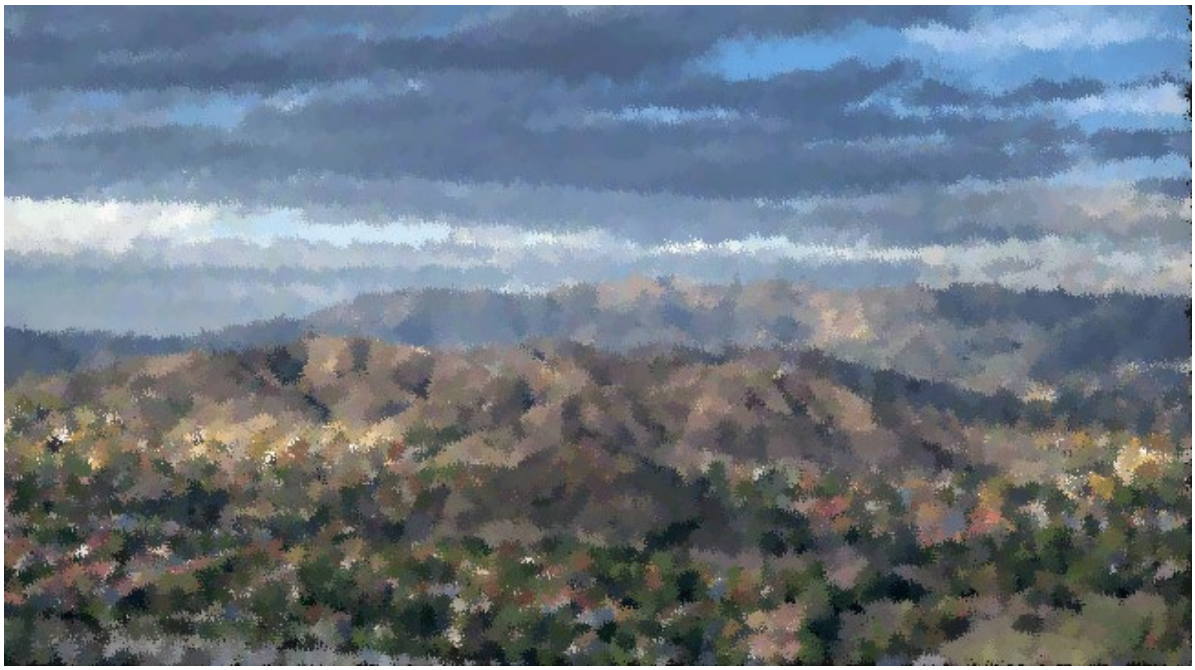

2022 Regional Transportation Plan & Sustainable Communities Strategy

Final Program Environmental Impact Report
SCH #2021030198

prepared by

Tulare County Association of Governments
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Visalia, California 93291
Contact: Gabriel Gutierrez, Senior Regional Planner

prepared with the assistance of

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August 2022

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1 Introduction

1.1 Final EIR Contents

This Final Environmental Impact Report (Final EIR) volume, together with the Draft EIR, is a disclosure document prepared by the Tulare County Association of Governments (TCAG) to evaluate the environmental impacts of the 2022 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)("proposed project" or "project"). This document, together with the Draft EIR, as revised, comprise the Final EIR for this project.

As prescribed by the California Environmental Quality Act (CEQA) *Guidelines* Sections 15088 and 15132, the lead agency, TCAG, is required to evaluate comments on environmental issues received from persons/agencies who have reviewed the Draft EIR and to prepare written responses to those comments. . No comment letters were received on the Draft EIR, and therefore this Final EIR volume does not include responses to Draft EIR comments.

