR ALTON Pkwy EXIT
PCMS-1.2	NB Rte 405 IRVINE CENTER Dr EXIT CLOSED	
PCMS-1.3	NB Rte 405 IRVINE CENTER Dr EXIT CLOSED	
PCMS-2.1	NB 405 ENTRANCE CLOSED AHEAD	USE BARRANCA Pkwy SB 133 ENTRANCE
PCMS-2.2	NB 405 ENTRANCE CLOSED	USE BARRANCA Pkwy SB 133 ENTRANCE
PCMS-3.1	SB 405 ENTRANCE CLOSED AHEAD	USE BAKE Pkwy SB Rte 5 ENTRANCE
PCMS-3.2	SB 405 ENTRANCE CLOSED	USE BAKE Pkwy SB Rte 5 ENTRANCE
PCMS-4.1	IRVINE CENTER Dr EXIT CLOSED AHEAD	USE NB 133 ENTRANCE
PCMS-4.2	IRVINE CENTER Dr EXIT CLOSED	USE BAKE Pkwy EXIT
PCMS-5.1	SB 405 ENTRANCE CLOSED AHEAD	USE ENTERPRISE Dr SB Rte 5 ENTRANCE
PCMS-5.2	SB 405 ENTRANCE CLOSED	USE ENTERPRISE Dr SB Rte 5 ENTRANCE
PCMS-6.1	NB 405 ENTRANCE CLOSED AHEAD	USE ENTERTAINMENT Wy NB Rte 405 ENTRANCE
PCMS-6.2	NB 405 ENTRANCE CLOSED	USE ENTERTAINMENT Wy NB Rte 405 ENTRANCE
PCMS-7.1	SB RTE 405 ON-RAMP CLOSED	USE SB RTE 5 BAKE Pkwy ON-RAMP
PCMS-7.2	SB RTE 405 ON-RAMP CLOSED EXIT ON GATEWAY	USE SB RTE 5 ENTERPRISE Dr ON-RAMP
PCMS-8.1	NB RTE 405 ON-RAMP CLOSED	USE SAND CANYON AVE ON-RAMP
PCMS-8.2	NB RTE 405 ON-RAMP CLOSED	USE IRVINE CENTER DR ON-RAMP

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

TRAFFIC HANDLING QUANTITIES (DETOUR PLAN)

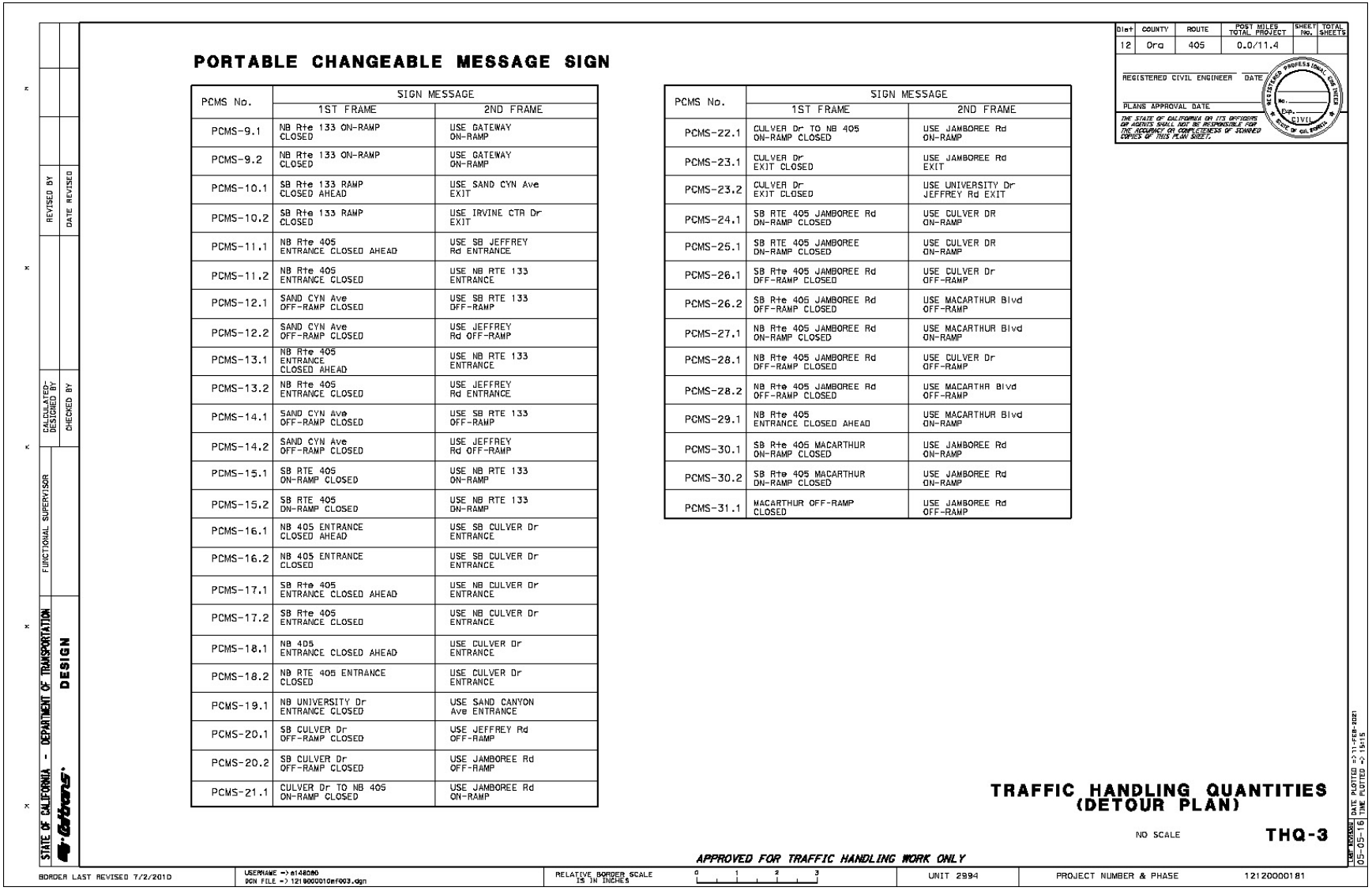
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THQ-2

APPROVED FOR TRAFFIC HANDLING WORK ONLY

LAST REVISION DATE PLOTTED => 23-FEB-2021
05-05-16 TIME PLOTTED => 17:31

BORDER LAST REVISED 7/2/2010 | USERNAME => e150233 | DGN FILE => 12180000101mf002.dgn | RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3) | UNIT 2994 | PROJECT NUMBER & PHASE 12120000181



PORTABLE CHANGEABLE MESSAGE SIGN

PCMS No.	SIGN MESSAGE	
	1ST FRAME	2ND FRAME
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PCMS-9.2	NB Rte 133 ON-RAMP CLOSED	USE GATEWAY ON-RAMP
PCMS-10.1	SB Rte 133 RAMP CLOSED AHEAD	USE SAND CYN Ave EXIT
PCMS-10.2	SB Rte 133 RAMP CLOSED	USE IRVINE CTR Dr EXIT
PCMS-11.1	NB Rte 405 ENTRANCE CLOSED AHEAD	USE SB JEFFREY Rd ENTRANCE
PCMS-11.2	NB Rte 405 ENTRANCE CLOSED	USE NB RTE 133 ENTRANCE
PCMS-12.1	SAND CYN Ave OFF-RAMP CLOSED	USE SB RTE 133 OFF-RAMP
PCMS-12.2	SAND CYN Ave OFF-RAMP CLOSED	USE JEFFREY Rd OFF-RAMP
PCMS-13.1	NB Rte 405 ENTRANCE CLOSED AHEAD	USE NB RTE 133 ENTRANCE
PCMS-13.2	NB Rte 405 ENTRANCE CLOSED	USE JEFFREY Rd ENTRANCE
PCMS-14.1	SAND CYN Ave OFF-RAMP CLOSED	USE SB RTE 133 OFF-RAMP
PCMS-14.2	SAND CYN Ave OFF-RAMP CLOSED	USE JEFFREY Rd OFF-RAMP
PCMS-15.1	SB RTE 405 ON-RAMP CLOSED	USE NB RTE 133 ON-RAMP
PCMS-15.2	SB RTE 405 ON-RAMP CLOSED	USE NB RTE 133 ON-RAMP
PCMS-16.1	NB 405 ENTRANCE CLOSED AHEAD	USE SB CULVER Dr ENTRANCE
PCMS-16.2	NB 405 ENTRANCE CLOSED	USE SB CULVER Dr ENTRANCE
PCMS-17.1	SB Rte 405 ENTRANCE CLOSED AHEAD	USE NB CULVER Dr ENTRANCE
PCMS-17.2	SB Rte 405 ENTRANCE CLOSED	USE NB CULVER Dr ENTRANCE
PCMS-18.1	NB 405 ENTRANCE CLOSED AHEAD	USE CULVER Dr ENTRANCE
PCMS-18.2	NB RTE 405 ENTRANCE CLOSED	USE CULVER Dr ENTRANCE
PCMS-19.1	NB UNIVERSITY Dr ENTRANCE CLOSED	USE SAND CANYON Ave ENTRANCE
PCMS-20.1	SB CULVER Dr OFF-RAMP CLOSED	USE JEFFREY Rd OFF-RAMP
PCMS-20.2	SB CULVER Dr OFF-RAMP CLOSED	USE JAMBOREE Rd OFF-RAMP
PCMS-21.1	CULVER Dr TO NB 405 ON-RAMP CLOSED	USE JAMBOREE Rd ON-RAMP

PCMS No.	SIGN MESSAGE	
	1ST FRAME	2ND FRAME
PCMS-22.1	CULVER Dr TO NB 405 ON-RAMP CLOSED	USE JAMBOREE Rd ON-RAMP
PCMS-23.1	CULVER Dr EXIT CLOSED	USE JAMBOREE Rd EXIT
PCMS-23.2	CULVER Dr EXIT CLOSED	USE UNIVERSITY Dr JEFFREY Rd EXIT
PCMS-24.1	SB RTE 405 JAMBOREE Rd ON-RAMP CLOSED	USE CULVER DR ON-RAMP
PCMS-25.1	SB RTE 405 JAMBOREE ON-RAMP CLOSED	USE CULVER DR ON-RAMP
PCMS-26.1	SB Rte 405 JAMBOREE Rd OFF-RAMP CLOSED	USE CULVER Dr OFF-RAMP
PCMS-26.2	SB Rte 405 JAMBOREE Rd OFF-RAMP CLOSED	USE MACARTHUR Blvd OFF-RAMP
PCMS-27.1	NB Rte 405 JAMBOREE Rd ON-RAMP CLOSED	USE MACARTHUR Blvd ON-RAMP
PCMS-28.1	NB Rte 405 JAMBOREE Rd OFF-RAMP CLOSED	USE CULVER Dr OFF-RAMP
PCMS-28.2	NB Rte 405 JAMBOREE Rd OFF-RAMP CLOSED	USE MACARTHR Blvd OFF-RAMP
PCMS-29.1	NB Rte 405 ENTRANCE CLOSED AHEAD	USE MACARTHUR Blvd ON-RAMP
PCMS-30.1	SB Rte 405 MACARTHUR ON-RAMP CLOSED	USE JAMBOREE Rd ON-RAMP
PCMS-30.2	SB Rte 405 MACARTHUR ON-RAMP CLOSED	USE JAMBOREE Rd ON-RAMP
PCMS-31.1	MACARTHUR OFF-RAMP CLOSED	USE JAMBOREE Rd OFF-RAMP

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

TRAFFIC HANDLING QUANTITIES (DETOUR PLAN)

NO SCALE

THQ-3

APPROVED FOR TRAFFIC HANDLING WORK ONLY

LAST REVISED 05-05-16 | DATE PLOTTED => 11-FEB-2021 | TIME PLOTTED => 15:15

BORDER LAST REVISED 7/2/2010 | USERNAME => s148080 | DGN FILE => 1212000010nf003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2994 | PROJECT NUMBER & PHASE 1212000181

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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PORTABLE CHANGABLE MESSAGE SIGN

