

# Interstate 40 Bridge Scour Mitigation

SAN BERNARDINO COUNTY, CALIFORNIA  
DISTRICT 08-SBD-40 (PM R100.8/R101.8)  
EA 08-1G830 PN 0816000079

## **Initial Study** **[with Proposed] Mitigated Negative Declaration**



Prepared by the  
State of California Department of Transportation



October 2020

## General Information About This Document

### ***What's in this document:***

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project located in San Bernardino County, California. The document describes the project, the existing environment that could be affected by the project, potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures.

### ***What you should do:***

- We welcome your comments. If you have any concerns about the project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

Shawn Oriaz, Senior Environmental Planner  
California Department of Transportation  
464 W. 4<sup>th</sup> Street, MS 827  
San Bernardino, CA 92401-1400

Submit comments via email to: [I40HalfwayHillsWashBridgeProject@dot.ca.gov](mailto:I40HalfwayHillsWashBridgeProject@dot.ca.gov)

- Submit comments by the deadline: November 25, 2020.

### ***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 appropriated, Caltrans could design and build all or part of the project.

<p>For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Shawn Oriaz, Senior Environmental Planner, 464 W. 4<sup>th</sup> Street, MS 827, San Bernardino, CA 92401 (909) 388-7034; or call the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.</p>
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Retrofit or replace Halfway Hill Wash Bridges on State Route 40, from 1.6 miles east of Essex Road Overcrossing to 5.6 miles west Goffs Road Undercrossing (Postmile R100.8 to Post mile 101.8) in the County of San Bernardino.

**INITIAL STUDY with (Proposed) Mitigated Negative Declaration**

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

THE STATE OF CALIFORNIA  
Department of Transportation

Responsible Agencies: California Transportation Commission

 10/23/2020

David Bricker  
Deputy District Director  
District 8, Division of Environmental Planning  
California Department of Transportation

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

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# **Proposed Mitigated Negative Declaration**

Pursuant to: Division 13, Public Resources Code

## ***Project Description***

The California Department of Transportation (Caltrans) proposes to mitigate the scour underneath the Halfway Hills Wash Bridge (Br #54-799 L/R, Post Mile R100.8/R101.8) on Interstate 40 (I-40). This project is located in the County of San Bernardino near the town of Essex at 1.6 miles east of Essex Road Overcrossing to 5.6 miles west of Goffs Road Undercrossing.

## ***Determination***

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a MND for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change 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 effect on: aesthetics, agriculture and forestry resources, air quality, cultural resources, energy, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, paleontology, population and housing, recreation, traffic and transportation, tribal cultural resources, utilities and service systems, public services, and wildfires.

In addition, the proposed project would have no significantly adverse effect on biological resources, greenhouse gas emissions, hydrology and water quality, and noise because the following mitigation measures would reduce potential effects to insignificance:

## ***Compensatory Mitigation***

The project will require mitigation to comply with the California Department of Fish and Wildlife (CDFW) "no net loss" policy. Pursuant to Section 1600 of the Fish and Game Code, a Lake and Streambed Alteration Agreement would be required from CDFW. The Halfway Hills Wash Bridge is within the Colorado River Basin (Region 7). Under Section 401 of the Clean Water Act, the Regional Water Quality Control Board (RWQCB) must certify that the discharge of dredged or fill material into Waters of the U.S. (WUS) does not violate state water quality standards. Permanent and temporary impacts will be mitigated at a ratio to be determined at a later time. Permanent impacts on federal/state jurisdiction waters are proposed to be mitigated by: purchase or creation credit from a bank; or the acquisition of lands for conservation. For either option, the mitigation required will be determined prior to project impacts and Caltrans will coordinate with the Wildlife Agencies on which mitigation option is optimal and/or available based on the project's timeline. The project will mitigate for temporary impacts through restoration and enhancement of on-site jurisdictional areas. Compensatory mitigation required by the RWQCB and/or CDFW will be determined in coordination with these agencies during the 1602 and 401 permitting processes.

TRF-1, a traffic management plan will be prepared and coordinated with the local emergency responders.

TRF-2, a traffic management plan will be implemented to minimize traffic delays and associated idling emissions during construction.

NOISE-1, Construction will be conducted in accordance with applicable local noise standards and Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications and Special Provisions.

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David Bricker  
Deputy District Director  
District 8, Division of Environmental Planning  
California Department of Transportation

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Date

DRAFT

# Table of Contents

<b>Chapter 1 Introduction</b> .....	1
1.1 Introduction .....	1
1.2 Purpose and Need.....	1
1.3 Alternatives .....	4
1.3.1 No Build Alternative .....	4
1.3.2 Proposed Build Alternative .....	4
1.3.3 Alternatives Considered but Eliminated from Further Discussion Prior to DED.....	4
1.4 Permits and Approvals .....	6
<b>Chapter 2 CEQA Environmental Checklist</b> .....	7
2.1 Aesthetics.....	7
2.2 Agriculture and Forest Resources.....	9
2.3 Air Quality.....	11
2.4 Biological Resources .....	14
2.5 Cultural Resources.....	28
2.6 Energy.....	31
2.7 Geology and Soils.....	32
2.8 Greenhouse Gas Emissions .....	35
2.9 Hazards and Hazardous Materials.....	36
2.10 Hydrology and Water Quality .....	39
2.11 Land Use and Planning.....	44
2.12 Mineral Resources .....	45
2.13 Noise.....	46
2.14 Population and Housing.....	48
2.15 Public Services .....	49
2.16 Recreation.....	51
2.17 Transportation/Traffic .....	52
2.18 Tribal Cultural Resources.....	54
2.19 Utilities and Service Systems .....	55
2.20 Wildfires .....	56
2.21 Mandatory Findings of Significance .....	57
<b>Chapter 3 Climate Change</b> .....	58
Regulatory Setting .....	58
Environmental Setting .....	61
Project Analysis .....	64
<b>Chapter 4 Comments and Coordination</b> .....	74
<b>Chapter 5 List of Preparers</b> .....	75
<b>Chapter 6 Distribution List</b> .....	76
<b>Appendix A Title VI Policy Statement</b> .....	77
<b>Appendix B Avoidance, Minimization and/or Mitigation Summary</b> .....	78
<b>Appendix C Federal Transportation Improvement Project</b> .....	90
<b>Appendix D List of Technical Studies</b> .....	91

# **Chapter 1 Introduction**

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## **1.1 Introduction**

The California Department of Transportation (Caltrans) proposes to mitigate the scour underneath the Halfway Hills Wash Bridge on Interstate 40 (I-40) by retrofitting the north and south bridges with outrigger bents or replace the existing bridges. The project is at Post Mile (PM) R100.8/R101.8 in San Bernardino County, near Essex.

This project is included in the 2019 Federal Transportation Improvement Program (FTIP) and is proposed for funding from the SHOPP program (State Highway Operation and Protection Program) under 201.111 /HA-21 Program for delivery in the 2021/2022 Fiscal Year.

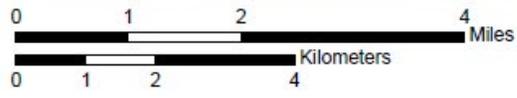
## **1.2 Purpose and Need**

### **1.2.1 Purpose**

The purpose of the proposed project is to preserve the structural integrity of the Halfway Hills Wash Bridge (Br #54-799 L/R) on I-40 at PM 101.3 to prevent bridge failure.

### **1.2.2 Need**

Structural Maintenance and Investigation discovered local pier scour was occurring at specific bent locations underneath the Halfway Hills Wash Bridges. The scour occurrences are undermining the structural integrity of the bridges. If left unmitigated, the structures will continue to deteriorate and lead to failure.



**Project Vicinity Map**  
 Bridge Scour Mitigation  
 EA 08-1G830 PN: 0816000079  
 SBD I-40 Postmile 101.3

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## **1.3 Alternatives**

This section describes the project alternatives that were studied. The alternatives are the Proposed Build Alternatives and the No-Build Alternative.

### **1.3.1 No Build Alternative**

Under the No Build Alternative (Alternative 4), the existing facility would remain as it exists now. No improvement to the safety of the traveling public would be constructed. This alternative would not satisfy the purpose and need.

### **1.3.2 Project Alternatives**

#### **Alternative 2 – Retrofit with Outrigger Bents**

Alternative 2 would retrofit the existing north and south bridges by adding an outrigger bent, having a 5'x4' bent cap and two 36" diameter Cast-In-Drilled-Holed (CIDH) piles, at a depth of 40' at each of the existing 13 bent locations. Each bent will extend 5 feet from each side of the existing deck edges. The existing bridge deck will be widened from 41' to 42.5' (9" on each side of the structure), to accommodate railing upgrade while maintaining the existing lane configuration.

In addition, the existing rock slope protection (RSP) at the bottom of the creek and abutment slope will be removed and reconstructed. RSP will only be placed at the abutments and no RSP will be placed at the bents. The RSP work limit would extend approximately 100' in the upstream and downstream direction of the bridges along the abutment slope banks and between the bridges.

Temporary unpaved access roads will be constructed from the freeway shoulder into the wash for material delivery and personal equipment access during construction. The construction limits begin at PM 101.2 and end at PM 101.5 on I-40.

The capital cost for this alternative is estimated at \$17,700,000. The estimated number of working days would be 230. If there are any changes to the project design, or if regulatory agency findings necessitate compensatory mitigation, the cost would be added to this estimate.

#### **Alternative 3 - Bridge Replacement**

Under Alternative 3, it is proposed to replace the existing Halfway Hills Wash Bridges (Br # 54-799 L/R) with new structures. The new structures would be supported on up to 6 bents, on three 36" CIDH pile extensions with temporary steel casings, at a depth of 40'. The deck of the new bridges would be 42.5' wide to accommodate Type 836 railing and the existing lane configuration. Temporary Median crossovers will be constructed to transfer traffic off bridges while under construction. This work would include grading of the median to accommodate the cross overs and regrading of the streambed or re-profiling of the freeway to provide adequate vertical clearance between the bottom of the bridge deck and the waterline of the wash. The construction limits begin at PM 100.8 and end at PM 101.8.

The existing rock slope protection at the bottom of the wash and abutment slope will be removed and reconstructed. The RSP work limit would extend approximately 100' in the upstream and downstream direction of the bridges along the abutment slope banks and between the bridges.

In order to accommodate the 100-year flood flow Halfway Hills Wash would be graded to a depth of 2' below the existing ground surface. The estimated number of working days would be 450 days.

The capital construction cost for this alternative would be estimated at \$14,597,000.

### **1.3.3 Alternatives Considered but Eliminated from Further Discussion Prior to Draft Initial Study**

#### **Alternative 1 – Retrofit Existing Bridge footing with Micro piles**

Under Alternative 1, it is proposed to retrofit the existing bridge footings by adding micro piles to the existing foundations. Each of the 78 bent column foundations for the north and south bridge footings would be retrofitted by increasing the size of the existing spread footings and converting the spread footing into pile caps supported by four 10" micro piles, at a depth of 30 feet. The existing bridge deck would be widened from 41' to 42.5' (9" on each side of the structure), to accommodate upgrading railing from Type 9 to Type 836, while maintaining the existing lane configuration. The construction limits begin at PM 101.2 and end at PM 101.5 on I-40.

The existing rock slope protection at the bottom of the wash and abutment slope would be removed and reconstructed. The RSP work limit would extend approximately 100' in the upstream and downstream direction of the bridges along the abutment slope banks and between the bridges. The estimated number of working days would be 245 working days.

The capital construction cost for this alternative would be estimated at \$10,293,000.