The Final EIR also includes revisions to the Draft EIR consisting of minor clarifications, corrections, or revisions to the Draft EIR. The Final EIR includes the following contents:

- Section 1: Introduction
- Section 2: Responses to Comments on the Draft EIR (noting no comments were made and therefore no responses included)
- Section 3: Amendments to the Draft EIR
- Section 4: Mitigation Monitoring and Reporting Program

1.2 Draft EIR Public Review Process

The Draft EIR was circulated for a 46-day public review period in accordance with *CEQA Guidelines* Section 15087 on May 20, 2022. The public comment period closed on July 5, 2022. The Draft EIR was made available electronically on the TCAG website, at the TCAG office, and at three public libraries. Additional options were made available to the public to view the Draft EIR by contacting TCAG, in accordance with COVID-19 pandemic recommendations and requirements. No comments on the Draft EIR were received.

1.3 EIR Certification Process and Project Approval

In accordance with the requirements of CEQA (*CEQA Guidelines* Section 15090), TCAG will consider certifying the Final EIR as having been prepared in compliance with CEQA. Following Final EIR certification, TCAG will consider making findings of fact for each significant impact (*CEQA Guidelines* Section 15091), adopting a statement of overriding considerations (*CEQA Guidelines* Section 15093), adopting the Mitigation Monitoring and Reporting Program (*CEQA Guidelines* Section 15097), and approving the project (*CEQA Guidelines* Section 15092).

1.4 Draft EIR Recirculation Not Required

CEQA Guidelines Section 15088.5 requires Draft EIR recirculation when "significant new information" is added to the EIR after public notice is given of the availability of the Draft EIR for public review but before certification. Significant new information is defined as including:

1. A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
2. A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
4. The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The minor Draft EIR revisions presented in this document do not constitute such "significant new information." Instead, they clarify, amplify, or make insignificant modifications to the Draft EIR. For example, no comments were received, and Draft EIR amendments do not disclose new or substantially more severe significant environmental effects of the project, or new feasible mitigation measures or alternatives considerably different than those analyzed in the Draft EIR that would clearly lessen the project's significant effects.

2 Responses to Comments on the Draft Program EIR

This section includes comments received during the circulation of the Draft Program Environmental Impact Report (EIR) prepared for the 2022 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The Draft EIR was circulated for a 46-day public review period that began on May 20, 2022 and ended on July 5, 2022. One noticed public hearing was held by TCAG June 27, 2022 to receive comments on the Draft EIR. At the public hearing, interested parties had the opportunity to speak and provide comments. No comment letters were received during the comment period and no agencies or individuals provided oral comments during the public hearing. TCAG received, no written comment letters on the Draft EIR during the Draft EIR public review period. Therefore, this Final EIR volume does not include comments on the Draft EIR or responses to such comments.

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3 Amendments to the Draft EIR

This section provides all text amendments to the Draft EIR. All amendments are corrections to typographical errors identified in the Draft EIR by staff in reviewing Draft EIR. None of the changes would warrant recirculation of the EIR pursuant to CEQA Guidelines Section 15088.5. The amendments serve to clarify the content of the EIR, but do not introduce any new information.

Changes in text are signified by strikeouts (~~strikeouts~~) where text is removed and by underlined font (underline font) where text is added. These minor clarifications and corrections to typographical errors are shown as corrected in this format.

Executive Summary

Table ES-1, Page ES-8 under heading, "Mitigation Measures":

> **AES-3(a) Roadway and Project Lighting**. The implementing shall, or can and should, minimize roadway lighting to the extent possible, consistent with safety and security objectives, and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of back shields, hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project.

Page ES-11 under heading, "Mitigation Measures":

> **AQ-5~~-4~~ Health Risk Reduction Measures.** Transportation project sponsor agencies shall implement the following measures:

Section 4.1, Aesthetic and Visual Resources

Page 4.1-15:

> *AES-3(a) Roadway and Project Lighting*
>
> The implementing shall, or can and should, minimize roadway lighting to the extent possible, consistent with safety and security objectives, and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of back shields, hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project.