PCMS No.	SIGN MESSAGE	
	1ST FRAME	2ND FRAME
PCMS-32.1	NB MACARTHUR Blvd ON-RAMP CLOSED	USE SB Rte 55 MACARTHUR Blvd ON-RAMP
PCMS-33.1	SB 55 / NB 405 CONNECTOR CLOSED AHEAD	USE BRISTOL St ENTRANCE TO NB 405
PCMS-33.2	SB 55 / NB 405 CONNECTOR CLOSED	
PCMS-33.3	NB 405 ENTRANCE CLOSED	USE BRISTOL St ENTRANCE TO NB 405
PCMS-34.1	SB 405 ENTRANCE CLOSED	USE PAULARINO Ave ENTRANCE
PCMS-35.1	BRISTOL St EXIT CLOSED AHEAD	USE SB 73 TO BEAR St
PCMS-35.2	BRISTOL St EXIT CLOSED	
PCMS-36.1	NB BRISTOL St ENTRANCE CLOSED	USE ANTON Blvd ENTRANCE
PCMS-37.1	BRISTOL St EXIT CLOSED AHEAD	USE ANTON Blvd EXIT
PCMS-37.2	BRISTOL St EXIT CLOSED	USE MACARTHUR Blvd EXIT
PCMS-37.3	BRISTOL St EXIT CLOSED	USE SOUTH COAST Dr EXIT
PCMS-38.1	SB Rte 405 FAIRVIEW RAMP CLOSED	USE HARBOR ON-RAMP
PCMS-38.2	SB Rte 405 FAIRVIEW RAMP CLOSED	USE HARBOR ON-RAMP

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

DESIGN

TRAFFIC HANDLING QUANTITIES (DETOUR PLAN)

NO SCALE

THQ-4

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PLOT DATE = 05-05-16
LAST REVISED DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 15:15

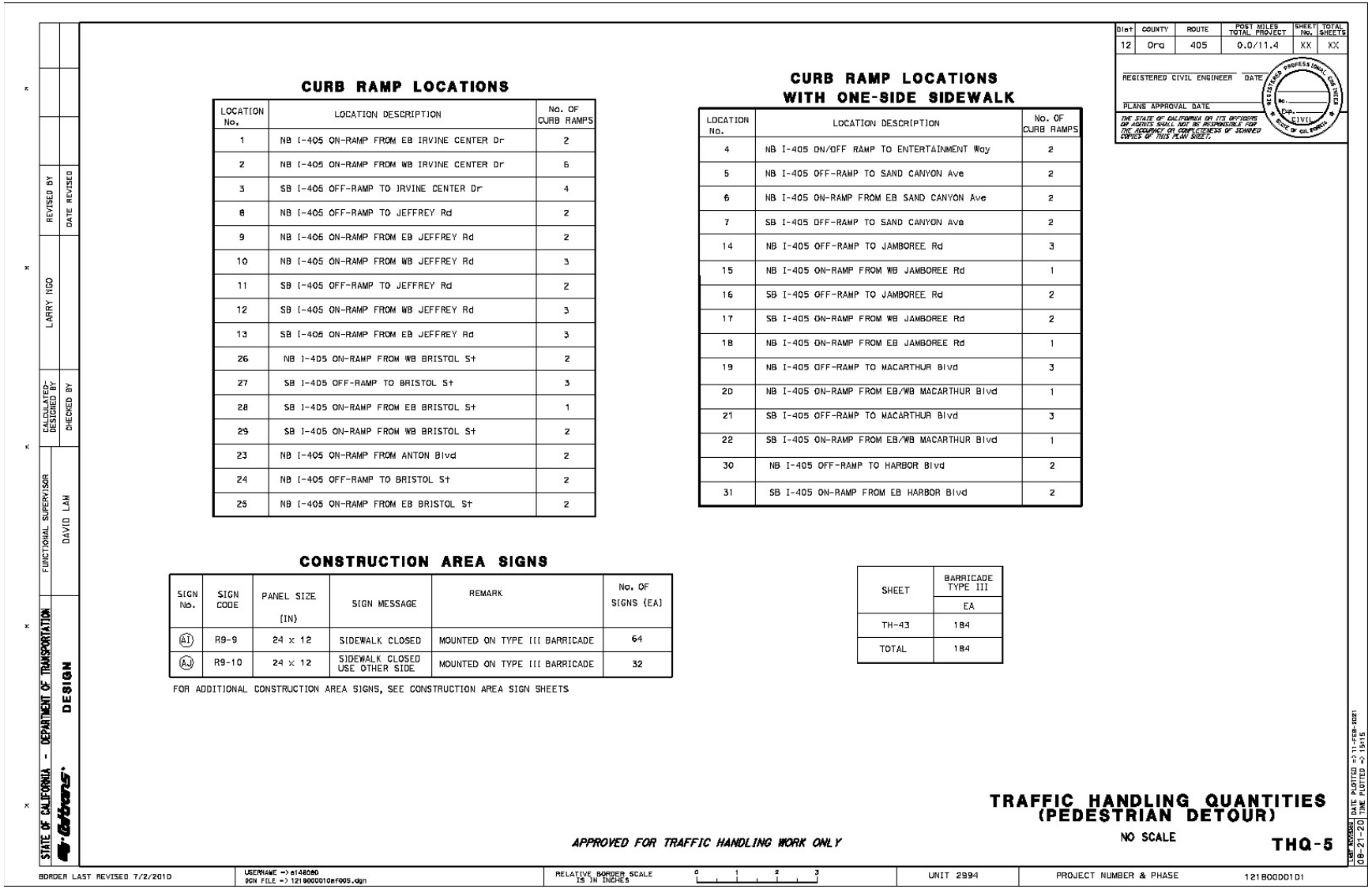
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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 2994

PROJECT NUMBER & PHASE 1212000181



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	0.0/11.4	XX	XX

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

CURB RAMP LOCATIONS

LOCATION No.	LOCATION DESCRIPTION	No. OF CURB RAMPS
1	NB I-405 ON-RAMP FROM EB IRVINE CENTER Dr	2
2	NB I-405 ON-RAMP FROM WB IRVINE CENTER Dr	6
3	SB I-405 OFF-RAMP TO IRVINE CENTER Dr	4
8	NB I-405 OFF-RAMP TO JEFFREY Rd	2
9	NB I-405 ON-RAMP FROM EB JEFFREY Rd	2
10	NB I-405 ON-RAMP FROM WB JEFFREY Rd	3
11	SB I-405 OFF-RAMP TO JEFFREY Rd	2
12	SB I-405 ON-RAMP FROM WB JEFFREY Rd	3
13	SB I-405 ON-RAMP FROM EB JEFFREY Rd	3
26	NB I-405 ON-RAMP FROM WB BRISTOL St	2
27	SB I-405 OFF-RAMP TO BRISTOL St	3
28	SB I-405 ON-RAMP FROM EB BRISTOL St	1
29	SB I-405 ON-RAMP FROM WB BRISTOL St	2
23	NB I-405 ON-RAMP FROM ANTON Blvd	2
24	NB I-405 OFF-RAMP TO BRISTOL St	2
25	NB I-405 ON-RAMP FROM EB BRISTOL St	2

CURB RAMP LOCATIONS WITH ONE-SIDE SIDEWALK

LOCATION No.	LOCATION DESCRIPTION	No. OF CURB RAMPS
4	NB I-405 ON/OFF RAMP TO ENTERTAINMENT Way	2
5	NB I-405 OFF-RAMP TO SAND CANYON Ave	2
6	NB I-405 ON-RAMP FROM EB SAND CANYON Ave	2
7	SB I-405 OFF-RAMP TO SAND CANYON Ave	2
14	NB I-405 OFF-RAMP TO JAMBOREE Rd	3
15	NB I-405 ON-RAMP FROM WB JAMBOREE Rd	1
16	SB I-405 OFF-RAMP TO JAMBOREE Rd	2
17	SB I-405 ON-RAMP FROM WB JAMBOREE Rd	2
18	NB I-405 ON-RAMP FROM EB JAMBOREE Rd	1
19	NB I-405 OFF-RAMP TO MACARTHUR Blvd	3
20	NB I-405 ON-RAMP FROM EB/WB MACARTHUR Blvd	1
21	SB I-405 OFF-RAMP TO MACARTHUR Blvd	3
22	SB I-405 ON-RAMP FROM EB/WB MACARTHUR Blvd	1
30	NB I-405 OFF-RAMP TO HARBOR Blvd	2
31	SB I-405 ON-RAMP FROM EB HARBOR Blvd	2

CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE (IN)	SIGN MESSAGE	REMARK	No. OF SIGNS (EA)
(AI)	R9-9	24 x 12	SIDEWALK CLOSED	MOUNTED ON TYPE III BARRICADE	64
(AJ)	R9-10	24 x 12	SIDEWALK CLOSED USE OTHER SIDE	MOUNTED ON TYPE III BARRICADE	32

FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGN SHEETS

SHEET	BARRICADE TYPE III
	EA
TH-43	184
TOTAL	184

APPROVED FOR TRAFFIC HANDLING WORK ONLY

TRAFFIC HANDLING QUANTITIES (PEDESTRIAN DETOUR)

NO SCALE

THQ-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: DAVID LAM
CALCULATED-DESIGNED BY: LARRY NGO
CHECKED BY
REVISED BY
DATE REVISED

DATE PLOTTED => 11-FEB-2021
TIME PLOTTED => 15:15
LAST REVISED 08-21-20

BORDER LAST REVISED 7/2/2010
USERNAME => s148080
DGN FILE => 12180DD01DF009.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2994
PROJECT NUMBER & PHASE 12180DD01D1

Appendix G – Native American Consultation Record

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SECTION 106 AND ASSEMBLY BILL 52 NATIVE AMERICAN CONSULTATION RECORD
I-405 Improvement Project (I-5 to Harbor Boulevard) (EA 0Q970), Irvine, Costa Mesa, and Unincorporated Orange County, California

Date the Sacred Lands File Search and Notification list was received from the Native American Heritage Commission (NAHC): September 16, 2020

Results of the NAHC SLF Search: The Sacred Lands File search was completed with negative results for the presence of Native American cultural resources in the Area of Potential Effect (APE); however the NAHC recommended that the 17 Native American individuals listed in the table below be contacted for information regarding cultural resources that could be affected by the project.

Groups/Individuals Contacted	Date Project Notification Letter Mailed	Date of Tribal Response to Letter	Date and Results of Follow-up Telephone Calls and/or Emails
Campo Band of Diegueño Mission Indians Ralph Goff, Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent. Email was automatically returned as undeliverable.
Ewiiaapaayp Band of Kumeyaay Indians Michael Garcia, Vice Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Ewiiaapaayp Band of Kumeyaay Indians Robert Pinto, Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Gabrieleno Band of Mission Indians – Kizh Nation Andrew Salas, Chairperson *Gabrieleno*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales, Chairperson *Gabrieleno*	09/30/2020	10/14/2020: Savannah Salas (Administrative Specialist) emailed Caltrans asking for the lead agency's contact information.	10/16/2020: Caltrans replied to Ms. Salas and provided contact information for if the tribe has any questions or comments on the project. No additional response was received.

SECTION 106 AND ASSEMBLY BILL 52 NATIVE AMERICAN CONSULTATION RECORD
I-405 Improvement Project (I-5 to Harbor Boulevard) (EA 0OQ970), Irvine, Costa Mesa, and Unincorporated Orange County, California

Groups/Individuals Contacted	Date Project Notification Letter Mailed	Date of Tribal Response to Letter	Date and Results of Follow-up Telephone Calls and/or Emails
Gabrielino/Tongva Nation Sandonne Goad, Chairperson *Gabrielino*	09/30/2020	N/A	11/24/2020: Follow-up email sent. 12/18/2020: Sam Dunlap called on behalf of Chairperson Goad. Because of recent discoveries of human remains along the I-405 corridor, Mr. Dunlap's group would like to request that recorded archaeological sites in the APE be designated Archaeological Monitoring Areas (AMAs) and that these areas be monitored by Native American and archaeological monitors. Furthermore, Mr. Dunlap's group requests that a plan be put in place to implement spot checking by Native American and archaeological monitors for all excavation activities, and that Gabrielino/Tongva Nation Native American monitors be contracted for any monitoring work. Mr. Dunlap also said he would contact the Caltrans archaeologist. 12/18/2020: Ms. Goad sent an email to the Caltrans archaeologist to comment on the project. The email included a request for AMAs and monitoring by archaeological and Native American monitors, as well as a request for spot-checking in other areas. 12/21/2020: The Caltrans archaeologist responded to Ms. Goad via email to explain the findings of the cultural study and inform her that, given site conditions and limited impact to native soil associated with the project, cultural monitoring is not warranted for the undertaking. No further response or communication was received.
Gabrielino Tongva Indians of California Tribal Council Robert Dorame, Chairperson *Gabrielino*	09/30/2020	N/A	11/24/2020: Follow-up email sent.