**Table 1. Alternatives**

<b>Alternatives</b>	<b>Working Days</b>	<b>Cost</b>	<b>Analysis</b>
<b>Alt. 1:</b> Retrofit Existing Bridge Footings with Micropiles	245 Working Days	\$10,293,000	This alternative would not be feasible because micropiles cannot be used in soils that are susceptible to liquefaction or scour. The minimum 6 foot clearance would also pose a challenge during construction.
<b>Alt. 2:</b> Retrofit with Outrigger Bents	230 Working Days	\$17,700,000	This alternative would meet the purpose and need of the project to mitigate the scour at the bridge structure. Environmental and traffic impacts would be minimized with this alternative. Excavation and grading would not be required to meet the existing freeboard level requirement. A detour is not needed and the existing structure would be utilized for traffic staging during construction.

<b>Alternatives</b>	<b>Working Days</b>	<b>Cost</b>	<b>Analysis</b>
<b>Alt. 3:</b> Bridge Replacement	450 Working Days	\$14,597,000	This alternative would meet the purpose and need of the project to mitigate the scour at the bridge structure. Temporary median crossovers will be constructed to detour traffic off bridges while under reconstruction. Temporary grading of the median is needed to accommodate crossovers and reprofiling the freeway to provide adequate freeboard and roadway pavement.
<b>Alt. 4:</b> No Build Alternative	0 Working Days	\$0	The No Build Alternative would not satisfy the purpose and need of the proposed project.

## 1.4 Permits and Approvals

**Table 2. Permits and Approvals**

<b>Agency</b>	<b>Permits</b>	<b>Status</b>
California Department of Fish & Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement	Application for the 1602 Agreement will occur during the Final Design phase of the project. The project will not proceed to construction before receiving the 1602 Agreement.
California Department of Fish & Wildlife (CDFW)	2081 Incidental Take Permit	Application for the 2081 Agreement will occur during the Final Design phase of the project. The project will not proceed to construction before receiving the 2081 Agreement.
Regional Water Quality Control Board (RWQCB)	401 Permit	Application for the 401 Permit will occur during the Final Design phase of the project. The project will not proceed to construction before receiving the 401 Permit.
US Army Corps of Engineers (USACE)	Approved Jurisdictional Determination	The Jurisdictional Determination will be approved during the Final Design phase of the project. The project will not proceed to construction before approval.
US Fish and Wildlife (USFWS)	Programmatic Biological Opinion	The Programmatic Biological Opinion has received concurrence from the USFWS.

# Chapter 2 CEQA Environmental Checklist

08-SBd-40

R100.8/R101.8

0816000079

Dist.-Co.-Rte.

P.M/P.M.

Project ID#

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 will indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed 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.

## 2.1 Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
--	--------------------------------------	--	------------------------------------	--------------

Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

## Regulatory Setting

The California Environmental Quality Act (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” (CA Public Resources Code [PRC] Section 21001[b]).

## CEQA Significance Determinations for Aesthetics

**a) No Impact:** According to the Visual Impact Assessment (VIA), completed on April 28, 2020, the proposed project will not have an impact on a scenic vista because

there would not be a noticeable change to the existing environment. Therefore, proposed project would have no impact.

**b) No Impact:** I-40 is not designated as a state scenic highway (Caltrans 2011<sup>1</sup>) and there are no designated scenic highways within the project limits. Most of the land along I-40 is undeveloped desert lands with a few rural communities, with the exception of the cities of Barstow and Needles that have residential communities near the route. The proposed project site would not damage any scenic resources or historic buildings. As such, there would be no impact.

**c) No Impact:** The existing visual character or quality of the site and its surroundings would remain the same as existing conditions; therefore, the project would not substantially degrade the area.

**d) No Impact:** The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

#### **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for aesthetics.

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<sup>1</sup> "Officially Designated State Scenic Highways," *California Dept. of Transportation*, 2011, [http://www.trpa.org/documents/rseis/3.9%20Scenic/3.9\\_Caltrans%202010\\_Officially%20Designated%20Scenic%20Highways.pdf](http://www.trpa.org/documents/rseis/3.9%20Scenic/3.9_Caltrans%202010_Officially%20Designated%20Scenic%20Highways.pdf). Accessed 8/27/2019.

**2.2. Agriculture and Forest Resources**

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

The California Environmental Quality Act (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.

**CEQA Significance Determinations for Agriculture and Forest Resources**

**a) No Impact:** According to the California Department of Conservation Map, there are no farmlands or vacant land mapped as Prime Farmlands, Unique Farmlands, Farmlands of Statewide Importance, or Farmlands of Local Importance within the vicinity.

**b) No Impact:** There are no Williamson Act parcels located within the project area.

c) **No Impact:** There are no forest lands, timberlands, or timberland production areas adjacent to or within the project site. The project area would not conflict with existing zoning for, or cause rezoning of forest land, timberland, or timberland zoned Timberland Production.

d) **No Impact:** The proposed project would not result in the loss or conversion of forest land.

e) **No Impact:** The project would not result in the conversion of farmland to non-agricultural use or forest land to non-forest use.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for agricultural and forest resources.

### 2.3 Air Quality

<p><b>AIR QUALITY:</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</p>	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM<sub>10</sub>) and particles of 2.5 micrometers and smaller (PM<sub>2.5</sub>)—and sulfur dioxide (SO<sub>2</sub>). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

## CEQA Significance Determinations for Air Quality

**a) No Impact:** The proposed project is located in the western portion of the Mojave Desert Air Basin (MDAB). The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over the project area and is responsible for bringing the Basin into attainment for federal and state air quality standards. To achieve this goal, MDAQMD prepares plans for the attainment of air quality standards, as well as maintenance of those standards once achieved. This project is not a capacity-increasing transportation project. It will have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the very short duration of project construction. Therefore, the proposed project will 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. Impacts will be less than significant. No mitigation is required.

The proposed project is included in the 2019 Federal Transportation Improvement Program (FTIP) from the *2019 Grouped Project Detailed Backup Listings* on the Southern California Associated of Governments (SCAG) website (Appendix C).

As such, the proposed project would have no impacts.

**b) No Impact:** The project is listed under Table 2, Hazard Elimination Program. Therefore, it is exempt from air emissions analyses. Since the project would not increase the number of travel lanes on I-40, no increase in vehicle miles traveled (VMT) would occur as result of project implementation, and traffic volumes would be the same under the Project Alternatives and No-Build Alternative. Therefore, the proposed project would not increase roadway capacity on the various routes and would not increase emissions of criteria pollutants and their precursors following the construction period. No operation impacts related to violation of air quality standards would occur.

**c) No Impact:** As discussed above, project construction would generate criteria pollutants and their precursors. However, such emissions would be short term and transitory, and fugitive dust would be limited. No net increase in operational emissions would occur, traffic volumes would be the same under the Project Alternatives and No-Build Alternative. The project would result in short-term generation of emissions, but no increases would occur for project operation and no impacts related to a cumulatively considerable net increase of any criteria pollutant.

**d) No Impact:** No impacts related to exposure of sensitive receptors to substantial pollutant concentration would occur. California Air Resources Board (CARB)

characterizes sensitive land uses as simply as possible by using the example of residences, playgrounds, and medical facilities. However, there are none of these sensitive receptors in the nearby vicinities<sup>2</sup>.

e) **No Impact:** According to the CARB, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. Because the project would not include any of these types of uses, and no sensitive land uses are located along the alignment, no impacts would occur.

#### **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for agricultural and forest resources.

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<sup>2</sup> California Environment Protection Agency, California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective (2005), Page 2.  
[www.arb.ca.gov/ch/landuse.htm](http://www.arb.ca.gov/ch/landuse.htm)

## 2.4 Biological Resources

<b>BIOLOGICAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## WETLANDS AND OTHER WATERS

### Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral

limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain

circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request.

## **PLANT SPECIES**

### **Regulatory Setting**

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA).

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

## **ANIMAL SPECIES**

### **Regulatory Setting**

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

## **THREATENED AND ENDANGERED SPECIES**

### **Regulatory Setting**

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under

Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

## **INVASIVE SPECIES**

### **Regulatory Setting**

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

## CEQA Significance Determinations for Biological Resources

### a) Less than Significant with Mitigation:

#### *Special-Status Plant Species*

The USFWS Information Planning and Consultation (IPaC) list and California Natural Diversity Database (CNDDDB) inventory database indicate that three special-status plant species have the potential to occur within the region surrounding the Biological Study Area (BSA) based on the USGS 7.5-minute quadrangles in which the project is located. The three plant species include Clokey's cryptantha, Abrams' spurge, and Eliasson's wooly tidestromia. No sensitive or rare plant species were found in the project area during the April – May 2019 plant survey.

Suitable habitat for Clokey's cryptantha and Eliasson's wooly tidestromia is not present within the BSA, as it is below the species elevational limits. Therefore, the project will have no potential to directly impact these species.

Suitable habitat for Abrams' spurge may be present in the BSA and Project Impact Area (PIA). This species blooms primarily in September – October and may have been present but not detectable during the Amec (2019b) plant surveys. Clearing, grubbing, and construction equipment has the potential to impact these special-status plant species.

In order to ensure no impacts occur on special-status plant species measures BIO 1 – BIO 4 will be implemented.

#### *Habitats and Natural Communities of Special Concern*

According to the CDFW CNDDDB, no Natural Communities of Concern were identified in the CNDDDB query as having potential to occur within the region surrounding the BSA.

Since there is no suitable habitat in the BSA for Natural Communities of Concern, the project will not impact Natural Communities of Concern.

#### *Special-Status Animal Species*

No special-status avian species were identified in the CNDDDB or IPaC queries as having the potential to occur within the region surrounding the BSA, based on the USGS 7.5-minute quadrangles in which the project is located. No burrowing owls or signs of them were observed during the survey (Amec 2019b). No burrows or burrow surrogates capable of supporting burrowing owls were found in the project area.

Suitable habitat for nesting birds may be present in the BSA and PIA. There is potential for swallow to use the underneath side of the bridge for nesting. Construction noise and lighting have the potential to impact nesting birds.

The project will implement avoidance and minimization measures on BIO-1, BIO-2, BIO-3, and BIO-5 to ensure the project will not impact nesting birds.

### ***Amphibian Species***

Query results from the USFWS IPaC list and CNDDDB inventory database indicate that no special-status amphibian species have the potential to occur within the region surrounding the BSA, based on the USGS 7.5-minute quadrangles in which the project is located.

The project would not impact special-status amphibian species.

### ***Reptile Species***

One State and Federal special-status reptile species, the desert tortoise, has the potential to occur within the region surrounding the BSA, based on the USFWS IPaC list and CNDDDB inventory database within the USGS 7.50-minute quadrangles in which the project is located. The entire BSA falls within desert tortoise critical habitat.

During the Amec (2019a) desert tortoise protocol surveys, one live desert tortoise was observed on the south shoulder of the east bound I-40 at approximately PM 103.9. This was a large adult male tortoise not associated with a burrow. The only other tortoise sign detected during the survey were four class-five carcasses, or fragments thereof (only one of which was in the 1G830 BSA, at approximately PM 102.2). No definitive desert tortoise tracks, eggshell fragments, drinking depression, courtship rings, scat, burrows, or pallets were detected. Based on the observation of the live adult tortoise sign within the median, desert tortoise is considered present within the project area.

Amec (2019a) noted that desert tortoise proof fencing has been installed on the north and south of the I-40 ROW from PM R108.0 through PM R125.0. There is no permanent desert tortoise fence on the ROW from PM 100.0 - 108.0.

Suitable habit for desert tortoise and desert tortoise critical habitat is present in the BSA and PIA. Clearing, grubbing, and construction equipment have the potential to impact this species.

To ensure that the project will not impact the desert tortoise, avoidance and minimization measures will be implemented. Avoidance and minimization measures BIO-1, BIO-2, BIO-3, BIO- 6, BIO-7, BIO-8, BIO-9, BIO-10, BIO-11, BIO-12, and BIO-13 will be implemented.