Section 4.3 Air Quality

Page 4.3-32:

> **AQ-5~~-4~~ Health Risk Reduction Measures.** Transportation project sponsor agencies shall implement the following measures:

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4 Mitigation Monitoring and Reporting Program

CEQA requires that a monitoring or reporting program (MMRP) be adopted for EIR mitigation measures that are necessary to avoid or substantially lessen the project's significant effects on the environment (Public Resources Code 21081.6, *CEQA Guidelines* Section 15097); the MMRP for the project has been prepared in compliance with these requirements. This MMRP is intended to track and ensure compliance with adopted mitigation measures during the project implementation phase. For each mitigation measure in the Final Environmental Impact Report (Final EIR), the following table shows the action required, timing, the monitoring that must occur, and the agency or department responsible for oversight. TCAG and/or implementing agencies would periodically report on mitigation measure implementation.

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Aesthetic and Visual Resources				
AES-1 (a) Tree Protection and Replacement				
The implementing agency for new roadways, extensions and widenings of existing roadways, trails and facility improvement projects shall, or can and should, avoid the removal of existing mature trees to the extent possible consistent with adopted local City and County policies as applicable. The implementing agency of a particular proposed 2022 RTP/SCS project shall replace any trees lost at a minimum 2:1 basis and incorporate them into the landscaping design for the roadway when feasible, or as required by local or County requirements. The implementing agency also shall ensure the continued vitality of replaced trees through periodic maintenance.	Grading and site plans shall avoid the removal of existing mature trees to the extent possible. Place conditions of approval on project to require tree replacement at a minimum 2:1 ratio. Maintain replacement trees to ensure their success.	During project permitting and environmental review.	Once during environmental review. Monitor survivability of replacement trees periodically following construction.	Implementing agencies/project sponsor
AES-1 (b) Discouragement of Architectural Features that Block Science Views				
The implementing agency shall, or can and should, design projects to minimize contrasts in scale and massing between the project and surrounding natural forms and development. Setbacks and acoustical design of adjacent structures shall be preferentially used as mitigation for potential noise impacts arising from increased traffic volumes associated with adjacent land development. The use of sound walls, or any other architectural features that could block views from the scenic highways or other view corridors, shall be discouraged to the extent possible. Where use of sound walls is found to be necessary, walls shall incorporate offsets, accents, and landscaping to prevent monotony. In addition, sound walls shall be complementary in color and texture to surrounding natural features	Confirm that architectural plans, noise walls, and building plans satisfy the design standards, components and materials incorporate offsets, accents, and landscaping to prevent monotony. In addition, confirm sound walls shall be complementary in color and texture to surrounding natural features Confirm structures and walls are constructed consistent with plans.	During project permitting and environmental review.	Once during environmental review. During construction.	Implementing agencies/project sponsor
AES-2 Design Measures for Visual Compatibility				
The implementing agency shall, or can and should, require measures that minimize contrasts in scale and massing between the project and surrounding natural forms and developments. Strategies to achieve this include: ▪ Siting or designing projects to minimize their intrusion into important viewsheds;	Ensure grading plans and landscape plans avoid large cut and fills, provide re-contouring, replace trees and restore vegetation cover. Confirm that architectural plans and building plans incorporate design	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Avoiding large cuts and fills when the visual environment (natural or urban) would be substantially disrupted; ▪ Ensuring that re-contouring provides a smooth and gradual transition between modified landforms and existing grade; ▪ Developing transportation systems to be compatible with the surrounding environments (e.g., colors and materials of construction material; scale of improvements); ▪ Designing and installing landscaping to add natural elements and visual interest to soften hard edges, as well as to restore natural features along corridors where possible after widening, interchange modifications, re-alignment, or construction of ancillary facilities; and ▪ Designing new structures to be compatible in scale, mass, character, and architecture with existing structures.	compatible with surrounding existing structures.			
AES-3(a) Roadway and Project Lighting				