SECTION 106 AND ASSEMBLY BILL 52 NATIVE AMERICAN CONSULTATION RECORD
I-405 Improvement Project (I-5 to Harbor Boulevard) (EA 00Q970), Irvine, Costa Mesa, and Unincorporated Orange County, California

Groups/Individuals Contacted	Date Project Notification Letter Mailed	Date of Tribal Response to Letter	Date and Results of Follow-up Telephone Calls and/or Emails
Gabrielino-Tongva Tribe Charles Alvarez *Gabrielino*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Juaneño Band of Mission Indians Acjachemen Nation – Belardes Matias Belardes, Chairperson *Juaneño*	09/30/2020	N/A	11/24/2020: Follow-up email sent. 12/01/2020: Joyce Perry, Tribal Manager, responded via email and requested the results of the SCCIC record search. The results summary was sent to her via email, as well as a request for any additional information regarding tribal resources. 12/03/2020: Ms. Perry responded that the tribe has no concerns. No additional communication was received.
La Posta Band of Diegueño Mission Indians Javaughn Miller, Tribal Administrator *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
La Posta Band of Diegueño Mission Indians Gwendolyn Parada, Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Manzanita Band of Kumeyaay Nation Angela Elliott Santos, Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up phone call, with detailed voicemail.
Mesa Grande Band of Diegueño Indians Michael Linton, Chairperson *Diegueño*	09/30/2020	N/A	11/24/2020: Follow-up email sent. Automatic response received stating that the recipient's mailbox is full and cannot currently accept messages.
Pala Band of Mission Indians Shasta Gaughen, Tribal Historic Preservation Officer *Cupeño Luiseño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.

SECTION 106 AND ASSEMBLY BILL 52 NATIVE AMERICAN CONSULTATION RECORD
I-405 Improvement Project (I-5 to Harbor Boulevard) (EA 00Q970), Irvine, Costa Mesa, and Unincorporated Orange County, California

Groups/Individuals Contacted	Date Project Notification Letter Mailed	Date of Tribal Response to Letter	Date and Results of Follow-up Telephone Calls and/or Emails
Santa Rosa of Cahuilla Indians Lovina Redner, Tribal Chair *Cahuilla*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Soboba Band of Luiseño Indians Scott Cozart, Chairperson *Luiseño*	09/30/2020	N/A	11/24/2020: Follow-up email sent.
Sycuan Band of the Kumeyaay Nation Cody Martinez, Chairperson *Kumeyaay*	09/30/2020	N/A	11/24/2020: Follow-up email sent.

Appendix H – Utility Conflict Matrix

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SHRP 2 R15(B) "Identification of Utility Conflicts and Solutions" Utility Conflict Matrix DRAFT

Utility Conflict Matrix

Project Owner: CALTRANS
Project No. : EA 0Q9700; ID 1218000010
Project Description: Design Build Rte 405 South
Highway or Route: Rte 405 PM 0.0/11.4

Note: refer to subsheet for utility conflict cost analysis.

Utility Conflict Matrix Developed/Revised By: Minh Pham/Minh Pham
Date: 3/18/2021 (Rev3)
Reviewed By:
Date:

Utility Owner and/or Contact Name	Utility ID No.	Drawing or Sheet No.	Utility Type	Size and/or Material	Utility Conflict Description	Start Station	Start Offset	End Station	End Offset	Utility Investigation Level Needed	Test Hole	Recommended Action or Resolution	Estimated Resolution Date	Resolution Status
IRWD	2-01	U-2	Water	12"	Line already abandoned	78+36	219' Rt	79+79	168' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	2-02	U-2	Electric	12 kV UG Conduit	No conflict. Outside State Right of Way	67+41	408' Rt	80+50	279' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	3-01	U-3	Electric	66 kV UG	No conflict. Bored underneath the channel.	83+56	0' Rt	83+71	207' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	3-02	U-3	Electric	UG Conduit	No conflict. Conduit inside bridge cell	90+09	0' Rt	35+50 "I" Line"	21' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	3-03	U-3	Communications	UG Conduit	No conflict. Conduit inside bridge cell	90+16	0' Rt	35+50 "I" Line"	12' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	3-04	U-3	Gas	6"	No conflict. Casing is inside bridge cell	90+25	0' Rt	35+50 "I" Line"	37' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	3-05	U-3	Electric	UG Conduit	No conflict. Conduit inside bridge cell	90+67	0' Rt	35+50 "I" Line"	19' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	3-06	U-3	Reclaimed Water	20"	No conflict. Pipe is inside bridge cell	90+69	0' Rt	35+50 "I" Line"	18' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	3-07	U-3	Water	16"	No conflict. Pipe is inside bridge cell	90+91	0' Rt	35+50 "I" Line"	30' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	3-08	U-3	Communications	4-4"	No conflict. Conduit encased in concrete. Test Hole to establish alignment	91+74	0' Rt	35+50 "I" Line"	72' Lt	QLD	1	Remain in place	N/A	Utility conflict created
AT&T	3-09	U-3	Communications	UG Conduit	No conflict. Conduit inside bridge cell	91+00	0' Rt	35+50 "I" Line"	47' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	3-10	U-3	Communications	UG Conduit	No conflict.	3+50 "E" Line	28' Rt	35+05 "I" Line"	74' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	3-11	U-3	Communications	UG Conduit	Not in conflict	81+09	323' Rt	86+81	219' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	4-01	U-4	Electric	66 kV UG Conduit	No conflict	83+56	0' Lt	83+56	216' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	4-02	U-4	Electric	UG Conduit	No conflict. Conduit inside bridge cell	19+00 "ICD" Line	51' Lt	29+06 "ICD" Line	21' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	4-03	U-4	Communications	UG Conduit	No conflict. Conduit inside bridge cell	19+00 "ICD" Line	10' Rt	29+06 "ICD" Line	16' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	4-04	U-4	Gas	6"	No conflict. Casing is inside bridge cell	19+00 "ICD" Line	52' Rt	29+06 "ICD" Line	10' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	4-05	U-4	Electric	UG Conduit	No conflict. Conduit inside bridge cell	19+00 "ICD" Line	37' Lt	29+06 "ICD" Line	20' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	4-06	U-4	Reclaimed Water	20"	No conflict. Pipe is inside bridge cell	19+00 "ICD" Line	26' Lt	29+06 "ICD" Line	21' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	4-07	U-4	Water	16"	No conflict. Pipe is inside bridge cell	19+00 "ICD" Line	42' Rt	29+06 "ICD" Line	36' Lt	QLD		Remain in place	N/A	Utility conflict resolved