### ***Compensatory Mitigation for Desert Tortoise***

Compensatory mitigation for desert tortoise would be required for implementation of the project. Permanent impacts (0.964 acres) to desert tortoise critical habitat will be mitigated at a minimum 1:1 ratio by land purchase or in lieu fee credit purchase. Caltrans will submit a 2081 Incidental Take Permit application and translocation plan for potential impacts to desert tortoise. The final mitigation requirements and ratio will be determined in coordination and negotiation with CDFW through the 2081 permitting process. Unauthorized take of the desert tortoise and desert tortoise critical habitat can be avoided by implementing the conservation measures specified in the Programmatic Biological Order (PBO) (8-8-13F-0279), for which Caltrans has received concurrence from the U.S. Fish and Wildlife Service.

### ***Mammalian Species***

One State and/or Federal special-status mammal species, the desert bighorn sheep, has the potential to occur within the region surrounding the BSA, based on the wildlife database queries within the USGS 7.5-minute quadrangles in which the project is located.

Apart from a few small smoke trees (*Psoralea argophylla*), catclaw (*Senegalia greggii*), and one blue palo verde (*Parkinsonia florida*); the survey site generally lacked trees of sufficient stature and foliage density to support tree-roosting bat species (Amec 2019b). It should be noted that most tree-roosting bat species such as hoary bat (*Lasiurus cinereus*) generally migrate through the Mojave Desert, and as such are only likely to constitute a transitory presence in this habitat. No tree-roosting bats were observed on the survey.

The survey site lacked large boulders or rock outcrops with crevices for roosting, favored by crevice-roosting species such as western pipistrelle (Amec 2019b). The Amec biologists concentrated on the several highway bridges that span the various drainages that cross the alignment. None of the bridges had seams, cracks, or holes that could potentially support roosting bats. No bats or their signs were observed under or on any of the bridges in the project alignment.

During the desert tortoise protocol surveys, Amec (2019a) documented sign (i.e., scat) of desert kit fox. Suitable habitat for desert bighorn sheep may be present in the BSA and PIA. Grading and construction equipment have the potential to impact these species. Suitable bat roosting habitat (i.e., trees) may be present within the PIA. Construction noise, lighting, and tree removal have the potential to impact bat species.

To ensure that the project will not impact special-status mammal species, avoidance and minimization measures will be implemented. Avoidance and minimization measures for the special-status species with suitable habitat within the

project area will include BIO-1, BIO-2, BIO-3, BIO-14, BIO-15, BIO-16, and BIO-17.

### ***Insect Species***

According to the queries of the USFWS IPaC list and CNDDDB inventory database within the USGS 7.5-minute quadrangles in which the project is located, no special-status insect species were identified as having potential to occur within the regions surrounding the BSA.

### ***Fish Species***

No special-status fish species were identified in the CNDDDB or IPaC queries as having the potential to occur within the region surrounding the BSA, based on the USGS 7.5-minute quadrangles in which the project is located.

### ***Crustacean Species***

Query results from the USFWS IPaC list and CNDDDB inventory database indicate that no special-status crustacean species have the potential to occur within the region surrounding the BSA, based on the USGS 7.5-minute quadrangles in which the project is located.

- b) Less than Significant with Mitigation:** A 1602 Streambed Alteration Agreement is required for all activities that alter streams and lakes and their associated riparian habitat. The project will require mitigation to comply with the CDFW “no net loss” policy. Pursuant to Section 1600 of the Fish and Game Code, a Lake and Streambed Alteration Agreement (LSAA) would be required from the CDFW. The project occurs within the Colorado River Basin RWQCB (Region 7). Under Section 401 of the CWA, the RWQCB must certify that the discharge of dredged or fill material into WUS does not violate state water quality standards. Compensatory mitigation required by the RWQCB and/or CDFW will be determined in coordination with CDFW and RWQCB during the 1602 and 401 permitting process.

No Natural Communities of Concern were identified in the CNDDDB query as having the potential to occur within the region surrounding the BSA, based on the USGS 7.5-minute quadrangles in which the project is located. Therefore, the project would not impact Natural Communities of Concern.

- c) No Impact:** The section of the Halfway Hills Wash that is within the BSA is Riverine habitat that is classified as R5UBF [R=System Riverine, 5= Subsystem Unknown Perennial, UB= Unconsolidated Bottom, and F = Water Regime Semi permanently Flooded].

The project site contains a braided channel feature under the Halfway Hills Wash Bridge within the rip-rap levees. There are two channel sections along the eastern riprap levee north of I-40 and in the center of the wash south of I-40 which showed evidence of established bed and bank but did not have any evidence of ordinary

high-water mark (OHWM). These channels are likely part of an old channel within which water has not recently flowed due to changes in upstream hydrology. Flows are restricted by riprap levees on the east and west of the undercrossing. There are two culverts that would allow any sheet flow from the median or the north side of the I-40 to be connected to the wash. Those culverts were located entirely in upland areas and were not associated with any features with bed and bank or OHWM. The Jurisdictional Delineation Map from the NES, identify all observed on-site jurisdictional drainages. The OHWM within the drainages ranged from 6-29 ft. and sample locations and widths are labeled.

The drainages within the survey area flow into an isolated dry lake bed (Cadiz Dry Lake) south of the project site. The drainages do not connect with any relatively permanent water or traditionally navigable waterway and may not be USACE jurisdictional. Pending final determination by USACE, a 404 permit should not be required.

- d) No Impact:** The project area is outside of the NOAA Fisheries jurisdictional area. There is no suitable aquatic habitat for special-status fish species in the BSA. Therefore, the proposed project has no potential to impact special-status fish species or NOAA Fisheries-protected resources.
- e) No Impact:** The proposed project would not conflict with any local policies or ordinances protecting biological resources. Therefore, the proposed project will have no impact.
- f) No Impact:** Project implementation would not conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there would be no impact.

### ***Avoidance and Minimization Measures***

**BIO-1 Biological Monitor:** A qualified contractor-supplied biologist will be designated to oversee compliance of all protective measures and will monitor all construction-related activities. The biological monitor will notify the resident engineer of project activities that may not be in compliance. The resident engineer will stop work until the protective measures are implemented fully.

**BIO-2 Worker Environmental Awareness Training:** A qualified contractor-supplied biologist will present a worker environmental awareness training to each employee (including temporary, contractors, and subcontractors) prior to the initiation of work. They will be advised of the special status species in the project area, the steps to avoid impacts to the species, and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, and their sensitivity of the species to human activities; legal protection afforded these species, including penalties for violations of Federal and State laws, reporting

requirements; and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs. Included in this program will be a handout with descriptions and color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the office(s) of the contractor and resident engineer, as well as all construction field offices and on all information boards, where they will remain through the duration of the project. The contractor, resident engineer, and the qualified biologist will be responsible for ensuring that employees are aware of the special status species that may be present, and what actions, if any, are needed if any of those species are found during project implementation. If additional employees are added to the project after initiation, they will receive instruction prior to working on the project. All onsite personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel employed for a project will be required to participate in an education program regarding the desert tortoise before performing on-site work. The program will consist of a class presented by an authorized biologist or a video, provided the authorized biologist is present to answer questions. Wallet-sized cards or a one-page handout with important information for workers to carry are recommended as a future reference and a reminder of the program's content. The desert tortoise program will cover the following topics at a minimum:

- The distribution, general behavior, and ecology of the desert tortoise;
- Its sensitivity to human activities;
- The protection it is afforded by the Endangered Species Act;
- Penalties for violations of State and Federal laws;
- Notification procedures by workers or contractors if a tortoise is found in a construction area, and;
- Protective measures specific to each project.

**BIO-3 Equipment Staging:** Equipment, vehicles, and materials staged and stored in Caltrans right-of-way will be sited in previously paved or previously disturbed areas only and will avoid native vegetation. Approval of additional staging areas will require the Caltrans Biologist to analyze project impacts and provide authorization for additional staging areas.

**BIO-4 Rare Plant / Host Plant Pre-Construction Clearance Survey, Flagging, and Fencing:** No more than one week prior to ground breaking activities, a qualified contractor supplied biologist must perform a pre-construction survey for rare plant species and rare insect host plants. Should any rare plants or rare insect host plants be found, individuals will be flagged for clear identification to ensure they are visible to construction personnel for avoidance. Should multiple plants in a single location be found, the groupings will be fenced with environmentally sensitive area temporary fencing.

**BIO-5 Pre-Construction Clearance/Nesting Bird Survey:** If construction occurs within the bird nesting season (February 1 to September 30), then pre-construction

surveys will be conducted by a qualified contractor supplied biologist to locate and avoid nesting birds. If an active nest is located, a 300-foot no-construction buffer (500-foot buffer for raptors) will be put in place until nesting has ceased or the young have fledged.

**BIO-6 Pre-Construction Desert Tortoise Survey:** Immediately prior to the start of ground disturbing activities, and prior to the installation of any desert tortoise exclusion fencing, clearance surveys for the desert tortoise will be conducted by the biologist. The entire project area will be surveyed for desert tortoise and their burrows by the contractor-supplied biologist prior to the start of any ground-disturbing activities.

**BIO-7 Temporary Desert Tortoise Fencing:** Temporary exclusion fencing will be installed outlining the perimeter of any construction staging, storage, or batch plant areas to prevent entry by desert tortoises into the work site. Exclusion fencing will be installed following Service guidelines (2017) or more current protocol. The biologist must check the fencing daily and make any necessary repairs should it become damaged.

**BIO-8 Desert Tortoise Under Vehicles and/or Equipment:** The contractor-supplied biologist and project personnel shall carefully check under parked vehicles and equipment for desert tortoises before any of the vehicles or equipment can be moved.

**BIO-9 Desert Tortoise in Work Area:** Desert tortoises will be removed by the authorized biologist according to guidelines set forth by USFWS in the Biological Opinion to a translocation site within 300 meters north or south of the right-of-way. The release will be in an area with enough shrub cover and rocky terrain that the desert tortoise has immediate access to shelter. Caltrans will describe the complete circumstances of the translocation in its final report to USFWS.

**BIO-10 Injured or Dead Desert Tortoise:** The contractor-supplied biologist (authorized biologist) will inform USFWS and CDFW of any injured or dead desert tortoises (and other special status species) found on site (verbal notification within 24 hours and written notification within 5 days). Caltrans will ensure that injured desert tortoises are transported immediately to a qualified veterinarian for treatment.

**BIO-11 Desert Tortoise Monitoring Reports:** The contractor-supplied biologist will conduct daily on-site monitoring and submit a weekly monitoring report for desert tortoises (and additional special status species) during construction.

**BIO-12 Speed Limits in Desert Tortoise Habitat:** Except on maintained public roads designated for higher speeds or within desert tortoise-proof fenced areas, driving speeds will not exceed 20 miles per hour through potential desert tortoise habitat on unpaved roads.

**BIO-13 Desert Tortoise Predation Prevention:** To preclude attracting predators, such as the common raven (*Corvus corax*) and coyotes (*Canis latrans*), food-related trash items will be placed in covered refuse cans and removed daily from the work sites and disposed of at an appropriate refuse disposal site. Workers are prohibited from feeding any and all wildlife.

**BIO-14 Pre-Construction Survey and Monitoring by a Qualified Bat Biologist:** Prior to construction start, a qualified bat biologist will conduct a survey to determine if bats are roosting on any of the bridges or in the trees proposed for removal. If work on bridges or removal of trees that support bat roosting during the bat maternity season (April 1- April 31) cannot be avoided, a qualified contractor supplied bat biologist will perform a humane eviction/exclusion of roosting bats in the fall (September or October) before initiation of construction. The exclusionary material will be inspected regularly and maintained during construction activities and will be removed at the completion of construction.

**BIO-15 Pre-Construction Survey and Monitoring by a Qualified Kit Fox Biologist:** A qualified contractor supplied biologist will conduct pre-construction surveys for desert kit fox within the project site and biological study area boundaries no more than 30 days prior to commencement of ground-breaking activities. Dens will be classified as inactive, potentially active, or definitely active. Should dens be deemed active, additional surveys will be required (see BIO-16). If desert kit fox is found, the following measures may be required.