The implementing shall, or can and should, minimize roadway lighting to the extent possible, consistent with safety and security objectives, and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of back shields, hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project. As part of planning, design, and engineering for projects, project sponsors shall ensure that projects proposed near light sensitive uses avoid substantial spillover lighting. Potential design measures include, but are not limited to, the following: ▪ Lighting shall consist of cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light into adjacent properties and undeveloped open space. Fixtures that project light upward or horizontally shall not be used. ▪ Lighting shall be directed away from habitat and open space areas adjacent to the project site. ▪ Light mountings shall be downcast, and the height of the poles minimized to reduce potential for backscatter into the nighttime sky and incidental spillover of light onto	Confirm that site plans satisfy the lighting requirements listed in the mitigation measure. Confirm lights are installed as described and shown on site plans.	During project permitting and environmental review.	Once during environmental review. Once at completion of construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
adjacent private properties and undeveloped open space. Light poles will be 20 feet high or shorter. Luminary mountings shall have non-glare finishes. ▪ Exterior lighting features shall be directed downward and shielded in order to confine light to the boundaries of the subject project. Where more intense lighting is necessary for safety purposes, the design shall include landscaping to block light from sensitive land uses, such as residences.				
AES-3(b) Glare Reduction Measures				
Implementing agencies shall, or can and should, minimize and control glare from transportation and land use projects near glare-sensitive uses through the adoption of project design features such as: ▪ Planting trees along transportation corridors to reduce glare from the sun; ▪ Creating tree wells in existing sidewalks; ▪ Adding trees in new curb extensions and traffic circles; ▪ Adding trees to public parks and greenways; ▪ Landscaping off-street parking areas, loading areas, and service areas; ▪ Limiting the use of reflective materials, such as metal; ▪ Using non-reflective material, such as paint, vegetative screening, matte finish coatings, and masonry; ▪ Screening parking areas by using vegetation or trees; ▪ Using low-reflective glass; ▪ Complying with applicable general plan policies, municipal code regulations, city or local controls related to glare; and ▪ Tree species planted to comply with this measure shall provide substantial shade cover when mature. Utilities shall be installed underground along these routes wherever feasible to allow trees to grow and provide shade without need for severe pruning.	Confirm that development and building plans satisfy the lighting requirements listed in the mitigation measure. Confirm lights are installed as described and shown on plans.	During project permitting and environmental review.	Once during environmental review. Once at completion of construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Agriculture and Forestry Resources				
AG-1 Agricultural Land Impact Avoidance and Minimization				
Implementing agencies shall implement measures, where feasible based on project-and site-specific considerations that include but are not limited to those identified below. ▪ Require project relocation or corridor realignment, where feasible, to avoid Important Farmland, agriculturally zoned land and/or land under Williamson Act contract. ▪ Manage project construction to minimize the introduction of invasive species or weeds that may affect agricultural production on agricultural land adjacent to project sites. Managing project construction may include washing construction equipment before bringing equipment on-site, using certified weed-free straw bales for construction Best Management Practices (BMPs), and other similar measures. ▪ Provide buffers, berms, setbacks, fencing, or other project design measures to protect surrounding agriculture, and to reduce conflict with farming that could result from implementation of transportation improvements and/or development included as a part of the RTP/SCS.	Require project relocation or corridor realignment into project-specific design plans or environmental review. Require use of BMPs to minimize invasive species introduction during construction. Require the use of design features to protect surrounding agriculture. Require acquisition of conservation easements at a minimum 1:1 ratio.	During project permitting and environmental review.	Once during environmental review	Implementing agencies/project sponsor
Air Quality				
AQ-2 (a) Application of SJVAPCD Feasible Mitigation Measures				
For all projects, the implementing agency shall incorporate the most recent SJVAPCD feasible construction mitigation measures and/or technologies for reducing inhalable particles based on analysis of individual sites and project circumstances. Additional and/or modified measures may be adopted by SJVAPCD prior to implementation of individual projects under the proposed 2022 RTP/SCS; therefore, the most current list of feasible mitigation measures at the time of project implementation shall be used. The current SJVAPCD feasible mitigation measures include the following (SJVAPCD 2015b): ▪ All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical	Construction plans shall show SJVAPCD standard dust control measures; implementing agency shall ensure implementation.	During project permitting and environmental review. Prior to issuance of grading permits; during construction	Once during environmental review; periodically during construction	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. ▪ All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. ▪ When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. ▪ Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. ▪ An owner/operator of any site with 150 or more vehicle trips per day, or 20 or more vehicle trips per day by vehicles with three or more axles shall implement measures to prevent carryout and trackout. ▪ Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.				