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AT&T	4-08	U-4	Communications	4-4" in concrete	Test hole to redesign footing & to avoid damage on widening section	19+00 "ICD" Line	30' Lt	29+06 "ICD" Line	43' Lt	QLA	2, 3, 4	Remain in place/Protect in place	N/A	Utility conflict created
AT&T	4-09	U-4	Communications	UG Conduit	No conflict. Conduit inside bridge cell	19+00 "ICD" Line	65' Lt	29+06 "ICD" Line	43' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	5-01	U-5	Sanitary Sewer	21"	No conflict	94+71	281' Lt	96+51	255' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	5-02	U-5	Sanitary Sewer	8"	Line already abandoned	102+51	160' Rt	102+62	160' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	5-03	U-5	Water	10"	Outside State Right of Way	96+56	319' Rt	106+50	213' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	6-01	U-6	Sanitary Sewer	16"	No conflict	108+21	165' Lt	108+46	160' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	6-02	U-6	Water	10"	Outside State Right of Way	106+50	213' Rt	108+60	279' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	8-01	U-8	Water	12"	Line already abandoned	35+50	44' Rt	40+50	40' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	8-02	U-8	Sanitary Sewer	36"	No conflict. Far from any construction.	35+50	49' Rt	40+50	79' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	10-01	U-10	Sanitary Sewer	36"	No conflict	9060+82	163' Rt	9062+82	151' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	10-02	U-10	Reclaimed Water	12"	Line already abandoned	9061+64	123' Rt	9061+64	153' Lt	QLD		Remain in place	N/A	Utility conflict resolved
TIC	12-01	U-12	Water	18"	No conflict	149+52	0' Rt	149+52	212' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	12-02	U-12	Water	12"	No conflict. Line already abandoned	149+79	0' Rt	149+79	212' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	12-03	U-12	Sanitary Sewer	42"	No conflict. Outside State Right of Way	40+50 "C6" Line	79' Rt	153+50 "A"	194' Rt	QLD		Remain in place	N/A	Utility conflict resolved
TIC	13-01	U-13	Water	18"	No conflict	149+52	0' Lt	149+52	221' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	13-02	U-13	Water	12"	Line already abandoned	149+79	0' Lt	149+52	221' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	13-03	U-13	Sanitary Sewer	15"	No conflict.	56+72 "C1" Line	526' Lt	153+50 "A" Line	220' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	13-04	U-13	Electric	12 kV OH	No conflict.	57+14 "C1" Line	521' Lt	153+50 "A" Line	292' Lt	QLD		Remain in place	N/A	Utility conflict resolved
LBCWD	13-05	U-13	Water	42" IN 54" casing	No conflict.	57+35 "C1" Line	510' Lt	153+50 "A" Line	311' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	13-06	U-13	Electric	12 kV OH	No conflict.	57+40 "C1" Line	511' Lt	153+50 "A" Line	324' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCWD	13-07	U-13	Water	60" in 12' x 12' Culvert	No conflict.	57+82 "C1" Line	508' Lt	153+50 "A" Line	387' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	13-08	U-13	Communications	MCD in Conc Encasement	No conflict.	58+42 "C1" Line	541' Lt	153+50 "A" Line	547' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	13-09	U-13	Electric	12 kV CONDUIT	No conflict.	58+62 "C1" Line	547' Lt	153+50 "A" Line	573' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	14-01	U-14	Sanitary Sewer	15" in 42" steel casing	No conflict	153+50 "A" Line	208' Lt	155+87 "A" Line	166' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	14-02	U-14	Electric	12 kV OH	No conflict	154+05 "A" Line	221' Lt	156+35 "A" Line	160' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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LBCWD	14-03	U-14	Water	42" IN 54" casing	No conflict	154+10 "A" Line	204' Lt	156+39 "A" Line	158' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	14-04	U-14	Electric	12 kV OH	No conflict	154+20 "A" Line	210' Lt	156+56 "A" Line	162' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCWD	14-05	U-14	Water	60" in 12' x 12' Culvert	No conflict	154+53 "A" Line	203' Lt	156+91 "A" Line	160' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	14-06	U-14	Communications	MCD in Conc Encasement	No conflict	155+70 "A" Line	196' Lt	158+05 "A" Line	166' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	14-07	U-14	Water	24" in 42" steel casing	No conflict	158+91 "A" Line	175' Lt	159+34 "A" Line	151' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	14-08	U-14	Electric	66 kV OH	No conflict. OH Power Lines	160+10 "A" Line	188' Lt	162+83 "A" Line	151' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	14-09	U-14	Electric	220 kV OH	No conflict. OH Power Lines	152+56 "A" Line	175' Lt	164+50 "A" Line	15' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	14-10	U-14	Sanitary Sewer	43"	No conflict. Outside State Right of Way	153+50 "A" Line	195' Lt	164+50 "A" Line	170' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	14-11	U-14	Electric	66 kV OH	No conflict. OH Power Lines. Outside State R/W	153+50 "A" Line	292' Lt	162+83 "A" Line	151' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	14-12	U-14	Reclaimed Water	12"	No conflict. Abandoned Line. Outside State R/W	159+60 "A" Line	308' Lt	164+50 "A" Line	198' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	15-01	U-15	Electric	66 kV OH	No conflict. Outside State Right of Way	164+50 "A" Line	336' Rt	166+40 "A" Line	525' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	15-02	U-15	Electric	220 kV OH	No conflict. Overhead power lines	164+50 "A" Line	33' Rt	169+41	505' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	15-03	U-15	Sanitary Sewer	42"	No conflict. Outside State Right of Way	173+50 "A" Line	167' Rt	173+50 "A" Line	164' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	15-04	U-15	Water	12"	No conflict. Outside State Right of Way	173+50 "A" Line	415' Rt	173+50 "A" Line	175' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	15-05	U-15	Water	12"	No conflict. Abandoned Line	173+50 "A" Line	197' Lt	173+50 "A" Line	188' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	16-01	U-16	Sanitary Sewer	15"	No conflict	182+10	197' Rt	182+46	178' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	16-02	U-16	Water	12"	Line already abandoned. Outside State Right of Way	173+50	186' Lt	184+50	239' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	16-03	U-16	Sanitary Sewer	33"	Outside State Right of Way	173+50	162' Rt	184+50 "Off-Ramp"	63' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCWD	16-04	U-16	Water	60"	Outside State Right of Way	173+50	176' Rt	184+50 "Off-Ramp"	73' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	17-01	U-17	Water	36" in 48" casing	No conflict. Too deep to conflict with new roadway section	187+12 "A" Line	0' Rt	187+39 "A" Line	166' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	17-02	U-17	Electric	12 kV	No conflict. Abandoned Line	30+00 "SCD" Line	24' Rt	36+89 "SCD" Line	36' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	17-03	U-17	Communications	UG Conduit	No conflict	30+00 "SCD" Line	15' Rt	38+00 "SCD" Line	31' Rt	QLD		Remain in place	N/A	Utility conflict resolved
COX	17-04	U-17	Communications	2-3" Conduit	Test hole for new signal foundation to avoid	30+00 "SCD" Line	29' Lt	38+00 "SCD" Line	30' Lt	QLA	5, 6	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created
LA CELLULAR	17-05	U-17	Communications	UG Conduit	No conflict	30+00 "SCD" Line	35' Lt	37+50 "SCD" Line	89' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	17-06	U-17	Electric	66 kV OH	No conflict	194+65 "A" Line	0' Rt	194+65 "A" Line	292' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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IRWD	17-07	U-17	Sanitary Sewer	33"	No conflict. Outside State Right of Way	184+50 "SCD5" Line	63' Rt	197+50 "SCD3" Line	270' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCWD	17-08	U-17	Water	60"	No conflict. Outside State Right of Way	184+50 "SCD5" Line	74' Rt	197+50 "SCD3" Line	561' Rt	QLD		Remain in place	N/A	Utility conflict resolved
VERIZON WIRELESS	17-09	U-17	Communications	CELL TOWER	No conflict. Outside excavation zone	38+00 "SCD" Line	51' Lt			QLD		Remain in place	N/A	Utility conflict resolved
T-MOBILE	17-10	U-17	Communications	1-4"	No conflict. Outside State Right of Way	177+40 "SCD3" Line	100' Rt	194+23 "SCD3" Line	98' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	17-11	U-17	Electric	66 kV	No conflict. Outside State Right of Way	188+10 "SCD3" Line	288' Rt	197+50 "SCD3" Line	122' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SPRINT WIRELESS	17-12	U-17	Communications	CELL TOWER	No conflict. Outside State Right of Way	194+23 "SCD3" Line	98' Rt			QLD		Remain in place	N/A	Utility conflict resolved
AT&T	17-13	U-17	Communications	CELL TOWER	No conflict. Outside State Right of Way	194+26 "SCD3" Line	110' Rt			QLD		Remain in place	N/A	Utility conflict resolved
IRWD	18-01	U-18	Water	36" in 48" casing	No conflict. Casing should be deeper than channel	187+12 "A" Line	0' Lt	187+12 "A" Line	238' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	18-02	U-18	Electric	UG Conduit	No conflict. Abandoned utility	22+00 "SCD" Line	36' Rt	30+00 "SCD" Line	24' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	18-03	U-18	Communications	UG Conduit	No conflict	22+00 "SCD" Line	30' Rt	30+00 "SCD" Line	15' Rt	QLD		Remain in place	N/A	Utility conflict resolved
COX	18-04	U-18	Communications	2-3"	No conflict	22+00 "SCD" Line	28' Lt	30+00 "SCD" Line	29' Lt	QLD		Remain in place	N/A	Utility conflict resolved
LA CELLULAR	18-05	U-18	Communications	UG Conduit	No conflict	22+00 "SCD" Line	43' Rt	30+00 "SCD" Line	35' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	18-06	U-18	Electric	66 kV	No conflict	194+65 "A" Line	0' Lt	194+65 "A" Line	600' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	18-07	U-18	Gas	8"	No conflict. Outside State Right of Way	22+00 "SCD" Line	69' Lt	197+50 "SCD1" Line	75' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	18-08	U-18	Sanitary Sewer	UNK	No conflict. Outside State Right of Way	184+50 "A" Line	228' Lt	22+00 "SCD" Line	109' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	18-09	U-18	Reclaimed Water	12"	No conflict. Line already abandoned. Outside State R/W	184+50 "A" Line	240' Lt	22+00 "SCD" Line	123' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	19-01	U-19	Water	20"	Line already abandoned	199+33	162' Rt	199+33	266' Lt	QLD		Remain in place	N/A	Utility conflict resolved
TIC	19-02	U-19	Water	12"	No conflicct	202+00	152' Rt	202+00	203' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	19-03	U-19	Electric	66 kV	Overhead power lines. Outside State Right of way	197+00 "SCD4" Line	120' Rt	208+50 "A" Line	210' Rt	QLB		Remain in place	N/A	Utility conflict resolved
IRWD	19-04	U-19	Sanitary Sewer	36"	No conflict. Outside State Right of Way	197+50 "SCD4" Line	270' Rt	208+50 "A" Line	363' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	19-06	U-19	Gas	8"	No conflict. Outside State Right of Way	197+50 "SCD1" Line	76' Lt	208+50	202' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	20-01	U-20	Electric	66 kV	Overhead power lines. Outside State Right of way	208+50	210' Rt	219+50	228' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	20-02	U-20	Sanitary Sewer	36"	No conflict. Outside State Right of Way	208+50	363' Rt	219+50	373' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	21-01	U-21	Electric	66 kV	Overhead power lines. Outside State Right of way	219+50	228' Rt	230+50	223' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	21-02	U-21	Sanitary Sewer	36"	No conflict. Outside State Right of Way	219+50	373' Rt	230+50	373' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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SCG	22-01	U-22	Gas	8"	No conflict. OutsideState Right of Way	230+50	190' Lt	43+50 "off-ramp"	76' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	22-02	U-22	Water	30"	No conflict.	238+74	190' Lt	239+09	221' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	22-03	U-22	Electric	66 kV	Overhead power lines. No conflict	230+50	223' Rt	41+50 "off-ramp"	192' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	22-04	U-22	Sanitary Sewer	36"	No conflict. OutsideState Right of Way	230+50	373' Rt	41+50 "off-ramp"	192' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	23-01	U-23	Electric	12 kV UG	No conflict. Conduit in bridge cell	30+00 "JE" Line	35' Rt	39+00 "JE" Line	32' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	23-02	U-23	Communications	12 Duct	No conflict. Conduit in bridge cell	30+00 "JE" Line	14' Lt	39+00 "JE" Line	23' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	23-03	U-23	Water	18" in 24" CASING	No conflict. Conduit in bridge cell	30+00 "JE" Line	19' Lt	39+00 "JE" Line	38' Lt	QLD		Remain in place	N/A	Utility conflict resolved
COX	23-04	U-23	Communications	UG Conduit	No conflict. Conduit in bridge cell	30+00 "JE" Line	31' Lt	39+00 "JE" Line	44' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	23-05	U-23	Electric	66 kV OH	No conflict. Overhead power lines	41+50 "JE5" Line	11' Rt	50+50 "JE3" Line	102' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	23-06	U-23	Electric	12 kV UG	No Conflict.	41+50 "JE5" Line	163' Rt	39+00 "JE" Line	66' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	23-07	U-23	Sanitary Sewer	48"	No conflict. OutsideState R/W	41+50 "JE5" Line	193' Rt	50+50 "JE3" Line	228' Rt	QLD		Remain in place	N/A	Utility conflict resolved
COI	23-08	U-23	Water	12" Irrigation	No conflict. Abandoned utility	37+00 "JE" Line	49' Lt	39+00 "JE" Line	51' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	23-09	U-23	Water	16" Reclaimed	No conflict. OutsideState Right of Way	41+50 "JE3" Line	64' Rt	50+50 "JE3" Line	210' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	23-10	U-23	Water	30"	No conflict.	41+50 "JE5" Line	204' Rt	39+00 "JE" Line	47' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	24-01	U-24	Electric	12 kV UG	No conflict. Not in excavation limits	21+00 "JE" Line	36' Rt	30+00 "JE" Line	37' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	24-02	U-24	Communications	12 Duct	No conflict. Conduit in bridge cell	21+00 "JE" Line	40' Lt	30+00 "JE" Line	13' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	24-03	U-24	Water	18" in 24" CASING	No conflict. Conduit in bridge cell	21+00 "JE" Line	39' Lt	30+00 "JE" Line	20' Lt	QLD		Remain in place	N/A	Utility conflict resolved
COX	24-04	U-24	Communications	UG Conduit	No conflict. Conduit in bridge cell	21+00 "JE" Line	47' Lt	30+00 "JE" Line	30' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	24-05	U-24	Gas	8"	No conflict	21+00 "JE" Line	4' Rt	39+50 "JE6" Line	78' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	24-06	U-24	Water	30"	No conflict. OutsideState Right of Way	21+00 "JE" Line	110' Rt	39+50 "JE6" Line	111' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	25-01	U-25	Electric	66 kV	Overhead power lines. OutsideState Right of way	50+50 "on ramp"	103' Rt	63+50 "on ramp"	103' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	25-02	U-25	Sanitary Sewer	42"	No conflict. OutsideState Right of Way	50+50 "on ramp"	247' Rt	63+50 "on ramp"	240' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	25-03	U-25	Reclaimed Water	16"	No conflict. OutsideState Right of Way	50+50 "on ramp"	238' Rt	63+50 "on ramp"	246' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	26-01	U-26	Communications	4" Duct	No conflict. Abandoned Duct	269+83	158' Lt	271+03	151' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	26-02	U-26	Reclaimed Water	16"	Positive locate for design to avoid/protect in place	271+32	158' Lt	271+32	151' Rt	QLA	7, 8	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created