**BIO-16 Desert Kit Fox Den Complex Monitoring, Passive Relocation, and Stop Work Restriction:** All desert kit fox den complexes in the project site identified as potentially active or definitely active will be monitored in accordance to CDFW guidelines. If once the monitoring is concluded, no desert kit fox tracks are found at the burrow entrance, or no photos of the target species using the den are observed, the den can be excavated and backfilled by hand. If a den is identified as being active, it must further be classified as non-natal or natal den. Potential natal den complexes are to be monitored for a minimum of three additional days using infrared wildlife cameras and/or tracking medium to determine their status. If the den complex is determined to be natal during the denning period (February – June), a 200-foot-non-disturbance buffer zone will be established surrounding natal dens, and monitoring by infrared cameras or weekly visits by a qualified contractor supplied biologist will continue until it has been determined in consultation with the BLM and CDFW. If the den complex within the project site is determined to be non-natal, passive hazing techniques will be used to discourage desert kit fox from using the den complex. Desert kit fox must be excluded from all den complexes within the project site portion of the Project disturbance area. Inactive dens that are within the project site, will immediately be excavated by hand and backfilled to prevent reuse by desert kit fox. If tracks or desert kit fox is captured in camera photos, then various passive hazing techniques will be implemented to deter desert kit fox from using the den complex. If desert kit fox are present and passive relocation techniques fail, the BLM and CDFW will be contacted to explore other relocation options such as trapping.

If during construction activities a desert kit fox is within the project site, all construction activities shall stop, and the contracted supplied biologist shall be notified. Consultation with resource agencies may be required, as appropriate.

**BIO-17 Animal Entrapment Avoidance:** To prevent inadvertent entrapment of desert kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood (or similar materials) or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.

## 2.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Regulatory Setting

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way

### CEQA Significance Determinations for Cultural Resources

- a) **No Impact.** According to the *Historic Property Survey Report for EA 1G830* completed on November 5, 2019 for this project, there are cultural resources within the AOE that were previously determined not eligible for inclusion in the National Register of Historic Places (NRHP) and/or not eligible for registration as a California Historical Landmark (CHL) with State Historic Preservation Officer (SHPO) concurrence and those remain valid. Although the project is expected to have no impact, an Archaeological Monitor would be present during construction

sign placement and removal activities. An ESA fence would be installed at PM 103 to ensure that the archaeological resources would not be affected. Therefore, there would be no impacts on historic properties.

- b) **No Impact.** Caltrans, pursuant to Section 106 PA Stipulation X.B.2 and if applicable PRC 5024 MOU Stipulation X.B.2 has determined a Finding of No Adverse Effect (without Standard Conditions) is appropriate for this undertaking and requests SHPO's concurrence in this determination. Therefore, there will be no impacts.
- c) **No Impact.** On February 23, 2019, the Native American Heritage Commission (NAHC) was contacted, requesting a search of the Sacred Lands File and a list of Native American contacts. A response was received from the NAHC on February 25, 2019 stating that the Sacred Lands File did not contain information regarding the presence of cultural resources within the project area. However, standard Caltrans design features would be included in the project in the event that any inadvertent discoveries are encountered.

*Assembly Bill 52*

AB 52 consultation was initiated in February of 2019. Caltrans contacted Twenty-Nine Palms Band of Mission Indians. The Tribe responded on April 22, 2019 and requested a copy of the cultural report and summary of total ground disturbance for the project. A copy of the final ASR was sent to the Tribe upon its completion on October 31, 2019. A separate letter was received December 2, 2019 requesting Native American monitoring by the tribe wherever an Archaeological monitor is present. A monitoring denial letter was sent to the Tribe December 20, 2019.

Caltrans contacted the Chemehuevi Indian Tribe, Colorado River Indian Tribe, and Fort Mojave Indian Tribe. Caltrans did not receive a response.

**Avoidance, Minimization, and/or Mitigation Measures**

**CR-1:** If buried cultural resources are encountered during Project Activities, it is Caltrans policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.

**CR-2:** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California PRC Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC who will then notify the Most Likely Descendant. At this time, the person who discovered the remains will contact Andrew Walters, Senior Environmental Planner, Cultural Studies [(909) 383-2647] or Gary Jones, District Native American Coordinator [(909) 383-7505] so that they may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

**CR-3:** Archaeological monitors shall be present during any construction or preconstruction-related activity in all areas designated as Archaeological Monitoring Areas. In the event that cultural deposits are uncovered, the archaeological monitor shall be empowered to implement protective measures outline above in CR-1.

**CR-4:** The portions of Site CA-SBR-12917H / P36-014404 (Camps Clipper and Essex) lying within the APE shall be designated as Environmentally Sensitive Areas, where all project- related activities or inadvertent disturbances shall be prohibited. The designation of Environmentally Sensitive Areas (ESAs) will protect the site. The establishment of the ESA will be in accordance with the ESA Action Plan.

**CR-5:** 5 business days prior to the start of construction activities, District 8 Environmental Branch Chief must be contacted and informed of the start day and time of the planned construction activities. This is to ensure an archaeological monitor will be available and onsite for monitoring within the Archaeological Monitoring Area during construction. See responsible parties for contact information.

**2.6 ENERGY**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for ENERGY**

**a) No Impact:** Caltrans implements best management practices (BMP’s) to prevent wasteful consumption of resources during construction or operation. The proposed project would have no impact.

**b) No Impact:** The proposed project does not conflict with any known state or local plan for renewable energy or energy efficiency. Therefore, there would be no impacts.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for energy.

TRF-1, a traffic management plan will be implemented to minimize traffic delays and associated idling emissions during construction.

## 2.7. GEOLOGY AND SOILS

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Regulatory Setting

Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will

determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities.

### **CEQA Significance Determinations for Geology and Soils**

**a i), aiii) No Impact:** According to the California Department of Conservation Earthquake Zones of Required Investigation Maps, the proposed project location is not in an Alquist-Priolo Earthquake Fault Zone. No impacts would occur.

**a ii) No Impact:** The nearest recently active fault is within the Lavic Lake fault zone that is approximately 60 miles west of the project. All Caltrans projects follow the Standard procedures regarding seismic design to avoid or minimize any significant impacts related to seismic ground shaking. The proposed project would result in no impact because project construction and operation would have no opportunity to rupture a known earthquake fault of cause seismic shaking.

**a iii) No Impact:** The San Bernardino County Geologic Hazard Overlay Map does not identify any geologic hazards for the project. The area does not have a potential for liquefaction hazards. There will be no impacts.

**a iv) No Impact:** Landslides are mass movements of the ground that include rock falls, relatively shallow slumping and sliding of soil, and deeper rotational or transitional movement of soil or rock. Impacts associated with landslides or mudslides are not anticipated in the project area since the project area is relatively flat. Based on a review of the San Bernardino County Geologic Hazard Overlay Map, there is not a possibility for a landslide. No impacts would occur.

**b) No Impact:** Project does not anticipate any substantial loss of soil erosion or top soil. No impacts would occur.

**c) No Impact:** The San Bernardino County Land Use Plan General Plan Geologic Hazard Overlay Map does not identify any geologic hazards for the project. It also does not identify any land within the project limits as susceptible to landslides or liquefaction. Therefore, there are no impacts.

**d) No Impact:** The San Bernardino County Land Use Plan General Plan Geologic Hazard Overlay Map does not identify any geologic hazards for the project. It also does not identify any land within the project limits as susceptible to landslides or liquefaction, which implies the absence of expansive soil. Therefore, there will be no impacts.

**e) No Impact:** Septic tanks or alternative waste water disposal systems will not be part of the proposed project. Therefore, there will be no impacts.

**f) No Impact:** The proposed project is occurring on an existing paved highway and would not destroy a unique paleontological resource or site or unique geologic feature. Therefore, there will be no impacts.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for geology and soils.

**2.8 GREENHOUSE GAS EMISSIONS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Greenhouse Gas Emissions**

**a) Less Than Significant Impact:** While the project would result in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. With implementation of construction GHG-reduction measures, the impact would be less than significant.

**b) No Impact:** The project does not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gases. Therefore, there would be no impact.

**Avoidance, Minimization, and/or Mitigation Measures**

TRF-1, a traffic management plan will be implemented to minimize traffic delays and associated idling emissions during construction.

**2.9. HAZARDS AND HAZARDOUS MATERIALS**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also 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 CA Health and Safety Code and is 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. The Porter-Cologne Water Quality Control Act also

restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and 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.

### **CEQA Significance Determinations for Hazards and Hazardous Materials**

**a) No Impact.** Implementation of the proposed project is not expected to result in the creation of any new hazards or expose people to potential new health hazards. No storage of toxic materials or chemicals would occur, and the project is not anticipated to increase the potential hazardous materials in the project area. The Initial Site Assessment Checklist completed for the project determined the hazardous waste involvement to be low.

**b) No Impact.** The proposed project is not anticipated to result in a release of hazardous materials into the environment. Standard construction practices would be observed such that any materials released are appropriately contained as required by local and state law. Therefore, the proposed project is expected to result in no impacts.

**c) No Impact.** The project will not emit hazardous emissions or handle hazardous waste within one-quarter mile of a school. The proposed project will have no impacts.

**d) No Impact.** No potentially hazardous waste sites were listed on the GeoTracker and Envirostor database on or near the project location. No underground storage tanks, surface tanks, sumps, ponds, drums, basins, transformers, or landfills were identified. Furthermore, no surface staining, oil sheen, odors, or vegetation damage was identified on the ISA Checklist. The project will result in no impacts.

**e) No Impact.** The proposed project is not within two miles of a public airport or public use airport. Nor would the project result in a safety hazard for people residing or working in the project area.

**f) No Impact.** The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project is expected to result in no impacts.

**g) No Impact.** The proposed project area consists of rural desert flora and fauna, with very limited resources or potential to result in a fire hazard. There will be no impacts.

**Avoidance, Minimization, and/or Mitigation Measures**

A detailed site investigation report will be completed in the Design Phase and Standard Special Provisions will be determined then.

**2.10. HYDROLOGY AND WATER QUALITY**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

***Water Quality and Stormwater Runoff***

*State Requirements: Porter-Cologne Water Quality Control Act*

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined, and

this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

### ***State Water Resources Control Board and Regional Water Quality Control Boards***

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

### ***National Pollutant Discharge Elimination System (NPDES) Program***

#### ***Municipal Separate Storm Sewer Systems (MS4)***

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

#### *Construction General Permit*

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and

pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department's SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

### *Section 401 Permitting*

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

### **CEQA Significance Determinations for Hydrology and Water Quality**

**a) No Impact:** The Project Alternatives would not violate any water quality standards or waste discharge requirements. The project would require implementation of BMPs during both construction and operation of the project. Upon adherence to these requirements and implementation of BMPs, no impacts would occur in this regard during construction.

**b) No Impact:** According to the Scoping Questionnaire for Water Quality Issues (SQWQI), that was prepared in April 2020, there are no municipal or domestic water supply reservoirs or groundwater percolation facilities within ¼ mile of the bridge location. Implementation of the project would not deplete groundwater supplies or interfere substantially with groundwater recharge that would result in a net deficit in aquifer volume or a lowering of the groundwater table level. The proposed project is not anticipated to affect the amount of water consumed regionally through increased

withdrawals from ground water sources. As such, the proposed project will have no impacts.

**c) i), Less Than Significant Impact:** The SQWQI indicates that soil types in the tributary basins are susceptible to erosion during flash flood events, however project will not cause surface water quality issues as there are no perennial surface water bodies in the project area and the scope of work will require work in the stream bed under the bridge. Major grading is not anticipated. Temporary best management practices (BMPs) during construction would be incorporated as part of the project to reduce storm water impacts. Temporary erosion control would also be provided during construction to meet water quality discharge requirements. All disturbed construction site and slope/embankments will be stabilized. The proposed project would have less than significant impacts.