AQ-2 (b) Diesel Equipment Emissions Standards				
The implementing agency shall ensure, to the maximum extent feasible, that diesel construction equipment meeting CARB Tier 4 emission standards for off-road heavy-duty diesel engines is used. If use of Tier 4 equipment is not feasible, diesel construction equipment meeting Tier 3 (or if infeasible, Tier 2) emission standards shall be used. These measures shall be noted on all construction plans, and the implementing agency shall perform periodic site inspections.	Construction plans shall ensure that that construction equipment is subject to the CARB Regulation for In-use Off-road Diesel Vehicles and, if feasible, construction equipment meets Tier 4 standards or at least Tier 2 standards with retrofitted Level 3 VDECS, if available; and perform periodic site inspections.	During project permitting and environmental review. Prior to issuance of grading permits; during construction.	Once during environmental review; periodically during construction	Implementing agencies/project sponsor
AQ-2 (c) Electric Construction Emissions Standards				
The implementing agency shall ensure that to the extent feasible, construction equipment utilizes electricity from power poles rather than temporary diesel power generators and/or gasoline power generators.	Construction plans shall ensure that electricity from power poles is used to the extent feasible.	During project permitting and environmental review.	Once during environmental review; periodically during construction	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
		Prior to issuance of grading permits; during construction		
AQ-3 Long-term Regional Operational Emissions				
Implementing agencies can and should implement long-term operational emissions reduction measures. Such reduction measures include the following: ▪ Require that all interior and exterior architectural coatings for all developments utilize coatings following SJVAPCD Rule 4601, Architectural Coatings. ▪ Increase building envelope energy efficiency standards in excess of applicable building standards and encourage new development to achieve zero net energy use. ▪ Install energy-efficient appliances, interior lighting, and building mechanical systems. Encourage installation of solar panels for new residential and commercial development. ▪ Locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. ▪ Locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following: ▫ Install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to indoor reduce pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects. ▫ Use air filtration devices rated MERV-13 or higher. ▪ Plant trees and/or vegetation suited to trapping roadway air pollution and/or sound walls between sensitive receptors and the pollution source. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy Install higher efficacy public street and exterior lighting.	Require coatings compliant with SJVAPCD Rule 4601.	During project permitting and environmental review. Periodically during operation.	Once during environmental review; periodically during operation.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Use daylight as an integral part of lighting systems in buildings. ▪ Use passive solar designs to take advantage of solar heating and natural cooling. ▪ Install light colored "cool" roofs, cool pavements. ▪ Install solar and tankless hot water heaters. ▪ Exclude wood-burning fireplaces and stoves. ▪ Incorporate design measures and infrastructure that promotes safe and efficient use of alternative modes of transportation (e.g., neighborhood electric vehicles, bicycles) pedestrian access, and public transportation use. Such measures may include incorporation of electric vehicle charging stations, bike lanes, bicycle-friendly intersections, and bicycle parking and storage facilities. ▪ Incorporate design measures that promote ride sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides).				
AQ-5 Health Risk Reduction Measures				
Transportation project sponsor agencies shall implement the following measures: ▪ During project-specific design and CEQA review, the potential localized particulate (PM_{10} and $PM_{2.5}$) impacts and their health risks shall be evaluated for individual projects. Localized particulate matter concentrations shall be estimated using procedures and guidelines consistent with U.S. EPA 2015's *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas*. If required based on the project-level hotspot analysis, project-specific mitigation shall be added to the project design concept or scope to ensure that local particulate (PM_{10} and $PM_{2.5}$) emissions would not reach a concentration at any location that would cause estimated cancer risk to exceed the	Retain air quality consultant to conduct project-level hot spot analysis. Ensure a project-level HRA is prepared by a qualified air quality consultant. Ensure project-level environmental review and site plans incorporate the measures to reduce particulate impacts, as listed in this mitigation measure	During project permitting and environmental review; during construction as applicable; during operation.	Once during environmental review; periodically during construction; following construction, during operation.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