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IRWD	26-03	U-26	Reclaimed Water	16"	No conflict	63+50 "on ramp"	246' Rt	271+32	151' Rt	QLD		Remain in place	N/A	Utility conflict created
SCE	26-04	U-26	Electric	66 kV	Overhead power lines. Outside State Right of way	63+50 "on ramp"	103' Rt	276+50	204' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	26-05	U-26	Sanitary Sewer	42"	No conflict. Outside State Right of Way	63+50 "on ramp"	240' Rt	276+50	344' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	26-06	U-26	Sanitary Sewer	10"	No conflict. Outside State Right of Way	275+75	164' Lt	276+50	164' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	27-01	U-27	Electric	12 kV UG	No conflict. Conduit is inside bridge cell	29+50 "POC"	41' Lt	36+45 "POC"	35' Lt	QLD		Remain in place	N/A	Utility conflict resolved
WMD	27-02	U-27	Water	54" in steel casing	No conflict.	29+50 "POC"	24' Lt	37+00 "POC"	24' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	27-03	U-27	Water	12" in 20" steel casing	No conflict	29+50 "POC"	34' Lt	37+00 "POC"	34' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	27-04	U-27	Electric	66 kV OH	No conflict. Outside State Right of Way	276+50	217' Rt	290+50	217' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	27-05	U-27	Sanitary Sewer	42"	No conflict. Outside State Right of Way	276+50	350' Rt	290+50	307' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	28-01	U-28	Electric	66 kV	Overhead power lines. Outside State Right of way	290+50	297' Rt	304+50	210' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	28-02	U-28	Sanitary Sewer	42"	No conflict. Outside State Right of Way	290+50	312' Rt	304+50	309' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	29-01	U-29	Electric	66 kV	Overhead power lines. Outside State Right of way	304+50	210' Rt	318+50	181' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	29-02	U-29	Sanitary Sewer	42"	No conflict. Outside State Right of Way	304+50	309' Rt	318+50	277' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	29-03	U-29	Electric	12 kV	Overhead power lines. Outside State Right of way	304+50	195' Lt	310+27	195' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	30-01	U-30	Electric	66 kV	Overhead power lines. No Confl	318+50	183' Rt	31+50 "off ramp"	88' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	30-02	U-30	Sanitary Sewer	36"	Outside State Right of Way. No conflict	318+50	278' Rt	31+50 "off ramp"	64' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	31-01	U-31	Water	12" in 21" RCP	No conflict	333+78	0' Rt	333+78	548' Rt	QLD		Remain in place	N/A	Utility conflict resolved
COX	31-02	U-31	Communications	UG Conduit	No conflict. Conduit is inside bridge cell	26+30 "Culvert"	45' Rt	34+00 "Culvert)	55' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	31-03	U-31	Communications	6-4" MCD in 18" steel casing	No conflict. Conduit is inside bridge cell	26+30 "Culvert"	17' Rt	32+62 "Culvert)	86' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	31-04	U-31	Electric	12 kV UG	No conflict. Conduit is inside bridge cell	26+35	27' Lt	32+40 "Culvert)	134'Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	31-05	U-31	Electric	66 kV OH	No conflict. Overhead power lines	31+50 "NB Off"	100' Rt	37+50 "NB On"	60' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	31-06	U-31	Sanitary Sewer	36"	No conflict. Outside State Right of Way	31+50 "NB Off"	64' Rt	34+00 "Culvert)	38' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	32-01	U-32	Water	12" in 21" RCP	No conflict	333+78	0' Lt	333+78	235' Lt	QLD		Remain in place	N/A	Utility conflict resolved
COX	32-02	U-32	Communications	UG Conduit	No conflict	17+32 "Culvert"	56' Rt	25+30 "Culvert"	45' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	32-03	U-32	Communications	6-4" MCD in 18" steel casing	No conflict. Conduit is inside bridge cell	17+32 "Culvert"	54' Rt	25+30 "Culvert"	17' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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SCE	32-04	U-32	Electric	12 kV UG	No conflict	17+32 "Culvert"	26' Lt	25+16 "Culvert"	26' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	32-05	U-32	Sanitary Sewer	15"	No conflict. Outside State Right of Way	39+50 "SB off-ramp"	94' Rt	38+47 "SB Off-Ramp"	174' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	33-01	U-33	Electric	66 kV	Overhead power lines. No Conflict	37+50 "on ramp"	47' Rt	50+94 "on ramp"	195' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	34-01	U-34	Electric	66 kV	Overhead power lines. No Conflict	50+94 "on ramp"	195' Rt	364+50	176' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	34-02	U-34	Sanitary Sewer	24"	No conflict	362+42	120' Rt	363+30	130' Lt	QLA		Remain in place	N/A	Utility conflict resolved
IRWD	34-03	U-34	Sanitary Sewer	51"	No conflict	363+58	120' Rt	364+50	130' Lt	QLA		Remain in place	N/A	Utility conflict resolved
IRWD	34-04	U-34	Sanitary Sewer	15"	Outside State Right of Way. No conflict	51+50 "off ramp"	104' Lt	363+57	204' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	35-01	U-35	Electric	66 kV	Overhead power lines. No Conflict	364+50	176' Rt	375+50	177' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	35-02	U-35	Reclaimed Water	4"	Outside State Right of Way. No conflict	369+66	161' Rt	375+50	198' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	35-03	U-35	Water	36"	Outside State Right of Way. No conflict	364+50	226' Rt	375+50	213' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	35-04	U-35	Communications	UG Conduit	Inside Harvard Avenue Bridge Cell. No conflict	365+94	121' Rt	365+94	130' Lt	QLB		Remain in place	N/A	Utility conflict resolved
AT&T	35-05	U-35	Communications	UG FO Conduit	Inside Harvard Avenue Bridge Cell. No conflict	366+00	121' Rt	366+00	130' Lt	QLB		Remain in place	N/A	Utility conflict resolved
IRWD	35-06	U-35	Water	16"	Inside Harvard Avenue Bridge Cell. No conflict	366+00	121' Rt	366+00	130' Lt	QLB		Remain in place	N/A	Utility conflict resolved
SCE	35-07	U-35	Electric	12 kV	Inside Harvard Avenue Bridge Cell. No conflict	366+43	121' Rt	366+43	130' Lt	QLB		Remain in place	N/A	Utility conflict resolved
SCE	36-01	U-36	Electric	66 kV	Outside State Right of Way. No conflict	375+50	177' Rt	388+50	400' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	36-02	U-36	Water	36"	No conflict. Line under the bridge. In the bike path	378+31	129' Lt	379+60	129' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	36-03	U-36	Sanitary Sewer	18"	No conflict. Not in excavation zone	381+30	129' Lt	382+30	130' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	36-04	U-36	Electric	12 kV	Outside State Right of Way. No conflict	384+21	343' Lt	388+50	170' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	36-05	U-36	Water	12"	Outside State Right of Way. No conflict	384+55	343' Lt	388+50	215' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	36-06	U-36	Gas	4"	Outside State Right of Way. No conflict	384+76	343' Lt	388+50	219' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	37-01	U-37	Electric	66 kV	Outside State Right of Way. No conflict	388+50	400' Rt	20+50 "JA5" Line	64' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	37-02	U-37	Electric	12 kV	Outside State Right of Way. No conflict	388+50	215' Lt	101+50 "JA6" Line	95' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	37-03	U-37	Reclaimed Water	6"	Outside State Right of Way. No conflict	388+50	202' Lt	101+50 "JA6" Line	132' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	37-04	U-37	Water	12"	Outside State Right of Way. No conflict	388+50	215' Lt	101+50 "JA6" Line	141' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	37-05	U-37	Gas	4"	Outside State Right of Way. No conflict	388+50	219' Lt	101+50 "JA6" Line	148' Lt	QLD		Remain in place	N/A	Utility conflict resolved

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IRWD	38-01	U-38	Water	16" in 30" steel casing	No conflict	402+48 "A" Line	0' Rt	120+00 "JA" Line	77' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SPRINT WIRELESS	38-02	U-38	Communications	FO UG Conduit	No conflict. Inside bridge cell	110+87 "JA" Line	24' Rt	120+00 "JA" Line	37 Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	38-03	U-38	Electric	66 kV UG	No conflict. Inside bridge cell	110+87 "JA" Line	5' Lt	117+10 "JA" Line	5' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	38-04	U-38	Electric	12 kV UG	No conflict. Inside bridge cell	110+87 "JA" Line	49' Lt	120+00 "JA" Line	27' Lt	QLD		Remain in place	N/A	Utility conflict resolved
LEVEL 3	38-05	U-38	Communications	UG Conduit	No conflict. Inside bridge cell	110+87 "JA" Line	52' Lt	120+00 "JA" Line	45' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	38-06	U-38	Electric	66 kV OH	No conflict. Overhead Power Lines.	110+87 "JA" Line	67' Lt	112+70 "JA" Line	67' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	38-07	U-38	Communications	4 MCD	No conflict.	406+70 "A" Line	0' Rt	406+70 "A" Line	502' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	38-08	U-38	Electric	66 kV OH	No conflict.	20+50 "JA5" Line	72' Rt	24+84 "JA5" Line	91' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	38-09	U-38	Water	10"	No conflict. Outside State R/W. On frontage Road	9+40 "JA3" Line	69' Rt	17+50 "JA3" Line	129' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	38-10	U-38	Electric	12 kV UG	No conflict. Outside State R/W. On frontage Road	9+40 "JA3" Line	85' Rt	17+50 "JA3" Line	150' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	39-11	U-38	Gas	4"	No conflict. Outside State R/W. On frontage Road	9+40 "JA3" Line	76' Rt	17+50 "JA3" Line	140' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	39-01	U-39	Water	16" in 30" steel casing	No conflict	402+48 "A" Line	0' Rt	402+48 "A" Line	226' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SPRINT WIRELESS	39-02	U-39	Communications	FO UG Conduit	No conflict.	102+00 "JA" Line	36' Rt	110+87 "JA" Line	23' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	39-03	U-39	Electric	66 kV UG	No conflict.	102+00 "JA" Line	5' Lt	110+87 "JA" Line	5' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	39-04	U-39	Electric	12 kV UG	No conflict	102+00 "JA" Line	55' Lt	110+87 "JA" Line	49' Lt	QLD		Remain in place	N/A	Utility conflict resolved
LEVEL 3	39-05	U-39	Communications	UG Conduit	No conflict.	102+00 "JA" Line	60' Lt	110+87 "JA" Line	52' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	39-06	U-39	Electric	66 kV OH	No conflict. OH Power Lines	102+00 "JA" Line	62' Lt	110+87 "JA" Line	67' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	39-07	U-39	Communications	4 MCD	No conflict	406+70 "A" Line	0' Rt	406+70 "A" Line	600' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	39-08	U-39	Electric	12 kV UG	No conflict. Outside State R/W. On frontage Road	102+00 "JA" Line	138' Rt	101+50 "JA6" Line	96' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	39-09	U-39	Reclaimed Water	6"	No conflict. Outside State R/W. On frontage Road	102+00 "JA" Line	180' Rt	101+50 "JA6" Line	131' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	39-10	U-39	Water	12"	No conflict. Outside State R/W. On frontage Road	102+00 "JA" Line	218' Rt	101+50 "JA6" Line	141' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	39-11	U-39	Gas	4"	No conflict. Outside State R/W. On frontage Road	102+00 "JA" Line	223' Rt	101+50 "JA6" Line	147' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	39-12	U-39	Water	10"	No conflict. Pipe in street, away from any excavation	102+00 "JA" Line	44' Lt	105+10 "JA" Line	44' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	39-13	U-39	Sanitary Sewer	8"	No conflict. Outside State R/W. On frontage Road	102+50 "JA" Line	208' Lt	104+75 "JA" Line	151' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	40-01	U-40	Water	8"	Outside State Right of Way. No conflict	8+50 "off ramp"	100' Rt	16+67	90' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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IRWD	40-02	U-40	Water	10"	Outside State Right of Way. No conflict	17+50 "on ramp"	129' Rt	419+50	243' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	40-03	U-40	Gas	2"	Outside State Right of Way. No conflict	17+50 "on ramp"	138' Rt	419+50	262' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	40-04	U-40	Electric	12 kV	Outside State Right of Way. No conflict	17+50 "on ramp"	150' Rt	419+50	270' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	40-05	U-40	Sanitary Sewer	8"	Outside State Right of Way. No conflict	20+74 "on ramp"	175' Rt	419+50	259' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	41-01	U-41	Communications	UG Conduit	No conflict. Inside bridge cell	43+00 "VK" Line	38' Rt	49+00 "VK" Line	38' Rt	QLD		Remain in place	N/A	Utility conflict resolved
XO	41-02	U-41	Communications	UG Conduit	No conflict. Inside bridge cell	43+00 "VK" Line	35' Rt	49+00 "VK" Line	35' Rt	QLD		Remain in place	N/A	Utility conflict resolved
CENTURY LINK	41-03	U-41	Communications	4-1.25"	No conflict. Inside bridge cell	43+00 "VK" Line	29' Rt	49+00 "VK" Line	29' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	41-04	U-41	Communications	36-4" DUCT	No conflict. Inside bridge cell	43+00 "VK" Line	29' Rt	49+00 "VK" Line	22' Rt	QLD		Remain in place	N/A	Utility conflict resolved
LEVEL 3	41-05	U-41	Communications	UG Conduit	No conflict. Inside bridge cell	43+00 "VK" Line	12' Rt	49+00 "VK" Line	12' Rt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	41-06	U-41	Reclaimed Water	8" in 16" steel casing	No conflict. Inside bridge cell	43+00 "VK" Line	12' Lt	49+00 "VK" Line	12' Lt	QLD		Remain in place	N/A	Utility conflict resolved
CENTURY LINK	41-07	U-41	Communications	4-1.25"	No conflict. Inside bridge cell	43+00 "VK" Line	34' Lt	43+00 "VK" Line	34' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	41-08	U-41	Water	10'	No conflict. Inside bridge cell	43+00 "VK" Line	23' Rt	43+00 "VK" Line	23' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	41-09	U-41	Electric	12 kV Conduit	No conflict. Inside bridge cell	43+00 "VK" Line	7' Lt	43+00 "VK" Line	32' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	41-09	U-41	Sanitary Sewer	42" in 72" CASING	No conflict with construction	431+57 "A" Line	136' Rt	431+57 "A" Line	160' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	41-10	U-41	Sanitary Sewer	18" DIP	No conflict with construction	431+57 "A" Line	160' Lt	433+50 "A" Line	167' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	42-01	U-42	Sanitary Sewer	18"	Outside State Right of Way. No conflict	433+50	161' Lt	442+30" off ramp"	65' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	43-01	U-43	Communications	8" PVC	Positive locate for design to avoid/protect in place	66+50 "MA" Line	125' Rt	74+50 "MA" Line	104' Rt	QLA	9, 10	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created
AT&T	44-01	U-44	Communications	8" PVC	No conflict. Inside bridge cell	60+50 "MA" Line	83' Rt	66+50 "MA" Line	125' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	45-01	U-45	Communications	8" PVC	No conflict with construction	53+50 "MA" Line	83' Rt	60+50 "MA" Line	83' Rt	QLD	11, 12	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created
IRWD	45-02	U-45	Water	12"	No conflict with construction	53+50 "MA" Line	72' Rt	60+50 "MA" Line	102' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	46-01	U-46	Electric	12 kV UG conduit in 30" bore	No conflict with construction	452+70 "A" Line	176' Rt	452+70 "A" Line	180' Lt	QLD		Remain in place	N/A	Utility conflict resolved
IRWD	46-02	U-46	Water	12" in 21" RCP Casing	No conflict with construction	453+00 "A" Line	160' Rt	453+00 "A" Line	177' Lt	QLD		Remain in place	N/A	Utility conflict resolved
JWA	47-01	U-47	Electric	6-2" in 16" steel casing	No conflict with construction	471+25 "A" Line	148' Rt	471+25 "A" Line	153' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	47-02	U-47	Gas	30"	No conflict with construction. Positive Identify to meet policy	472+74 "A" Line	155' Rt	473+25 "A" Line	155' Lt	QLA	13, 14	Remain in place	During Design-Build Phase	Utility conflict created
SCE	47-03	U-47	Electric	12 kV CONDUIT	No conflict with construction. Outside State Right of Way	462+50 "A" Line	197' Lt	474+50 "A" Line	165' Lt	QLD		Remain in place	N/A	Utility conflict resolved