**c) ii) Less Than Significant Impact:** The Storm Water Data Report indicates that the area receives an average annual precipitation of 6 inches per year. The Hydrologic Soil Group (HSG) in the project area is defined as Group A. This soil type is defined as having low runoff potential when thoroughly wet and water is transmitted freely through the soil. The project would not result in planned changes to the existing drainage that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

**c) iv) No Impact:** The proposed project would not impede or redirect flood flows. There will be no impacts.

**d) Less Than Significant Impact:** According to the Flood Insurance Rate Map (FIRM), provided by the Federal Emergency Management Agency (FEMA), the proposed project area is in the San Bernardino County Unincorporated Areas Zone D. FEMA classifies Zone D as an area where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. The proposed construction within Zone D is incidental, minor in nature, and will not have any significant adverse effect on the floodplain. Caltrans would implement the use of treatment BMPs for sediment control, non-stormwater discharges, waste management, and material pollution controls to minimize and avoid water quality impacts in the post construction condition. Therefore, the project will have less than significant impacts.

**e) No Impact:** The project will not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Therefore, there will be no impacts.

#### **Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for hydrology and water quality.

**2.11 LAND USE AND PLANNING**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Land Use and Planning**

**a) No Impact:** Implementation of the proposed project locations would not divide an established community, as the location is already disturbed and located on the State Route. Therefore, the project will have no impacts.

**b) No Impact:** According to the San Bernardino County Land Use Plan, Land Use Zoning Districts Map, the project area is mapped as BLM land. The proposed project would not conflict with any applicable land use, plan, policy, or regulation. The project will have no impacts.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for land use and planning.

**2.12 MINERAL RESOURCES**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

The Surface Mining and Reclamation Act (SMARA) was framed to address the loss of regionally substantial material deposits to land uses that preclude mining. SMARA mandates a two-phased mineral resource conservation process called classification-designation. The California Division of Mines and Geology (CDMG) is responsible under SMARA for carrying out the classification phase of the process. The State Mining and Geology Board is responsible for the second phase, which allows the State Mining and Geology Board to designate areas in production-consumption region that contain substantial deposits of Portland cement concrete grade aggregate (valued for its importance in construction and versatility) that may be needed to meet the region’s future demand.

**CEQA Significance Determinations for Mineral Resources**

**a) No Impact:** According to the California Department of Conservation, Mineral Lands Classification Map, the proposed project is not located in an area designated as Mineral Resources. Therefore, there would be no impacts.

**b) No Impact:** The proposed project would not result in the loss of available mineral resources of value to the region, residents of the state, or locally-important sites. As such, the proposed project will have no impacts.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for mineral resources.

**2.13 NOISE**

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

***California Environmental Quality Act***

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significance noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA 23 Code of Federal Regulations Part 772 (23 CFR 772) noise analysis.

**CEQA Significance Determinations for Noise**

- a) **No Impact.** The project would not expose people to or generate noise levels in excess of standards established in a general plan or noise ordinance, or applicable standards of other agencies. The project is a Type III project under 23 CFR 772.7; therefore, Caltrans Engineering determined that a noise study report was not required for the project. There would be no noise impact.
- b) **No Impact.** Any groundborne noise or vibration would be limited to the construction period and would be short in duration. Because there are no noise- or vibration- sensitive uses located in the immediate project vicinity and because the

proposed project would comply with Caltrans' Standard Specifications, no impacts would occur.

- c) **No Impact.** The proposed project is not within two miles of an airport and there are no habitable structures near the proposed project. Therefore, no noise impacts related to air traffic would occur.

**Avoidance, Minimization, and/or Mitigation Measures**

**NOISE-1:** Construction will be conducted in accordance with applicable local noise standards and Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications and Special Provisions.

**2.14 POPULATION AND HOUSING**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

The California Environmental Quality Act (CEQA) also requires the analysis of a project’s potential to induce growth. The CEQA guidelines (Section 15126.2[d]) require that environmental documents “...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment...”

**CEQA Significance Determinations for Population and Housing**

**a) No Impact:** The purpose of the project is to preserve the structural integrity of the bridge and it would not induce substantial population growth in an area, either directly or indirectly. Therefore, there will be no impacts.

**b) No Impact:** The proposed project would not necessitate the relocation of any developments and/or people. Right of way (ROW) would not be acquired for this project, as all work would be done within Caltrans’ ROW. Therefore, no impacts on population and housing would occur as a result of the proposed project.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for population and housing.

**2.15 PUBLIC SERVICES**

a) 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 public services:

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

In accordance with CEQA Guidelines, Environmental Checklist Form, Appendix G (XIII. Public Services), the effects of a project are evaluated to determine if they will result in a substantial adverse impact on the environment. A substantial impact would occur if the project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which could cause substantial environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services including fire protection, police protection, or other public facilities.

**CEQA Significance Determinations for Public Services**

**a) No Impacts**

**Response to Fire protection and Police protection: No Impact.** The proposed project would not affect the level of service on I-40. The proposed project would not result in an increase in population, and therefore would not increase the demand for community services. No fire stations would be acquired or displaced. The project would not induce growth or increase population in the study area or the greater community beyond that previously planned for and would not result in the need for additional fire protection. A preliminary Traffic Management Plan (TMP) has been prepared. Further detailed TMP studies will be developed during the Design phase.

Implementation of a construction-period TMP (TRF-2), which is prepared for all Caltrans highway projects, would ensure that access is maintained to and from the

project area and that the police service providers are notified prior to the start of construction activities; therefore, there would be no impacts.

**Response to Schools: No Impact.** No schools are located near the project vicinity. The proposed project would not result in accessibility problems to existing schools and is not expecting to result in any other impacts on school services. As such, there are no impacts.

**Response to Parks: No Impact.** The Mojave National Preserve borders the I-40 alignment but would not be affected by either construction or operation of the Project Alternatives. No national parks exist that directly border the project limits. The majority of the surrounding land is owned by BLM. However, no ROW is expected for this project; therefore, there would be no impacts.

**Response to Other Public Facilities: No Impact.** There are no public facilities in the immediate project area. Therefore, there would be no impact on public facilities as a result of construction or operation of the project.

**Avoidance, Minimization, and/or Mitigation Measures**

No mitigation is required; however, the following avoidance and/or minimization measures will be implemented to minimize potential impacts:

TRF-1: A Transportation Management Plan will be prepared and coordinated with the local emergency responders.

**2.16 RECREATION**

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Regulatory Setting**

In accordance with CEQA Guidelines, Environmental Checklist Form, Appendix G (XIV. Recreation), the effects of a project are evaluated to determine if they will result in a substantial adverse impact on the environment. A substantial impact would occur if the project would result in an increase in use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Impacts would also occur if the project were to include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect of the environment.

**CEQA Significance Determinations for Recreation**

**a) No Impact:** The proposed project does not have the capacity to generate a substantial increase to use of any existing neighborhood parks, regional parks, or other recreational facilities such that physical deterioration would occur. Therefore, there are no impacts.

**b) No Impact:** The project would not require the construction or expansion of recreational facilities. As such, no impacts are anticipated.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for recreation.

**2.17 TRANSPORTATION/TRAFFIC**

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

**Regulatory Setting**

The traffic issues related to the proposed land use and development have been evaluated in the context of the California Environmental Quality Act (CEQA). Environmental impact thresholds as indicated in Appendix G of the CEQA Guidelines were also used in this analysis. The project would create a substantial impact if it would do on of the following: Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrians and bicycle paths and mass transit, conflict with applicable congestion management program, result in a change to air traffic patterns, increase hazards due to a design feature, result in inadequate emergency access, or conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

**CEQA Significance Determinations for Transportation/Traffic**

**a) No Impact:** The District 8 Transportation Concept Report for I-40 indicates that bicyclists are temporarily allowed to ride on the shoulder of this segment until Route 66 is repaired and pedestrian access is prohibited within the project limits. The Proposed Alternatives will not impact current pedestrian nor bicycle use within the project limits. Inclusion of complete streets was determined unsuitable since the

purpose of the project is to mitigate scour on the bridge. Therefore, the proposed project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

**b) No Impact:** The proposed project would not conflict or be inconsistent with CEQA guidelines section 15064.3, subdivision (b). The project is not a capacity increasing project and would not increase the “vehicle miles traveled.” Therefore, there will be no impacts.

**c) No Impact:** The proposed alternatives would not substantially increase hazards due to geometric design features or incompatible uses. As such, the proposed project will have no impacts.

**d) No Impact:** Construction activities have the potential to result in temporary, localized, site-specific disruptions during the construction period. This could lead to an increase in delay times for emergency response vehicles during construction. However, traffic during construction will be detailed in the Traffic Management Plan (TRF-2) and shared with emergency responders to avoid or minimize any potential impacts. There will be no impacts.

#### **Avoidance, Minimization, and/or Mitigation Measures**

TRF-1, a traffic management plan will be prepared and coordinated with the local emergency responders.

**2.18 TRIBAL CULTURAL RESOURCES**

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code 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:

- 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
- 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.

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Tribal Cultural Resources**

**a) No Impact:** There are no tribal cultural resources near or within the project study area and, therefore, the project would have no impact on any tribal cultural resources.

**b) No Impact:** There are no significant resources for a California Native American tribe identified near or within the project study area.

**Avoidance, Minimization, and/or Mitigation Measures**

Implementation of measures **CR-1**, and **CR-2**, as described in the Cultural Resources Section above will reduce any potentially significant impacts from the proposed project to tribal cultural resources that may be inadvertently discovered during construction.

**2.19 UTILITIES AND SERVICE SYSTEM**

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the construction of new water or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CEQA Significance Determinations for Utilities and Service Systems**

**a) No Impact:** Construction of the project would not require or result in the need for new water or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities. There would be no impacts.

**b) No Impact:** The project would not require a water supply, as there are no existing entitlements or resources within the project area. There will be no impacts.

**c) No Impact:** The project would not require wastewater treatment. As a result, there would be no impact.

**d) No Impact:** The project would not generate solid waste in excess of State or local standards, or impair the attainment of solid waste reduction goals. There would be no impacts.

**e) No Impact:** The proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations; therefore, there would be no impact.

**Avoidance, Minimization, and/or Mitigation Measures**

No avoidance, minimization, or mitigation measures are required for utilities and service systems.

## 2.20 WILDFIRES

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### CEQA Significance Determinations for Wildfires

According to the map by CalFire’s Fire and Resource Assessment Program (FRAP) (<https://egis.fire.ca.gov/FHSZ/>), the proposed project is located in a Federally Responsible Area. The project location is not in a high fire-hazard severity zone.

**a) No Impact:** The proposed project will not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, there are no impacts.

**b) No Impact:** The proposed project will not exacerbate wildfire risks or expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a fire. Therefore, there are no impacts.

**c) No Impact:** The installation or maintenance of associated infrastructure is not part of the project scope. No impacts are expected.

**d) No Impact:** The project will not expose people or structures to significant risks, including downslope or downstream flooding or landslides. As mentioned under Section VII, Geology and Soils, the project locations are not within a landslide area and the probability is low.

### Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are required for wildfires.

## 2.21. MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project 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, 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### CEQA Significance Determinations for Mandatory Findings of Significance

**a) Less Than Significant with Mitigation Incorporated:** The proposed project would not 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 reduce the number or restrict the range of a rare or endangered plant or animal species. Avoidance and/or minimization measure **BIO-1** to **BIO- 17** would be implemented to ensure the proposed project would result in less-than-significant impact with mitigation incorporated.

**b) No Impact:** The proposed project would not result in cumulatively considerable effects when combined with past, present, and reasonably foreseeable future projects and therefore would have no cumulative impact. As such, the proposed project would have no impacts.