SJVAPCD threshold of 20 in one million. Per the U.S. EPA guidance (2015), potential mitigation measures to be considered may include but shall not be limited to: providing a retrofit program for older higher emitting vehicles, anti-idling requirements or policies, controlling fugitive dust, routing traffic away from populated zones and replacing older buses with cleaner buses. These measures can and should be implemented to reduce localized particulate impacts as needed. ▪ For projects that do not meet screening criteria, retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with CARB and OEHHA requirements to determine the exposure of nearby residents to TAC concentrations. ▪ If impacts result in increased risks to sensitive receptors above significance thresholds, plant trees and/or vegetation suited to trapping TACs and/or sound walls between sensitive receptors and the pollution source. In addition, consistent with the general guidance contained in CARB's *Air Quality and Land Use Handbook* (2005) and Technical Advisory *on Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways* (2017), appropriate and feasible measures shall be incorporated into project building design for land use projects including residential, school and other sensitive uses located within 500 feet (or other appropriate distance as determined by the lead agency) of freeways, heavily travelled arterials, railways and other sources of diesel particulate matter, including roadways experiencing significant vehicle delays. The appropriate measures shall include one or more of the following methods, as appliable and as determined by a qualified professional. The implementing agency shall incorporate health risk reduction measures based on an analysis of individual sites and project circumstances. These measures may include: ▪ Avoid siting new sensitive land uses within 500 feet of a freeway or railway.				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Require development projects for new sensitive land uses to be designed to minimize exposure to roadway-related pollutants to the maximum extent feasible through inclusion of design components including air filtration and physical barriers. ▪ Do not locate sensitive receptors near the entry and exit points of a distribution center. ▪ Locate structures and outdoor living areas for sensitive uses as far as possible from the source of emissions. As feasible, locate doors, outdoor living areas and air intake vents primarily on the side of the building away from nearby high volume roadways or other pollution source. As feasible, incorporate dense, tiered vegetation that regains foliage year-round and has a long life span between the pollution source and the project. ▪ Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). ▪ Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the MERV 13. The HV system should include the following features: ▫ Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. ▫ Use of either HEPA filters or ASHRAE 85 percent supply filters. ▫ Completion of ongoing maintenance. ▪ Retain a qualified HV consultant or Home Energy Rating Systems rater during the design phase of the project to locate the HV system based on exposure modeling from the mobile and/or stationary pollutant sources. ▪ Maintain positive pressure within the building. ▪ Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Achieve a performance standard of at least four air exchanges per hour of recirculation. Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized. ▪ Require project owners to provide a disclosure statement to occupants and buyers summarizing technical studies that reflect health concerns about exposure to highway/freeway exhaust emissions.				
Biological Resources				
BIO-1 (a) Biological Resources Screening and Assessment				
The implementing agencies shall, or can and should, implement the following measures during CEQA review of projects implementing the proposed 2022 RTP/SCS. On a project-by-project basis, a preliminary biological resource screening shall be performed to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint plus an appropriate buffer determined by a qualified biologist and to determine the potential impacts to those resources. The BRA shall evaluate the potential for impacts to all sensitive biological resources including, but not limited to special-status species, nesting birds, wildlife movement, sensitive plant communities/critical habitat and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (i.e., protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. The following Mitigation Measures [BIO-1(b) through BIO-1(i)] shall be incorporated, only as applicable, into the BRA and/or the project CEQA document for projects where specific resources are present, or may be present, and may be impacted by the project. Note that specific surveys described in the	Ensure preliminary biological resource screening to determine whether the project has any potential to impact biological resources and incorporate measures listed in this mitigation measure if impacts are found. Retain a qualified biologist to conduct a biological resources assessment (BRA) if the project would have potential to impact biological resources.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