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OCSD	48-01	U-48	Sanitary Sewer	42" in 72" CASING	No conflict with construction	476+47 "A" Line	160' Rt	476+47 "A" Line	157' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	48-02	U-48	Sanitary Sewer	42" in 72" CASING	No conflict with construction	476+59 "A" Line	160' Rt	476+59 "A" Line	157' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	48-03	U-48	Sanitary Sewer	30"	No conflict with construction	479+57 "A" Line	196' Rt	484+87 "A" Line	261' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	48-04	U-48	Sanitary Sewer	30"	No conflict with construction. Line already abandoned.	479+57 "A" Line	196' Rt	485+50 "A" Line	5' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	48-05	U-48	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	485+50 "A" Line	63' Lt	109+00 "RHA" Line	30' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	48-06	U-48	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	485+50 "A" Line	27' Lt	109+00 "RHA" Line	15' Rt	QLD		Remain in place	N/A	Utility conflict resolved
LEVEL 3	48-07	U-48	Communications	UG Conduit	No conflict with construction. Inside bridge cell	485+50 "A" Line	6' Lt	109+00 "RHA" Line	9' Rt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	48-08	U-48	Communications	4" Duct	No conflict with construction. Inside bridge cell	485+50 "A" Line	47' Rt	109+00 "RHA" Line	17' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	48-09	U-48	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	485+50 "A" Line	58' Rt	109+00 "RHA" Line	19' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	49-01	U-49	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	102+00 "RHA" Line	31' Rt	485+50 "A" Line	61' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	49-02	U-49	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	102+00 "RHA" Line	17' Rt	485+50 "A" Line	27' Lt	QLD		Remain in place	N/A	Utility conflict resolved
LEVEL 3	49-03	U-49	Communications	UG Conduit	No conflict with construction. Inside bridge cell	102+00 "RHA" Line	7' Rt	485+50 "A" Line	7' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	49-04	U-49	Communications	4" Duct	No conflict with construction. Inside bridge cell	102+00 "RHA" Line	12' Lt	485+50 "A" Line	47' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	49-05	U-49	Electric	12 kV UG Conduit	No conflict with construction. Inside bridge cell	102+00 "RHA" Line	17' Lt	485+50 "A" Line	57' R	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	49-06	U-49	Sanitary Sewer	18"	No conflict with construction. Line already abandoned.	486+40 "A" Line	346' Lt	487+60 "A" Line	41' Lt	QLD		Remain in place	N/A	Utility conflict resolved
Unkown Owner	49-07	U-49	Communications	cable	No conflict with construction. Line already abandoned.	485+92 "A" Line	209' Rt	488+33 "A" Line	294' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	49-08	U-49	Sanitary Sewer	30"	No conflict with construction. Line already abandoned.	485+50 "A" Line	10' Rt	495+50 "A" Line	163' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	49-09	U-49	Sanitary Sewer	30"	No conflict with construction. Outside State Right of Way	485+50 "A" Line	272' Lt	495+50 "A" Line	296' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	52-01	U-52	Sanitary Sewer	30"	No conflict. OutsideState Right of Way	396+10 "D11" Line	96' Lt	399+72 "D11" Line	91' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	52-02	U-52	Sanitary Sewer	30"	No conflict.	495+50 "A" Line	297' Lt	410+50 "D2" Line	31' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	54-01	U-54	Sanitary Sewer	30"	No conflict	410+50 "D2" Line	31' Lt	521+00 "A" Line	176' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	55-01	U-55	Water	24" in 36" steel casing	No conflict	529+92 "A" Line	224' Rt	529+92 "A" Line	153' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	55-02	U-55	Sanitary Sewer	15" in Concrete encasement	No conflict.	534+78 "A" Line	275' Rt	534+78 "A" Line	60' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	55-03	U-55	Water	12" in 20" steel casing	No conflict	22+38 "BR5" Line	103' Rt	22+38 "BR5" Line	42' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	56-01	U-56	Water	12"	No conflict.	535+85 "A" Line	0' Rt	535+85 "A" Line	50' Rt	QLD		Remain in place	N/A	Utility conflict resolved

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MWD	56-02	U-56	Water	36"	No conflict.	540+94 "A" Line	0' Rt	540+94 "A" Line	557' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	56-03	U-56	Electric	4-4" CONDUIT	No conflict. Conduit is in bridge cell	160+15 "BR" Line	38' Lt	166+00 "BR" Line	38' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	56-04	U-56	Communications	Duct	No conflict.	543+37 "A" Line	0' Rt	543+37 "A" Line	268' Rt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	57-01	U-57	Water	12"	No conflict. No major excavation.	534+85 "A" Line	0' Lt	453+85	145' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MWD	57-02	U-57	Water	36"	Test hole to find exact depth and location. Design to avoid/PIP	540+94 "A" Line	0' Lt	540+94 "A" Line	489' Lt	QLA	15, 16	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created
SCE	57-03	U-57	Electric	4-4" CONDUIT	No conflict. Conduit is in city street	154+50 "BR" Line	319' Lt	160+15 "BR" Line	38' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	57-04	U-57	Communications	Duct	No conflict. duct is deep	543+37 "A" Line	0' Lt	543+37 "A" Line	859' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	57-05	U-57	Sanitary Sewer	33"	Test hole to find exact depth and location. Design to avoid/PIP	13+00 "BR1" Line	83' Lt	8+50 "BR2" Line	52' Rt	QLA	17, 18	Remain in place/Protect in place	During Design-Build Phase	Utility conflict created
OCSD	58-01	U-58	Sanitary Sewer	20" in encasement	No conflict with construction	550+00 "A" Line	160' Rt	550+00 "A" Line	170' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	58-02	U-58	Sanitary Sewer	15" in encasement	No conflict with construction	560+74 "A" Line	131' Rt	560+74 "A" Line	176' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	59-01	U-59	Sanitary Sewer	8"	No conflict with construction	562+50 "A" Line	170' Rt	563+00 "A" Line	170' Rt	QLD		Remain in place	N/A	Utility conflict resolved
OCWD	59-02	U-59	Water	24" in 36" steel casing	No conflict with construction	562+95 "A" line	200' Rt	562+95 "A" Line	230' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MWD	59-03	U-59	Water	16" in 28" steel casing	No conflict with construction	563+05 "A" Line	200' Rt	563+05 "A" Line	230' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	59-04	U-59	Sanitary Sewer	33"	No conflict with construction	562+50 "A" Line	200' Lt	576+50 "A" Line	238' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	60-01	U-60	Sanitary Sewer	15"	No conflict with construction	588+67 "A" Line	328' Rt	588+67 "A" Line	275' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	60-02	U-60	Electric	6-5" CONDUIT	No conflict with construction	55+50 "FA10" Line	113' Lt	590+50 "A" Line	261' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	60-03	U-60	Sanitary Sewer	33"	Outside State Right of Way. No conflict	55+50 "FA10" Line	155' Lt	590+50 "A" Line	275' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	61-01	U-61	Electric	12 kV	Outside State Right of Way. No conflict	375+50 "FA9" Line	72' Lt	386+50 "FA9" Line	119' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	61-02	U-61	Communications	cable	Outside State Right of Way. No conflict	375+50 "FA9" Line	75' Lt	386+50 "FA9" Line	120' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	61-03	U-61	Sanitary Sewer	33" VCP	Outside State Right of Way. No conflict	375+50 "FA9" Line	85' Lt	386+50 "FA9" Line	110' Lt	QLD		Remain in place	N/A	Utility conflict resolved
AT&T	62-01	U-62	Communications	UG Conduit	No conflict with construction	608+59 "A" Line	300' Rt	608+59 "A" Line	324' Lt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	62-02	U-62	Water	12" in 20" steel casing	No conflict with construction	608+72 "A" Line	300' Rt	608+72 "A" Line	324' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	62-03	U-62	Sanitary Sewer	12" VCP	No conflict with construction	610+54 "A" Line	300' Rt	610+54 "A" Line	324' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	62-04	U-62	Electric	UG Conduit	No conflict with construction	610+70 "A" Line	215' Rt	610+70 "A" Line	291' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	63-01	U-63	Electric	66 kV Conduit in 30" casing	No conflict with construction	623+35 "A" Line	270' Rt	623+35 "A" Line	155' Lt	QLD		Remain in place	N/A	Utility conflict resolved

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SCE	63-02	U-63	Electric	12 kV conduit in 36" casing	No conflict with construction	623+35 "A" Line	270' Rt	623+35 "A" Line	155' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	63-03	U-63	Electric	12 kV conduit in 36" casing	No conflict with construction	623+35 "A" Line	270' Rt	623+35 "A" Line	155' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCSD	64-01	U-64	Sanitary Sewer	12"	No conflict with construction	631+95 "A" Line	300' Rt	631+95 "A" Line	200' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	65-01	U-65	Electric	12 kV conduit in conc casing	No conflict with construction	32+80 "HA" Line	51' Rt	39+00 "HA" Line	51' Rt	QLD		Remain in place	N/A	Utility conflict resolved
OCWD	65-02	U-65	Water	24"	No conflict with construction	32+80 "HA" Line	43' Rt	39+00 "HA" Line	43' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	65-03	U-65	Gas	6"	No conflict with construction	32+80 "HA" Line	36' Rt	39+00 "HA" Line	36' Rt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	65-04	U-65	Water	12"	No conflict with construction	32+80 "HA" Line	22' Rt	39+00 "HA" Line	22' Rt	QLD		Remain in place	N/A	Utility conflict resolved
CHARTER	65-05	U-65	Communications	2-4" MCD	No conflict with construction	32+80 "HA" Line	39' Lt	39+00 "HA" Line	39' Lt	QLD		Remain in place	N/A	Utility conflict resolved
SCE	66-01	U-66	Electric	12 kV conduit in conc casing	No conflict with construction	26+00 "HA" Line	51' Rt	32+80 "HA" Line	51' Rt	QLD		Remain in place	N/A	Utility conflict resolved
OCWD	66-02	U-66	Water	24"	No conflict with construction	26+00 "HA" Line	43' Rt	32+80 "HA" Line	43' Rt	QLD		Remain in place	N/A	Utility conflict resolved
SCG	66-03	U-66	Gas	6"	No conflict with construction	26+00 "HA" Line	36' Rt	32+80 "HA" Line	36' Rt	QLD		Remain in place	N/A	Utility conflict resolved
MESA WD	66-04	U-66	Water	12"	No conflict with construction	26+00 "HA" Line	36' Rt	32+80 "HA" Line	36' Rt	QLD		Remain in place	N/A	Utility conflict resolved
CHARTER	66-05	U-66	Communications	2-4" MCD	No conflict with construction	26+00 "HA" Line	39' Lt	32+80 "HA" Line	39' Lt	QLD		Remain in place	N/A	Utility conflict resolved
OCWD	66-06	U-66	Water	6"	No conflict with construction	30+90 "HA" Line	43' Rt	30+90 "HA" Line	95' Lt	QLD		Remain in place	N/A	Utility conflict resolved

Key:
[List of acronyms used in the utility conflict matrix]

Appendix I – Species List

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IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