**c) No Impact:** The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the proposed project would have no impacts.

## Chapter 3 Climate Change

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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<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), and various hydrofluorocarbons (HFCs). CO<sub>2</sub> 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<sub>2</sub>.

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 (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

### Regulatory Setting

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

#### 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.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act 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 U.S. 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.

## **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 (ARB) 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 ARB 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. ARB 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 ARB 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) orders State entities under the direction of the Governor, including ARB, 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) 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 reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e).<sup>3</sup> Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy,

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<sup>3</sup> GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO<sub>2</sub> is the most important GHG, so amounts of other gases are expressed relative to CO<sub>2</sub>, using a metric called “carbon dioxide equivalent” (CO<sub>2</sub>e). The global warming potential of CO<sub>2</sub> is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO<sub>2</sub>.

*Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, 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, 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, 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 travelled, to promote the state’s goals of reducing greenhouse gas 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 ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18, (September 2018) 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) advances California’s climate goals in part by directing the California State Transportation Agency to 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. This EO also directs ARB 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.

## **Environmental Setting**

The proposed project is located on Interstate 40 (I-40) in San Bernardino County. The existing facility is an east-west, transcontinental freeway that begins at the Interstate 15 (I-15) junction in the city of Barstow, California and terminates near the east coast

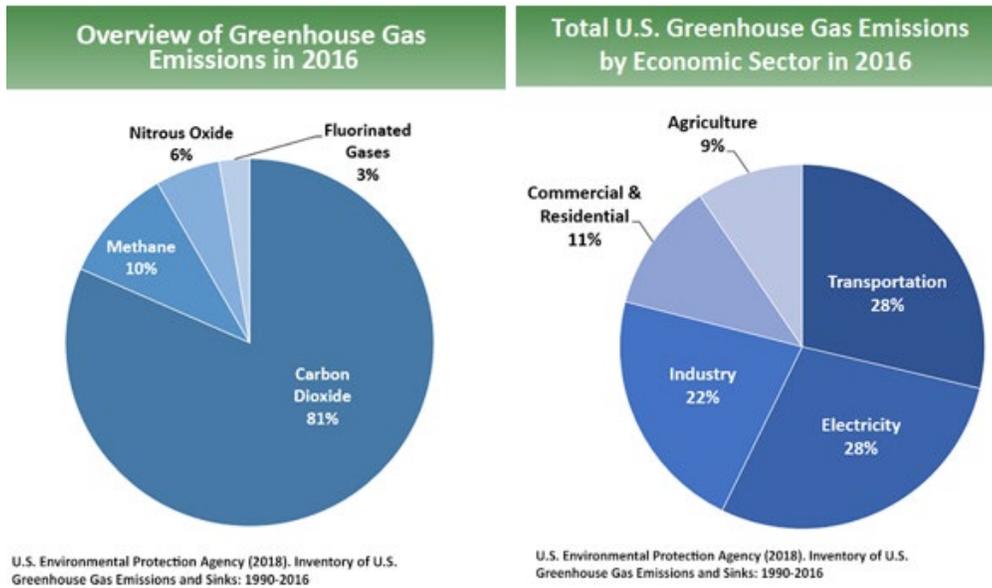
in Wilmington, North Carolina. In Caltrans District 8, the I-40 begins in the city of Barstow and traverses desert terrain with few services, residents, businesses, and crosses the Colorado River at the California-Arizona state line. The project crosses Halfway Hills Wash near Essex, which is a small unincorporated community. The route serves as a corridor for goods movement and long-distance travelers heading east to the Midwest or East Coast. Daily traffic consists mainly of heavy-duty trucks, long-distance travelers, and local desert residents. The Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) guides transportation development in San Bernardino County.

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. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

### **National GHG Inventory**

The U.S. EPA prepares a national GHG inventory 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<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, perfluorocarbons, SF<sub>6</sub>, and nitrogen trifluoride. It also accounts for emissions of CO<sub>2</sub> that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO<sub>2</sub> (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO<sub>2</sub>e GHG emissions in 2016, 81% consist of CO<sub>2</sub>, 10% are CH<sub>4</sub>, and 6% are N<sub>2</sub>O; the balance consists of fluorinated gases (U.S. EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

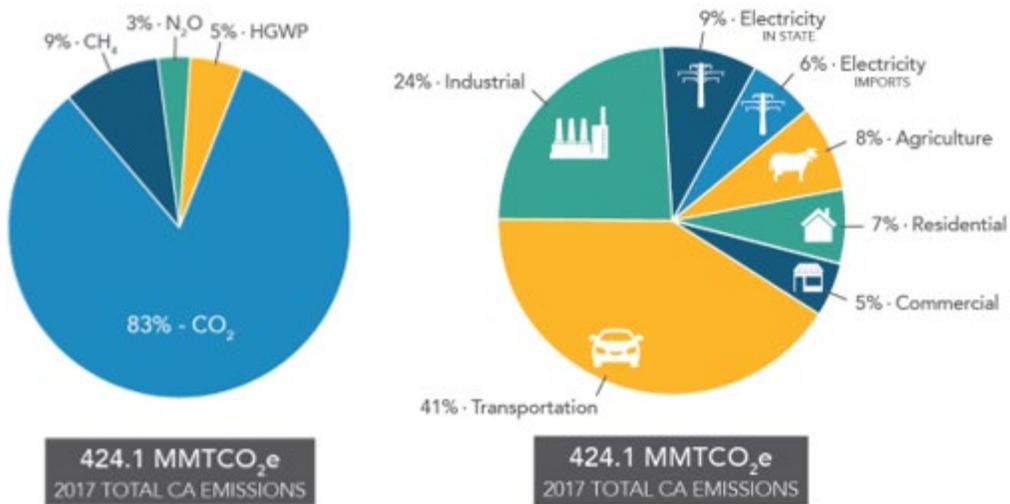
**Figure 4-1 U.S. 2016 Greenhouse Gas Emissions**



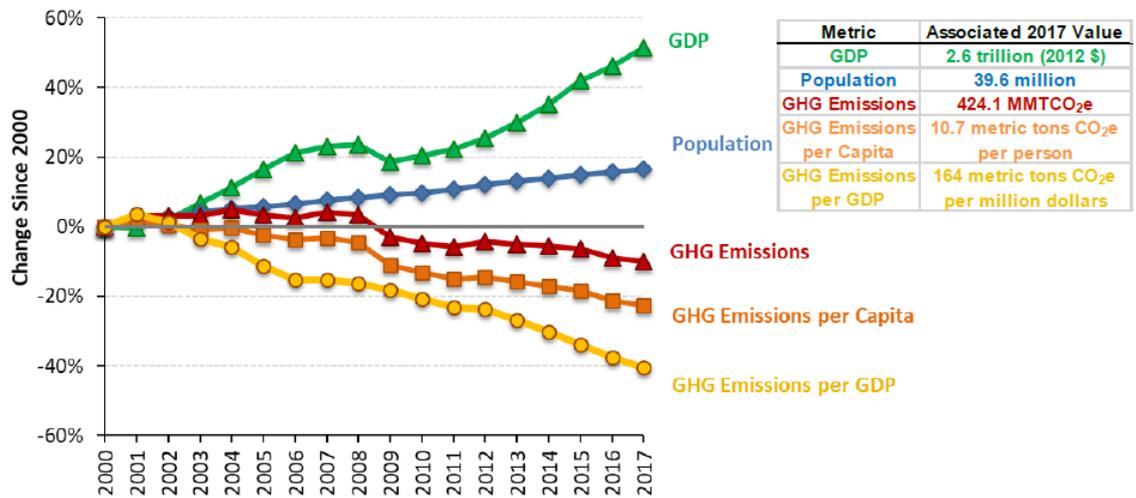
### State GHG Inventory

ARB 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 found total California emissions of 424.1 MMTCO<sub>2</sub>e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

**Figure 4-2. California 2017 Greenhouse Gas Emissions**



**Figure 4-3. Change in California GDP, Population, and GHG Emissions since 2000**



Source: ARB 2019b

AB 32 required ARB 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. ARB 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.

### Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their RTP/SCSs 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 regional reduction target for SCAG is 8 percent by 2020 and 19 percent by 2035 (ARB 2019c). The 2016 SCAG RTP/SCS includes goals to ensure travel safety and reliability for all people and goods, preserve and ensure a sustainable regional transportation system, and protect the environment and health of residents by improving air quality and encouraging active transportation (e.g. bicycling and walking). However, the proposed project consists of retrofitting an existing bridge and is not covered in the SCAG RTP/SCS.

### Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs. CO<sub>2</sub> emissions are a product of the combustion of petroleum-based products, like gasoline,

in internal combustion engines. Relatively small amounts of CH<sub>4</sub> and N<sub>2</sub>O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 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 incremental effect is “cumulatively considerable” (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 greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

### **Operational Emissions**

The proposed project involves retrofitting an existing bridge to mitigate and prevent scour and widening for bridge rail upgrade, while maintaining the existing lane configuration. Because the project would not increase the number of travel lanes, no increase in vehicle miles traveled (VMT) would occur as result of project implementation, and traffic volumes are anticipated to be the same under the Project Alternatives and No-Build Alternative. Although GHG emissions during the construction period (as discussed below) would be unavoidable, no increase in operational GHG emissions are expected.

### **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.

Construction-period GHG emissions were modeled using the Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model, version 9.0.0. Short-term construction activities would result in GHG emissions from fuel combustion associated with off- and on-road construction equipment and

vehicles, which would result in estimated emissions of 147 tons of CO<sub>2</sub>-equivalent (CO<sub>2</sub>e)<sup>4</sup> over the approximately 12-month construction period.

The project would comply with all requirements of the South Coast Air Quality Management District. In addition, Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. Measures that reduce vehicle emissions and energy use also reduce GHG emissions. Under Avoidance and Minimization Measure TRF-2, a traffic management plan will be implemented to minimize traffic delays and associated idling emissions during construction.

### **CEQA Conclusion**

While the project would result in a slight increase in GHG emissions during construction, it is anticipated that the project would 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.

### **GREENHOUSE GAS REDUCTION STRATEGIES**

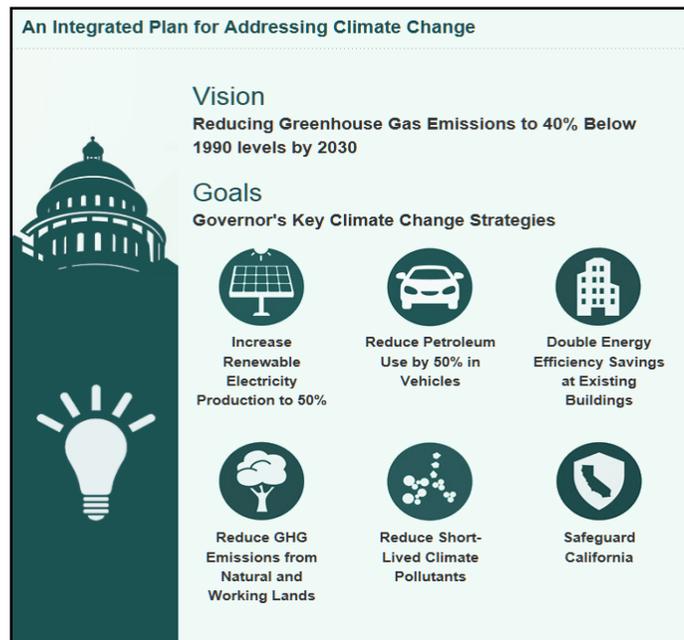
#### ***Statewide Efforts***

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. 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*.

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<sup>4</sup> Because GHGs differ in how much heat each traps in the atmosphere, and CO<sub>2</sub> is the most important GHG, amounts of other gases are expressed relative to CO<sub>2</sub>. Measurements are then summed and converted to total metric tons of CO<sub>2</sub>-equivalent over a given time period. The Road Construction Emissions Model calculates only CO<sub>2</sub>, methane, and nitrous oxide.