mitigation measures below may be completed as part of the BRA where suitable habitat is present.				
BIO-1(b) Special-Status Plant Species Surveys				
If completion of the project-specific BRA determines that special-status plant species have potential to occur on-site, the implementing agency shall contract a qualified biologist to complete surveys for special-status plants prior to any vegetation removal, grubbing, or other construction activity of each project (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project-specific BRA. Whenever practicable, surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the implementing agency for review. If special-status plant species are identified, mitigation measure BIO-1(c) shall apply.	If there is a potential for special-status plant species to occur on site, surveys for special status plants shall be completed. Ensure a report of the survey is provided to the implementing agency for review.	During project permitting and environmental review; prior to construction but no earlier than one year before construction commences.	Once during environmental review.	Implementing agencies/project sponsor
BIO-1(c) Special-Status Plant Species Avoidance, Minimization, and Mitigation				
If state or federally listed and/or CRPR 1 and 2 species are found during special-status plant surveys [pursuant to mitigation measure BIO-1(b)], then the implementing agency shall redesign the project to avoid impacting these plant species to the maximum extent feasible. Occurrences of these species that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm. If CRPR 3 and 4 species are found, the qualified biologist contracted to conduct the plant surveys [pursuant to mitigation measure BIO-1(b)] shall evaluate to determine if they meet criteria to be considered special-status, and if so, the same process as identified for CRPR 1 and 2 species shall apply. If special-status plants species cannot be avoided and would be impacted by a project implemented under the proposed 2022 RTP/SCS, the implementing agency shall require all impacts	Ensure redesign of the project to avoid impacting rare plant species if state or federally listed and/or CRPR 1 and 2 species are found. Ensure biologist evaluates CRPR 3 and 4 species to determine whether special-status. If avoidance is not possible, mitigation to fully offset project impacts shall be required pursuant to a qualified biologist. Ensure a restoration plan is developed for the project.	During project permitting and environmental review; prior to issuance of project construction permits and approvals.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
shall be mitigated at an appropriate ratio to fully offset project impacts, as determined by a qualified biologist for each species as a component of habitat restoration. A restoration plan shall be prepared and submitted to the implementing agency.				
BIO-1(d) Endangered/Threatened Animal Species Habitat Assessment and Protocol Surveys				
If the results of the BRA determine that suitable habitat may be present for federally and/or state endangered or threatened animal species, the implementing agency shall require habitat assessments/surveys. Whenever practicable the surveys shall be completed in accordance with CDFW and/or USFWS/NMFS protocols prior to issuance of any construction permits/project approvals. Alternatively, in lieu of conducting protocol surveys, the implementing agency may choose to assume presence within the project footprint and proceed with development of appropriate avoidance measures, consultation, and permitting, as applicable. If the target species is detected during protocol surveys, or protocol surveys are not conducted and presence assumed based on suitable habitat, mitigation measure BIO-1(e) shall apply	If suitable habitat for federally and/or state endangered or threatened animal species exists, unless presence is assumed, protocol habitat assessments/ surveys shall be completed in accordance with CDFW and/or USFWS/NMFS protocols.	During project permitting and environmental review; prior to commencement of project construction.	Once during environmental review.	Implementing agencies/project sponsor
BIO-1 (e) Endangered/Threatened Animal Species Avoidance and Compensatory Mitigation				
If habitat is occupied or presumed occupied by federal and/or state listed species and would be impacted by the project, the implementing agency shall redesign the project in coordination with a qualified biologist to avoid impacting occupied/presumed occupied habitat to the extent feasible. If occupied or presumed occupied habitat cannot be avoided, the implementing agency shall estimate the total acreages for habitat that would be impacted prior to the issuance of construction permits/approvals. Compensatory mitigation shall be achieved through purchase of credits at a USFWS, NMFS and/or CDFW approved conservation bank if available for the affected species, and/or through providing compensatory mitigation to offset impacts to federal and/or state listed species habitat. Compensatory mitigation	If habitat is occupied by federal and/or state listed species, implementing agency shall require project plans include project-specific mitigation measures to avoid and minimize impacts to habitat for endangered or threatened species. If avoidance is not possible, credits shall be purchased according to the mitigation measure, and for compensatory mitigation a qualified biologist must provide a HMMP.	During project permitting and environmental review; prior to issuance of construction permits and approvals.	Once during environmental review. In accordance with project HMMP, as applicable.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