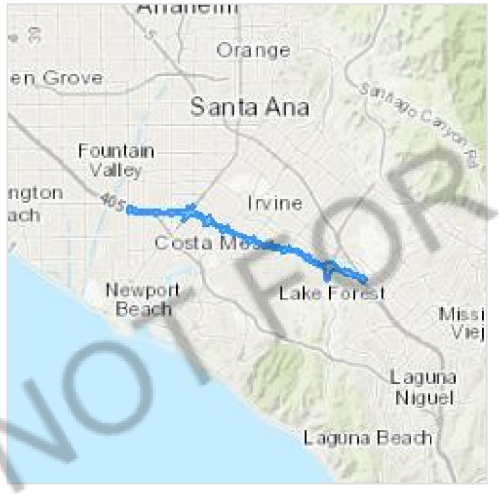
This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

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Location

Orange County, California



Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Pacific Pocket Mouse Perognathus longimembris pacificus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8080

Birds

NAME	STATUS

California Least Tern Sterna antillarum browni — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8104

Coastal California Gnatcatcher Polioptila californica californica — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8178

Least Bell's Vireo Vireo bellii pusillus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5945

Light-footed Clapper Rail Rallus longirostris levipes — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6035

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6749

Western Snowy Plover Charadrius nivosus nivosus — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8035

Amphibians

NAME	STATUS

NOT FOR CONSULTATION

Arroyo (=arroyo Southwestern) Toad Anaxyrus californicus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3762

Crustaceans

NAME	STATUS

Riverside Fairy Shrimp Streptocephalus woottoni — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8148

San Diego Fairy Shrimp Branchinecta sandiegonensis — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6945

Flowering Plants

NAME	STATUS

Big-leaved Crownbeard Verbesina dissita — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8049

Laguna Beach Liveforever Dudleya stolonifera — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7919

Salt Marsh Bird's-beak Cordylanthus maritimus ssp. maritimus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6447

San Diego Button-celery Eryngium aristulatum var. parishii — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5937

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Santa Monica Mountains Dudleyea Dudleya cymosa ssp. ovatifolia — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2538

Thread-leaved Brodiaea Brodiaea filifolia — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6087

Ventura Marsh Milk-vetch Astragalus pycnostachyus var. lanosissimus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/1160

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php

- Nationwide conservation measures for birds
  http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Swift Cypseloides niger — Breeds Jun 15 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8878

Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Black-chinned Sparrow Spizella atrogularis — Breeds Apr 15 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

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Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Gull-billed Tern Gelochelidon nilotica — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9501

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

NOT FOR CONSULTATION

Song Sparrow Melospiza melodia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 20 to Sep 5
Spotted Towhee Pipilo maculatus clementae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243	Breeds Apr 15 to Jul 20
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

NOT FOR CONSULTATION

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

NOT FOR CONSULTATION

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

NOT FOR CONSULTATION

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1Ax
- PEM1Cx

FRESHWATER FORESTED/SHRUB WETLAND

- PFO/SSC
- PSSAh
- PSSAx
- PSS/EM1Cx
- PFO/SSAx

FRESHWATER POND

- PABFx
- PUSAx
- PUSAr
- PUSCx

RIVERINE

- R2UBHx
- R2UBFx
- R2USAx
- R2USCx
- R4SBAr
- R2USCr
- R2UBFr
- R4SBCr
- R4SBA
- R2UBHr
- R2ABFx
- R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

NOT FOR CONSULTATION

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

From:	NMFS SpeciesList - NOAA Service Account
To:	Ryan Villanueva
Subject:	Federal ESA - - NOAA Fisheries Species List Re: Caltrans: I-405 Improvements Project (I-5 to Harbor Blvd) Official Species List
Date:	Thursday, January 28, 2021 1:25:29 PM

Receipt of this email confirms that NOAA Fisheries has received your email requesting confirmation of an Endangered Species Act SPECIES LIST. If you provided your name, phone number, federal agency name (or delegated state agency such as Caltrans), mailing address, project title, and a brief description of the project, and a copy of a list of threatened or endangered species identified within specified geographic areas generated from NOAA Fisheries, West Coast Region, California Species List Tool, this email, along with the list you generated, serves as your federal Endangered Species Act SPECIES LIST. If you have a question, contact your local NOAA Fisheries liaison.

From: Ryan Villanueva
To: nmfs.wcrca.specieslist@noaa.gov
Subject: Caltrans: I-405 Improvements Project (I-5 to Harbor Blvd) Official Species List
Date: Thursday, January 28, 2021 1:24:00 PM

Hello,

This email contains the search results generated from the NOAA Fisheries California Species List Tool for the Newport Beach, El Toro and Tustin, California 7.5-minute topographic quadrangles. This species list was generated for the I-405 Improvements Project (I-5 to Harbor Blvd) located in the Cities of Irvine, Costa Mesa and a portion of unincorporated area of Orange County, California. The project is proposed by Caltrans District 12.

Federal Agency:
Federal Highway Administration
California Division
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

State Agency:
Caltrans, District 12
1750 East 4th Street, Suite 100
Santa Ana CA 92705
Contact: Lisa Sato
(657) 328-6136

Quad Name **Newport Beach (digital)**
Quad Number **33117-F8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) - X

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) - X

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office

562-980-4000

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

Quad Name **Tustin**

Quad Number **33117-F7**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) - **X**

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Quad Name **El Toro**

Quad Number **33117-F6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) - **X**
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -

Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Ryan Villanueva | Senior Biologist
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951-781-9310 Tel
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Website

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Website

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Anaheim (3311778) OR Orange (3311777) OR Black Star Canyon (3311776) OR Newport Beach (3311768) OR Tustin (3311767) OR Laguna Beach (3311757) OR El Toro (3311766) OR San Juan Capistrano (3311756))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Allen's pentachaeta *Pentachaeta aurea ssp. allenii*	PDAST6X021	None	None	G4T1	S1	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
aphanisma *Aphanisma blitoides*	PDCHE02010	None	None	G3G4	S2	1B.2
arroyo chub *Gila orcuttii*	AFCJB13120	None	None	G2	S2	SSC
arroyo toad *Anaxyrus californicus*	AAABB01230	Endangered	None	G2G3	S2S3	SSC
bald eagle *Haliaeetus leucocephalus*	ABNKC10010	Delisted	Endangered	G5	S3	FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	ABPBX99015	None	Endangered	G5T3	S3	
big free-tailed bat *Nyctinomops macrotis*	AMACD04020	None	None	G5	S3	SSC
big-leaved crownbeard *Verbesina dissita*	PDAST9R050	Threatened	Threatened	G1G2	S1	1B.1
Braunton's milk-vetch *Astragalus brauntonii*	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California beardtongue *Penstemon californicus*	PDSCR1L110	None	None	G3	S2	1B.2
California black rail *Laterallus jamaicensis coturniculus*	ABNME03041	None	Threatened	G3G4T1	S1	FP
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California least tern *Sternula antillarum browni*	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
California Orcutt grass *Orcuttia californica*	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
California Walnut Woodland *California Walnut Woodland*	CTT71210CA	None	None	G2	S2.1	
chaparral nolina *Nolina cismontana*	PMAGA080E0	None	None	G3	S3	1B.2
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
chaparral sand-verbena *Abronia villosa var. aurita*	PDNYC010P1	None	None	G5T2?	S2	1B.1
cliff spurge *Euphorbia misera*	PDEUP0Q1B0	None	None	G5	S2	2B.2
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
coast patch-nosed snake *Salvadora hexalepis virgultea*	ARADB30033	None	None	G5T4	S2S3	SSC
Coast Range newt *Taricha torosa*	AAAAF02032	None	None	G4	S4	SSC
coast woolly-heads *Nemacaulis denudata var. denudata*	PDPGN0G011	None	None	G3G4T2	S2	1B.2
coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	ABPBG02095	None	None	G5T3Q	S3	SSC
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
coastal whiptail *Aspidoscelis tigris stejnegeri*	ARACJ02143	None	None	G5T5	S3	SSC
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Coulter's saltbush *Atriplex coulteri*	PDCHE040E0	None	None	G3	S1S2	1B.2
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Davidson's saltscale *Atriplex serenana var. davidsonii*	PDCHE041T1	None	None	G5T1	S1	1B.2
decumbent goldenbush *Isocoma menziesii var. decumbens*	PDAST57091	None	None	G3G5T2T3	S2	1B.2
estuary seablite *Suaeda esteroa*	PDCHE0P0D0	None	None	G3	S2	1B.2
ferruginous hawk *Buteo regalis*	ABNKC19120	None	None	G4	S3S4	WL
Gambel's water cress *Nasturtium gambelii*	PDBRA270V0	Endangered	Threatened	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
globose dune beetle *Coelus globosus*	IICOL4A010	None	None	G1G2	S1S2	
grasshopper sparrow *Ammodramus savannarum*	ABPBXA0020	None	None	G5	S3	SSC
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
heart-leaved pitcher sage *Lepechinia cardiophylla*	PDLAM0V020	None	None	G3	S2S3	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
Horn's milk-vetch *Astragalus hornii var. hornii*	PDFAB0F421	None	None	GUT1	S1	1B.1
intermediate mariposa-lily *Calochortus weedii var. intermedius*	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
intermediate monardella *Monardella hypoleuca ssp. intermedia*	PDLAM180A4	None	None	G4T2?	S2?	1B.3
Laguna Beach dudleya *Dudleya stolonifera*	PDCRA040P0	Threatened	Threatened	G1	S1	1B.1
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
light-footed Ridgway's rail *Rallus obsoletus levipes*	ABNME05014	Endangered	Endangered	G5T1T2	S1	FP
long-eared owl *Asio otus*	ABNSB13010	None	None	G5	S3?	SSC
long-spined spineflower *Chorizanthe polygonoides var. longispina*	PDPGN040K1	None	None	G5T3	S3	1B.2
Los Angeles sunflower *Helianthus nuttallii ssp. parishii*	PDAST4N102	None	None	G5TX	SX	1A
Malibu baccharis *Baccharis malibuensis*	PDAST0W0W0	None	None	G1	S1	1B.1
many-stemmed dudleya *Dudleya multicaulis*	PDCRA040H0	None	None	G2	S2	1B.2
mesa horkelia *Horkelia cuneata var. puberula*	PDROS0W045	None	None	G4T1	S1	1B.1
Mexican long-tongued bat *Choeronycteris mexicana*	AMACB02010	None	None	G4	S1	SSC
mimic tryonia (=California brackishwater snail) *Tryonia imitator*	IMGASJ7040	None	None	G2	S2	
monarch - California overwintering population *Danaus plexippus pop. 1*	IILEPP2012	None	None	G4T2T3	S2S3	
mud nama *Nama stenocarpa*	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	AMAFD05031	None	None	G5T3T4	S3S4	SSC
Nuttall's scrub oak *Quercus dumosa*	PDFAG050D0	None	None	G3	S3	1B.1
orange-throated whiptail *Aspidoscelis hyperythra*	ARACJ02060	None	None	G5	S2S3	WL
Orcutt's pincushion *Chaenactis glabriuscula var. orcuttiana*	PDAST20095	None	None	G5T1T2	S1	1B.1
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL
Pacific pocket mouse *Perognathus longimembris pacificus*	AMAFD01042	Endangered	None	G5T1	S1	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
Parish's brittlescale *Atriplex parishii*	PDCHE041D0	None	None	G1G2	S1	1B.1
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
prostrate vernal pool navarretia *Navarretia prostrata*	PDPLM0C0Q0	None	None	G2	S2	1B.2
quino checkerspot butterfly *Euphydryas editha quino*	IILEPK405L	Endangered	None	G5T1T2	S1S2	
red-diamond rattlesnake *Crotalus ruber*	ARADE02090	None	None	G4	S3	SSC
Riverside fairy shrimp *Streptocephalus woottoni*	ICBRA07010	Endangered	None	G1G2	S1S2	
Riversidian Alluvial Fan Sage Scrub *Riversidian Alluvial Fan Sage Scrub*	CTT32720CA	None	None	G1	S1.1	
Robinson's pepper-grass *Lepidium virginicum var. robinsonii*	PDBRA1M114	None	None	G5T3	S3	4.3
salt marsh bird's-beak *Chloropyron maritimum ssp. maritimum*	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
salt spring checkerbloom *Sidalcea neomexicana*	PDMAL110J0	None	None	G4	S2	2B.2
San Bernardino aster *Symphyotrichum defoliatum*	PDASTE80C0	None	None	G2	S2	1B.2
San Diego button-celery *Eryngium aristulatum var. parishii*	PDAPI0Z042	Endangered	Endangered	G5T1	S1	1B.1
San Diego desert woodrat *Neotoma lepida intermedia*	AMAFF08041	None	None	G5T3T4	S3S4	SSC
San Diego fairy shrimp *Branchinecta sandiegonensis*	ICBRA03060	Endangered	None	G2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
San Fernando Valley spineflower *Chorizanthe parryi var. fernandina*	PDPGN040J1	None	Endangered	G2T1	S1	1B.1
San Gabriel chestnut *Glyptostoma gabrielense*	IMGASB1010	None	None	G2	S2	
sandy beach tiger beetle *Cicindela hirticollis gravida*	IICOL02101	None	None	G5T2	S2	
Santa Ana River woollystar *Eriastrum densifolium ssp. sanctorum*	PDPLM03035	Endangered	Endangered	G4T1	S1	1B.1
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	AFCJB3705K	None	None	G5T1	S1	SSC
Santa Ana sucker *Catostomus santaanae*	AFCJC02190	Threatened	None	G1	S1	
south coast saltscale *Atriplex pacifica*	PDCHE041C0	None	None	G4	S2	1B.2
Southern California Arroyo Chub/Santa Ana Sucker Stream *Southern California Arroyo Chub/Santa Ana Sucker Stream*	CARE2330CA	None	None	GNR	SNR	
Southern California legless lizard *Anniella stebbinsi*	ARACC01060	None	None	G3	S3	SSC
southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	ABPBX91091	None	None	G5T3	S3	WL
southern California saltmarsh shrew *Sorex ornatus salicornicus*	AMABA01104	None	None	G5T1?	S1	SSC
Southern Coast Live Oak Riparian Forest *Southern Coast Live Oak Riparian Forest*	CTT61310CA	None	None	G4	S4	
Southern Coastal Salt Marsh *Southern Coastal Salt Marsh*	CTT52120CA	None	None	G2	S2.1	
Southern Cottonwood Willow Riparian Forest *Southern Cottonwood Willow Riparian Forest*	CTT61330CA	None	None	G3	S3.2	
Southern Dune Scrub *Southern Dune Scrub*	CTT21330CA	None	None	G1	S1.1	
Southern Foredunes *Southern Foredunes*	CTT21230CA	None	None	G2	S2.1	
southern grasshopper mouse *Onychomys torridus ramona*	AMAFF06022	None	None	G5T3	S3	SSC
Southern Interior Cypress Forest *Southern Interior Cypress Forest*	CTT83230CA	None	None	G2	S2.1	
Southern Riparian Scrub *Southern Riparian Scrub*	CTT63300CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland *Southern Sycamore Alder Riparian Woodland*	CTT62400CA	None	None	G4	S4	
southern tarplant *Centromadia parryi ssp. australis*	PDAST4R0P4	None	None	G3T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Southern Willow Scrub *Southern Willow Scrub*	CTT63320CA	None	None	G3	S2.1	
steelhead - southern California DPS *Oncorhynchus mykiss irideus pop. 10*	AFCHA0209J	Endangered	None	G5T1Q	S1	
summer holly *Comarostaphylis diversifolia ssp. diversifolia*	PDERI0B011	None	None	G3T2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Tecate cypress *Hesperocyparis forbesii*	PGCUP040C0	None	None	G2	S2	1B.1
thread-leaved brodiaea *Brodiaea filifolia*	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered	None	G3	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
two-striped gartersnake *Thamnophis hammondii*	ARADB36160	None	None	G4	S3S4	SSC
Valley Needlegrass Grassland *Valley Needlegrass Grassland*	CTT42110CA	None	None	G3	S3.1	
wandering (=saltmarsh) skipper *Panoquina errans*	IILEP84030	None	None	G4G5	S2	
western beach tiger beetle *Cicindela latesignata latesignata*	IICOL02113	None	None	G2G4T1T2	S1	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius alexandrinus nivosus*	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western tidal-flat tiger beetle *Habroscelimorpha gabbii*	IICOL02080	None	None	G2G4	S1	
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white rabbit-tobacco *Pseudognaphalium leucocephalum*	PDAST440C0	None	None	G4	S2	2B.2
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
yellow rail *Coturnicops noveboracensis*	ABNME01010	None	None	G4	S1S2	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
yellow warbler *Setophaga petechia*	ABPBX03010	None	None	G5	S3S4	SSC
yellow-breasted chat *Icteria virens*	ABPBX24010	None	None	G5	S3	SSC
Yucaipa onion *Allium marvinii*	PMLIL02330	None	None	G1	S1	1B.2
Yuma myotis *Myotis yumanensis*	AMACC01020	None	None	G5	S4	