**Figure 4-4. California Climate Strategy**



The transportation sector is integral to the people and economy of California. To achieve GHG emission 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 vehicle miles traveled (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 (Wolk 2016) 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 carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

### ***Caltrans Activities***

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB 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 (CTP 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<sub>2</sub> 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 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 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 per capita
- 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 Department policy that will ensure coordinated efforts to incorporate climate change into Departmental 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.

#### ***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.

Implementation of a TMP would involve strategies to maintain traffic safety through the construction zone and to minimize traffic delays (TRF-1). The reduction of traffic delays would also reduce short-term increases in GHG emissions from disruptions in traffic flow.

Caltrans Standard Specifications Section 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 ARB emission reduction regulations.

Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. South Coast Air Quality Management District regulations would apply in the project area. Measures that reduce vehicle emissions and energy use also reduce GHG emissions.

Consistent with the Program Environmental Impact Report prepared for the SCAG 2016-2040 RTP/SCS, the project will minimize GHG emissions by recycling construction debris to maximum extent feasible and using energy- and fuel-efficient vehicles and equipment that meet or exceed EPA/NHTSA/CARB standards.

### ***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.

### ***Federal Efforts***

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

The U.S. Global Change Research Program (USGRCP) 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).

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation 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” (U.S. 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).

#### 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 latest 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 (Quirk 2016) 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.

### 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.

### Project Adaptation Analysis

#### Sea-Level Rise Analysis

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts on transportation facilities due to projected sea-level rise are not expected.

#### Floodplain

In the Flood Insurance Rate Map (FIRM), provided by Federal Emergency Management Agency (FEMA), the project location is shown to be in FIRM Panel 06071C4900H. The FIRM panel identifies the area to be in the San Bernardino County Unincorporated Areas Zone D. FEMA classifies Zone D as an area where there are possible but undetermined flood hazards.

Accordingly, no analysis of flood hazards has been conducted. The Caltrans Climate Change Vulnerability Assessment mapping tool (<http://caltrans.maps.arcgis.com/>)

[apps/webappviewer/index.html?id=178a3b8cedf54cbdbe3f90ccb43fc4be](https://apps/webappviewer/index.html?id=178a3b8cedf54cbdbe3f90ccb43fc4be)) indicates 100-year storm precipitation depth in the project area is expected to increase by less than 2 percent by 2085. The preliminary location hydraulic study for the project (Caltrans 2019a) noted that Halfway Wash is in an area prone to flash floods and the bridge bents and footings have experienced substantial scour. The purpose of the proposed alternatives would be designed to withstand scour related to the calculated 100-year discharge. If implemented, the proposed alternatives would protect the bridges from scour into the future.

#### Wildfire

According to the map by CalFire's Fire and Resource Assessment Program (<https://egis.fire.ca.gov/FHSZ/>), the project location is not in a high fire-hazard severity zone. The portion of the I-40 included in the project limits is in a Federal Responsibility Area.

Wildfires are a risk in the project area and modeling conducted for the District 8 Draft Climate Vulnerability Assessment (Caltrans 2019b) shows an increased likelihood in wildfires in the area by 2085. The District 8 Vulnerability Assessment mapping tool shows the roadway's wildfire exposure within project limits as moderate. The project itself would not introduce new structures to the area that would increase the risk of wildfire, regardless of long-term climate effects. In addition, Caltrans 2018 revised Standard Specification 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan.

## **Chapter 4 Comments and Coordination**

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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 have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, Project Development Team (PDT) meetings. This chapter summarizes the results of the Department's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Consultation with several agencies occurred in conjunction with preparation of the proposed project technical reports and this IS/CE. These agencies are identified in the various technical reports and include the United States Fish and Wildlife Service, California Department of Fish and Wildlife Service, United States Army Corp of Engineers, and Regional Water Quality Control Board.

### **4.1 Consultation and Coordination with Public Agencies and Tribal Governments**

The following provides a summary of all meetings, correspondence, and/or coordination relevant for the development of the proposed project.

#### **4.1.1 AB 52 Consultation**

AB 52 consultation was initiated in February of 2019. Caltrans contacted Twenty-Nine Palms Band of Mission Indians. The Tribe responded on April 22, 2019 and requested a copy of the cultural report and summary of total ground disturbance for the project. A copy of the final ASR was sent to the Tribe upon its completion on October 31, 2019. A separate letter was received December 2, 2019 requesting Native American monitoring by the tribe wherever an Archaeological monitor is present. A monitoring denial letter was sent to the Tribe December 20, 2019.

Caltrans contacted the Chemehuevi Indian Tribe, Colorado River Indian Tribe, and Fort Mojave Indian Tribe. Caltrans did not receive a response.

## Chapter 5 List of Preparers

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Malisa Lieng, Associate Environmental Planner, Generalist

Ashley Bowman, Associate Environmental Planner, Archaeologist

Nancy Frost, Associate Environmental Planner, Natural Sciences

Chun-Sheng Wang, Associate Environmental Planner, Biological Regulatory Permits

Bahram Karimi, Associate Environmental Planner, Paleontology Coordinator

Javed Grewal, Transportation Engineer, Hazardous Waste Specialist

Mandeep Kingra, Transportation Engineer, Air Specialist

Phong Hoang, Transportation Engineer, Noise Specialist

Adam Compton, Senior of Biological Regulatory Permits

Kurt Heidelberg, Supervising Environmental Planner

Shawn Oriaz, Senior Environmental Planner

Paul Phan, Senior Transportation Engineer

Andrew Walters, Senior of Environmental Cultural Studies

Craig Wentworth, Senior Environmental Planner

## Chapter 6 Distribution List

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A compact disc copy of this Initial Study with Proposed Mitigated Negative Declaration (IS and/or a Notice of Availability) was distributed to the federal, state, regional, local agencies and elected officials. In addition, all interested groups, organizations, and individuals within a 0.5-mile radius of the project limits were provided the Notice of Availability for the Draft IS.

### Agencies

U.S. Forest Service  
Mojave Desert Division  
777 East Tahquitz Canyon Way, Ste. 208  
Palm Springs, CA 92262

Colorado River Water Quality Control Board  
73-720 Fred Waring Drive, Suite 100  
Palm Desert, CA 92260

San Bernardino County Planning Dept.  
385 N. Arrowhead Ave. , First Floor  
San Bernardino, CA 92415

Planning & Environmental Coordinator  
BLM Needles Field Office  
1303 South US Hwy 95  
Needles, CA 92363

Mojave Desert Air Quality Management District  
14306 Park Ave.  
Victorville, CA 92392

California State Assembly, District 56  
Eduardo Garcia  
48220 Jackson Street, Suite A3  
Coachella, CA 92236

U.S. Fish and Wildlife Service  
Region 8  
2800 Cottage Way  
Sacramento, CA 95825

California Department of Fish and Wildlife  
Inland Region  
3602 Inland Empire Blvd, Suite C-220  
Ontario, CA 91764

San Bernardino County Flood Control  
825 E. Third St.  
San Bernardino, CA 92415-0835

Mr. Frank Luckino  
City Manager, City of Twentynine Palms  
6136 Adobe Road,  
Twentynine Palms, CA 92277

Dept. of Interior/ BLM  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

California State Assembly, District 33  
Jay Obernolte  
9700 Seventh Avenue  
Suite 201  
Hesperia, CA 92345

# Appendix A Title VI Policy Statement

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

**DEPARTMENT OF TRANSPORTATION**  
OFFICE OF THE DIRECTOR  
P.O. BOX 942873, MS-49  
SACRAMENTO, CA 94273-0001  
PHONE (916) 654-6130  
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TTY 711  
www.dot.ca.gov



*Making Conservation  
a California Way of Life.*

April 2018

## 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."*

Related federal statutes 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, please visit the following web page:  
[http://www.dot.ca.gov/hq/bep/title\\_vi/t6\\_violated.htm](http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm).

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 Business and Economic Opportunity, 1823 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email [Title.VI@dot.ca.gov](mailto:Title.VI@dot.ca.gov), or visit the website [www.dot.ca.gov](http://www.dot.ca.gov).

A handwritten signature in blue ink, appearing to read 'Laurie Berman'.

LAURIE BERMAN  
Director

*"Provide a safe, sustainable, integrated and efficient transportation system  
to enhance California's economy and livability"*

## **Appendix B Avoidance, Minimization and/or Mitigation 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.

Permit Type	Agency	Date Received	Expiration	Notes
1602	California Department of Fish & Wildlife			
401	Colorado River Water Quality Control Board			

Date of ECR: June 24, 2020  
Date: (June 2020 IS/CE)

## ENVIRONMENTAL COMMITMENTS RECORD (Interstate 40 Bridge Scour Mitigation)

08-SBD-40  
PM R100.8/101.8

- Project Phase:  
 PA/ED (DED/FED)  
 PS&E Submittal \_\_\_ %  
 RTL  
 Construction

EA 08-1G8300  
PN 0816000079  
Generalist: Malisa Lieng  
ECL:

Avoidance, Minimization, and/or Mitigation Measures	Page # in Env. Doc. Or Permit	Environmental Analysis Source (Technical Study, Environmental Document, and/or Technical Discipline)	Responsible for Development and/or Implementation of Measure	Timing/Phase	If applicable, corresponding construction provision: (standard, special, non-standard)	Action(s) Taken to Implement Measure/if checked No, add Explanation here	PS&E Task Completed	Construction Task Completed	Environmental Compliance	
							Date / Initials	Date / Initials	YES	NO
<b>CULTURAL RESOURCES</b>										
<b>CR-1:</b> If buried cultural resources are encountered during Project Activities, it is Caltrans policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.	N/A	Historic Property Survey Report  Nov. 5, 2019	District Cultural Studies/  District Design/  Resident Engineer/  Contractor	Design/  Construction	Standard Spec  14-2.03A					
<b>CR-2:</b> In the event that human remains are found, the county coroner shall be notified and ALL construction activities within 60 feet of the discovery shall stop.	N/A	Historic Property Survey Report	District Cultural Studies/	Design/  Construction	Standard Spec  14-2.03A					

<p>Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). The person who discovered the remains will contact the District 8 Division of Environmental Planning; Andrew Walters, DEBC: (909) 383-2647 and Gary Jones, DNAC: (909) 383-7505. Further provisions of PRC 5097.98 are to be followed as applicable.</p>		<p>Nov. 5, 2019</p>	<p>District Design/ Resident Engineer/ Contractor</p>							
<p><b>CR-3:</b> Archaeological monitors shall be present during any construction or preconstruction-related activity in all areas designated as Archaeological Monitoring Areas. In the event that cultural deposits are uncovered, the archaeological monitor shall be empowered to implement protective measures outline above in CR-1.</p>	<p>N/A</p>	<p>Historic Property Survey Report Nov. 5, 2019</p>	<p>District Cultural Studies/ District Design/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						
<p><b>CR-4:</b> The portions of Site CA-SBR-12917H / P36-014404 (Camps Clipper and Essex) lying within the APE shall be designated as Environmentally Sensitive Areas, where all project-related activities or inadvertent disturbances shall be prohibited. The designation of Environmentally Sensitive Areas (ESAs) will protect the site. The establishment of the ESA will be in accordance with the ESA Action Plan.</p>	<p>N/A</p>	<p>Historic Property Survey Report Nov. 5, 2019</p>	<p>District Cultural Studies/ District Design/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						