Record Count: 128

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*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

45 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3311778, 3311777, 3311776, 3311768, 3311767, 3311766 3311757 and 3311756;

Modify Search Criteria Export to Excel Modify Columns Modify Sort Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Abronia villosa var. aurita	chaparral sand-verbena	Nyctaginaceae	annual herb	(Jan)Mar-Sep	1B.1	S2	G5T2?
Aphanisma blitoides	aphanisma	Chenopodiaceae	annual herb	Feb-Jun	1B.2	S2	G3G4
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	1B.1	S2	G2
Atriplex coulteri	Coulter's saltbush	Chenopodiaceae	perennial herb	Mar-Oct	1B.2	S1S2	G3
Atriplex pacifica	South Coast saltscale	Chenopodiaceae	annual herb	Mar-Oct	1B.2	S2	G4
Atriplex parishii	Parish's brittlescale	Chenopodiaceae	annual herb	Jun-Oct	1B.1	S1	G1G2
Atriplex serenana var. davidsonii	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S1	G5T1
Baccharis malibuensis	Malibu baccharis	Asteraceae	perennial deciduous shrub	Aug	1B.1	S1	G1
Brodiaea filifolia	thread-leaved brodiaea	Themidaceae	perennial bulbiferous herb	Mar-Jun	1B.1	S2	G2
Calochortus weedii var. intermedius	intermediate mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G3G4T2
Centromadia parryi ssp. australis	southern tarplant	Asteraceae	annual herb	May-Nov	1B.1	S2	G3T2
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	Asteraceae	annual herb	Jan-Aug	1B.1	S1	G5T1T2
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct(Nov)	1B.2	S1	G4?T1
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Polygonaceae	annual herb	Apr-Jul	1B.1	S1	G2T1
Chorizanthe polygonoides var. longispina	long-spined spineflower	Polygonaceae	annual herb	Apr-Jul	1B.2	S3	G5T3
	summer holly	Ericaceae	perennial evergreen shrub	Apr-Jun	1B.2	S2	G3T2

Comarostaphylis diversifolia ssp. diversifolia							
Dodecahema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G2
Dudleya stolonifera	Laguna Beach dudleya	Crassulaceae	perennial stoloniferous herb	May-Jul	1B.1	S1	G1
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	Polemoniaceae	perennial herb	Apr-Sep	1B.1	S1	G4T1
Eryngium aristulatum var. parishii	San Diego button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.1	S1	G5T1
Euphorbia misera	cliff spurge	Euphorbiaceae	perennial shrub	Dec-Aug(Oct)	2B.2	S2	G5
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	1A	SH	G5TH
Hesperocyparis forbesii	Tecate cypress	Cupressaceae	perennial evergreen tree		1B.1	S2	G2
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1
Isocoma menziesii var. decumbens	decumbent goldenbush	Asteraceae	perennial shrub	Apr-Nov	1B.2	S2	G3G5T2T3
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2
Lepechinia cardiophylla	heart-leaved pitcher sage	Lamiaceae	perennial shrub	Apr-Jul	1B.2	S2S3	G3
Monardella hypoleuca ssp. intermedia	intermediate monardella	Lamiaceae	perennial rhizomatous herb	Apr-Sep	1B.3	S2?	G4T2?
Nama stenocarpa	mud nama	Namaceae	annual / perennial herb	Jan-Jul	2B.2	S1S2	G4G5
Nasturtium gambelii	Gambel's water cress	Brassicaceae	perennial rhizomatous herb	Apr-Oct	1B.1	S1	G1
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
Nemacaulis denudata var. denudata	coast woolly-heads	Polygonaceae	annual herb	Apr-Sep	1B.2	S2	G3G4T2
Nolina cismontana	chaparral nolina	Ruscaceae	perennial evergreen shrub	(Mar)May-Jul	1B.2	S3	G3
Orcuttia californica	California Orcutt grass	Poaceae	annual herb	Apr-Aug	1B.1	S1	G1
Penstemon californicus	California beardtongue	Plantaginaceae	perennial herb	May-Jun(Aug)	1B.2	S2	G3
Pentachaeta aurea ssp. allenii	Allen's pentachaeta	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G4T1
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4
Quercus dumosa	Nuttall's scrub oak	Fagaceae	perennial evergreen shrub	Feb-Apr(May-Aug)	1B.1	S3	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	May-Oct(Nov)	1B.2	S3	G3

			(emergent)				
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4
Suaeda esteroa	estuary seablite	Chenopodiaceae	perennial herb	(May)Jul-Oct(Jan)	1B.2	S2	G3
Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov(Dec)	1B.2	S2	G2
Verbesina dissita	big-leaved crownbeard	Asteraceae	perennial herb	(Mar)Apr-Jul	1B.1	S1	G1G2

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Appendix J – Abbreviations and Acronyms

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AB	Assembly Bill
ac	acres
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
AMA	Archaeological Monitoring Area
APE	Area of Potential Effects
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
Basin	South Coast Air Basin
BMP	Best Management Practice
BSA	Biological Study Area
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
California Register	California Register of Historical Resources
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	Categorical Exclusion
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CIDH	cast-in-drilled hole
CMS	changeable message sign
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CoSMoS	United States Geological Survey and Coastal Storm Modeling System
County	County of Orange
CTP	California Transportation Plan
dB	decibels

dBA	A-weighted decibels
DOT	United States Department of Transportation
DP-30	Director's Policy 30
DSA	disturbed soil area
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EPA	United States Environmental Protection Agency
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FSTIP	Federal Statewide Transportation Improvement Program
ft	feet
FTIP	Federal Transportation Improvement Program
FY	Fiscal Year
GAIP	General Aviation Improvement Plan
GHG	greenhouse gas
GP	general purpose
GSRD	Gross Solids Removal Device
Guidance Manual	Transportation and Construction Vibration Guidance Manual
GWP	global warming potential
H&SC	Health and Safety Code
HDM	Highway Design Manual
HFCs	hydrofluorocarbons
HFHSZ	High Fire Hazard Severity Zone
HOV	high-occupancy vehicle
HPSR	Historic Property Survey Report
HU	Hydrologic Unit
I-405	Interstate 405
I-5	Interstate 5
in/sec	inches per second

IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
IRWD	Irvine Ranch Water District
IS	Initial Study
ISA	Initial Site Assessment
ITS	Intelligent Transportation Systems
LID	Low Impact Development
LCFS	low carbon fuel standard
L_{max}	maximum instantaneous noise level
LOTB	Log of Test Borings
m	meters
MBGR	metal beam guard rail
MBTA	Migratory Bird Treaty Act
MFHSZ	Moderate Fire Hazard Severity Zone
mi	miles
MLD	Most Likely Descendant
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MT/yr	metric tons per year
$MTCO_2e$	metric tons of carbon dioxide equivalent
MWD	Metropolitan Water District
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NB	northbound
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NMSF	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

NPDES	National Pollutant Discharge Elimination System
NSADR	Noise Study and Abatement Decision Report
OCFA	Orange County Fire Authority
OCSD	Orange County Sanitation District
OCTA	Orange County Transportation Authority
OPR	Office of Planning and Research
PDT	Project Development Team
PF	Project Feature
PLAC	Permits, Licenses, Agreements, and Certifications
PPV	peak particle velocity
PRC	Public Resources Code
project	I-405 Multi-Asset Project
Protocol	Caltrans Traffic Analysis Protocol
PTZ	Pan-Tilt Zoom
RCRA	Resource Conservation and Recovery Act
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
SB	southbound or Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
sf	square feet
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SLF	Sacred Lands File
SLR	sea-level rise
SoCalGas	Southern California Gas
SR-133	State Route 133
SR-55	State Route 55
SR-73	State Route 73

SSD	stopping sight distance
STGA	Significant Trash Generating Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Transportation Analysis for CEQA
TAF	Transportation Analysis Framework
TCE	temporary construction easement
TCWG	Transportation Conformity Working Group
TDM	Transportation Demand Management
TMP	Transportation Management Plan
TMS	Transportation Management Systems
TOAR	Traffic Operations Analysis Report
TSM	Transportation System Management
TWW	treated wood waste
UCI	University of California Irvine
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGCRP	United States Global Change Research Program
VHFHSZ	Very High Fire Hazard Severity Zone
VMT	vehicle miles traveled
WDR	Waste Discharge Requirement
WSE	water surface elevation

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