<p><b>CR-5:</b> 5 business days prior to the start of construction activities, District 8 Environmental Branch Chief must be contacted and informed of the start of the start day and time of the planned construction activities. This is to ensure an archaeological monitor will be available and onsite for monitoring within the Archaeological Monitoring Area during construction. See responsible parties for contact information.</p>	N/A	<p>Historic Property Survey Report Nov. 5, 2019</p>	<p>District Cultural Studies/ District Design/ Resident Engineer/ Contractor</p>	Design/ Construction						
<b>BIOLOGICAL RESOURCES</b>										
<p><b>BIO-1 Biological Monitor:</b> A qualified contractor-supplied biologist will be designated to oversee compliance of all protective measures and will monitor all construction-related activities. The biological monitor will notify the resident engineer of project activities that may not be in compliance. The resident engineer will stop work until the protective measures are implemented fully.</p>	N/A	<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Design/ Resident Engineer/ Contractor</p>	PS&E/ Construction						
<p><b>BIO-2 Worker Environmental Awareness Training:</b> A qualified contractor-supplied biologist will present a worker environmental awareness training to each employee (including temporary, contractors, and subcontractors) prior to the initiation of work. They will be advised of special status species in the project area, the steps to avoid impacts to the species, and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general</p>	N/A	<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	PS&E/ Construction						

<p>ecology, and their sensitivity of the species to human activities; legal protection afforded these species, including penalties for violations of Federal and State laws; reporting requirements; and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs. Included in this program will be a handout with descriptions and color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the office(s) of the contractor and resident engineer, as well as all construction field offices and on all information boards, where they will remain through the duration of the project. The contractor, resident engineer, and the qualified biologist will be responsible for ensuring that employees are aware of the special status species that may be present, and what actions, if any, are needed if any of those species are found during project implementation. If additional employees are added to the project after initiation, they will receive instruction prior to working on the project. All onsite personnel including surveyors, construction engineers, employees, contractors, contractor's employees, supervisors, inspectors, subcontractors, and delivery personnel employed for a project will be required to participate in an education program regarding the desert tortoise before performing on-site work. The program will consist of a class presented by an authorized biologist or a video, provided the authorized biologist is present to answer questions. Wallet-sized cards</p>										
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<p>or a one-page handout with important information for workers to carry are recommended as a future reference and a reminder of the program's content. The desert tortoise program will cover the following topics at a minimum:</p> <ul style="list-style-type: none"> <li>-the distribution, general behavior, and ecology of the desert tortoise;</li> <li>-its sensitivity to human activities;</li> <li>-the protection it is afforded by the Endangered Species Act;</li> <li>-penalties for violations of State and Federal laws;</li> <li>-notification procedures by workers or contractors if a tortoise is found in a construction area, and;</li> <li>-protective measures specific to each project.</li> </ul>										
<p><b>BIO-3: Equipment Staging:</b> Equipment, vehicles, and materials staged and stored in Caltrans right-of-way will be sited in previously paved or previously disturbed areas only and will avoid native vegetation. Approval of additional staging areas will require the Caltrans Biologist to analyze project impacts and provide authorization for additional staging areas.</p>	N/A	<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Design/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-4: Rare Plant / Host Plant Pre-Construction Clearance Survey, Flagging, and Fencing:</b> No more than one week prior to ground breaking activities, a qualified contractor supplied biologist must perform a pre-construction survey for rare plant species and rare insect host plants.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						

<p>Should any rare plants or rare insect host plants be found, individuals will be flagged for clear identification to ensure they are visible to construction personnel for avoidance. Should multiple plants in a single location be found, the groupings will be fenced with environmentally sensitive area temporary fencing.</p>										
<p><b>BIO-5: Pre-Construction Clearance / Nesting Bird Survey:</b> If construction occurs within the bird nesting season (February 1 to September 30), then pre-construction surveys will be conducted by a qualified contractor supplied biologist to locate and avoid nesting birds. If an active nest is located, a 300-foot no-construction buffer (500-foot buffer for raptors) will be put in place until nesting has ceased or the young have fledged.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-6: Pre-Construction Desert Tortoise Survey:</b> Immediately prior to the start of ground disturbing activities, and prior to the installation of any desert tortoise exclusion fencing, clearance surveys for the desert tortoise will be conducted by the biologist. The entire project area will be surveyed for desert tortoise and their burrows by the contractor supplied biologist prior to the start of any ground disturbing activities.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-7: Temporary Desert Tortoise Fencing:</b> Temporary exclusion fencing will be installed outlining the perimeter of any construction staging, storage, or batch plant areas to prevent entry by desert tortoises into the work</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						

site. Exclusion fencing will be installed following Service guidelines (2017) or more current protocol. The biologist must check fencing daily and make any necessary repairs should it become damaged.										
<b>BIO-8: Desert Tortoise Under Vehicles and/or Equipment:</b> The contractor-supplied biologist and project personnel shall carefully check under parked vehicles and equipment for desert tortoises before any of the vehicles or equipment can be moved.		Natural Environment Study June 25, 2020	Biological Studies/ Resident Engineer/ Contractor							
<b>BIO-9: Desert Tortoise in Work Area:</b> Desert tortoises will be removed by the authorized biologist according to guidelines set forth by USFWS in the Biological Opinion to a translocation site within 300 meters north or south of the right-of-way. The release will be in an area with enough shrub cover and rock terrain that the desert tortoise has immediate access to shelter. Caltrans will describe the complete circumstances of the translocation in its final report to USFWS.		Natural Environment Study June 25, 2020	Biological Studies/ Resident Engineer/ Contractor	PS&E/ Construction						
<b>BIO-10: Injured or Dead Desert Tortoise:</b> The contractor-supplied biologist (authorized biologist) will inform the USFWS and CDFW of any injured or dead desert tortoises (and other special status species) found on site (verbal notification within 24 hours and written notification within 5 days). Caltrans will ensure that injured desert tortoises are transported immediately to a qualified veterinarian for treatment.		Natural Environment Study June 25, 2020	Biological Studies/ Resident Engineer/ Contractor	PS&E/ Construction						

<p><b>BIO-11: Desert Tortoise Monitoring Reports:</b> The contractor-supplied biologist will conduct regular on-site monitoring and submit a weekly monitoring report for desert tortoises (and additional special status species) during construction.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-12: Speed Limits in Desert Tortoise Habitat:</b> Except on maintained public roads designated for higher speeds or within desert tortoise-proof fenced areas, driving speeds will not exceed 20 miles per hour through potential desert tortoise habitat on unpaved roads.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-13: Desert Tortoise Predation Prevention:</b> To preclude attracting predators, such as the common raven (<i>Corvus corax</i>) and coyotes (<i>Canis latrans</i>), food-related trash items will be placed in covered refuse cans and removed daily from the work sites and disposed of at an appropriate refuse disposal site. Workers are prohibited from feeding any and all wildlife.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Biological Studies/ Resident Engineer/ Contractor</p>	<p>PS&amp;E/ Construction</p>						
<p><b>BIO-14: Pre-Construction Survey and Monitoring by a Qualified Bat Biologist:</b> Prior to construction start, a qualified bat biologist will conduct a survey to determine if bats are roosting on any of the bridges or in the trees proposed for removal. If work on bridges or removal of trees that support bat roosting during the bat maternity season (April 1- August 31) cannot be avoided, a qualified contractor supplied bat biologist will perform a human eviction/exclusion of roosting bats in the fall (September or October) before initiation of</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Design/ Biological Studies/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						

<p>construction. The exclusionary material will be inspected regularly and maintained during construction activities and will be removed at the completion of construction.</p>										
<p><b>BIO-15: Pre-Construction and Monitoring by a Kit Fox Biologist:</b> a qualified contractor supplied biologist will conduct pre-construction surveys for desert kit fox within the project site and biological study area boundaries no more than 30 days prior to the commencement of ground-breaking activities. Dens will be classified as inactive, potentially active, or definitely active. Should dens be deemed active, additional surveys will be required (see BIO-16). If desert kit fox is found, the following measure may be required.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Design/ Biological Studies/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						
<p><b>BIO-16: Desert Kit Fox Den Complex Monitoring, Passive Relocation, and Stop Work Restrictions:</b> All desert kit fox den complexes in the project site identified as potentially active or definitely active will be monitored in accordance to CDFW guidelines. If once the monitoring is concluded, no desert kit fox tracks are found at the burrow entrance, or no photos of the target species using the den are observed, the den can be excavated and backfilled by hand. If a den is identified as being active, it must further be classified as non-natal or natal den. Potential natal den complexes are to be monitored for a minimum of three additional days using infrared wildlife cameras and/or tracking medium to determine their status. If the den complex is determined to be natal</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Design/ Biological Studies/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						

<p>during the denning period (February – June), a 200-foot non-disturbance buffer zone will be established surrounding natal dens, and monitoring by infrared cameras or weekly visits by a qualified contractor supplied biologist will continue until it has been determined that the young have dispersed. The final buffer distance will be determined in consultation with the BLM and CDFW. If the den complex within the project site is determined to be non-natal, passive hazing techniques will be used to discourage desert kit fox from using the den complex. Desert kit fox must be excluded from all den complexes within the project site portion of the Project disturbance area. Inactive dens that are within the project site, will immediately be excavated by hand and backfilled to prevent reuse by desert kit fox. If tracks or desert kit fox is captured in camera photos, then various passive hazing techniques will be implemented to deter desert kit fox from using the den complex. If desert kit fox are present and passive relocation techniques fail, the BLM and CDFW will be contacted to explore other relocation options such as trapping.</p> <p>If during construction activities a desert it fox is within the project site, all construction activities shall stop, and the contracted supplied biologist shall be notified. Consultation with resource agencies may be required, as appropriate.</p>															
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<p><b>BIO-17: Animal Entrapment Avoidance:</b> To prevent inadvertent entrapment of desert kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than two feet deep should be covered at the close of each working day by plywood (or similar materials) or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals.</p>		<p>Natural Environment Study June 25, 2020</p>	<p>Design/ Biological Studies/ Resident Engineer/ Contractor</p>	<p>Design/ Construction</p>						
<b>NOISE</b>										
<p><b>NOISE-1:</b> Construction will be conducted in accordance with applicable local noise standards and Caltrans' provisions in Section 14-8.02, "Noise Control," of the 2018 Standard Specifications and Special Provisions.</p>		<p>Environmental Document</p>	<p>Resident Engineer/ Contractor</p>	<p>Construction</p>						
<b>TRANSPORTATION AND TRAFFIC</b>										
<p><b>TRF-1: Traffic Management Plan:</b> A Transportation Management Plan will be prepared and coordinated with the local emergency responders.</p>		<p>Environmental Document</p>	<p>Resident Engineer/ Contractor</p>	<p>Construction</p>						
<p><b>TRF-2: Traffic Management Plan:</b> will be implemented to minimize traffic delays and associated idling emissions during construction.</p>		<p>Environmental Document</p>	<p>Resident Engineer/ Contractor</p>	<p>Construction</p>						

# Appendix C Federal Transportation Improvement Program

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**SBDLS07 Exempt Grouped Projects for Bridge Rehabilitation and Reconstruction  
SHOPP Bridge Preservation Program  
2019 FTIP Amendment #19-22**

Agency	County	District EA	Notes	Project Description	Program Year (FFY)	Federal Funds	State Funds	Total Project Cost (in \$1000's)
Caltrans	SBd	1G830	2020 SHOPP Carryover from 2018 SHOPP, approved by CTC May 13-14, 2020. New: SHOPP Amendment #18H-000 approved by CTC March 21-22, 2018.	On I-40 near Needles, at the Halfway Hills Wash Bridge No. 54-0799L/R. Retrofit bridge footings, replace and expand Rock Slope Protection (RSP) limits. SHOPP Amendment #18H-000 approved by CTC March 21-22, 2018 PA&ED and R/W Capital Funding Only and Resolution FP-17-47 authorized PA&ED only \$1.393M.	2018/19	\$ 1,423	\$	\$ 1,423

## **Appendix C List of Technical Studies**

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- Storm Water Data Report July 2, 2020
- Historic Property Survey Report November 5, 2019
- Initial Site Assessment Checklist February 19, 2020
- Natural Environment Study March 27, 2020
- Scoping Questionnaire for Water Quality Issues April 2020
- Visual Analysis Checklist April 28, 2020