shall be provided at an appropriate ratio to fully offset project impacts, as determined by a qualified biologist for permanent impacts. Compensatory mitigation may be combined/nested with special-status plant species and sensitive community restoration where applicable. Temporary impact areas shall be restored to pre-project conditions. If on and/or off-site compensatory mitigation sites are identified, the implementing agency shall retain a qualified biologist to prepare a Habitat Mitigation and Monitoring Plan (HMMP) to ensure the success of compensatory mitigation sites that are to be conserved for compensation of permanent impacts to federal and/or state listed species. The HMMP shall identify long term site management needs, routine monitoring techniques, techniques, and success criteria, and shall determine if the conservation site has restoration needs to function as a suitable mitigation site. If restoration is required on the conservation site, the HMMP shall contain the restoration components outlined under the Restoration Plan listed in measure BIO-1(c). The HMMP shall be submitted to the implementing agency.				
BIO-1(f) Endangered/Threatened Species Avoidance and Minimization During Construction				
The implementing agency shall apply the following measures to aquatic and terrestrial species, where appropriate. Implementing agencies shall select from these measures as appropriate depending on site conditions, the species with potential for occurrence and the results of the biological resources screening and assessment (Measure BIO-1[a]). ▪ Preconstruction surveys for federal and/or state listed species with potential to occur shall be conducted where suitable habitat is present by a qualified biologist not more than 48 hours prior to the start of construction activities. The survey area shall include the proposed disturbance area and all proposed ingress/egress routes, plus a 100-foot buffer. If any life stage of federal and/or state listed species is found within the survey area, the qualified biologist shall recommend an appropriate course of action, which may include consultation with USFWS, NMFS and/or CDFW. The	If applicable, project plans and CEQA documents shall include project-specific mitigation measures to avoid and minimize impacts to endangered or threatened species. Implement the mitigation measures preconstruction and during construction of the project, and conduct post construction monitoring as required.	During project permitting and environmental review; prior to and ongoing throughout project construction.	Once during environmental review. Periodically through construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
results of the pre-construction surveys shall be submitted to the implementing agency for review and approval prior to start of construction. ▪ Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern shall have highly visible orange construction fencing. ▪ All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed between April 1 and October 31, to avoid impacts to sensitive aquatic species. ▪ All projects occurring within or adjacent to sensitive habitats that may support federally and/or state endangered/threatened species shall have a qualified biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS/NMFS or as outlined in project permits, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are begin fully implemented. ▪ No endangered/threatened species shall be captured and relocated without authorization from the CDFW and/or USFWS. ▪ If pumps are used for dewatering activities, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system. ▪ If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. At that point, a qualified biologist shall				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
recommend an appropriate course of action, which may include consultation with USFWS, NMFS and/or CDFW. ▪ All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. ▪ No equipment shall be permitted to enter wetted portions of any affected drainage channel. ▪ All equipment operating within streambeds (restricted to conditions in which water is not present) shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access. ▪ At the end of each workday, excavations shall be secured with a cover, or a ramp shall be provided to prevent wildlife entrapment. ▪ All trenches, pipes, culverts, or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.				
BIO-1(g) Non-Listed Special-status Animal Species Avoidance and Minimization				
Depending on the species identified in the BRA, the implementing agency shall select from among the following to reduce the potential for impacts to non-listed special-status animal species: ▪ Preconstruction clearance surveys shall be conducted within 14 days prior to the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 100-foot buffer and shall identify all special-status animal species that may occur on-site. All non-listed special-status species shall be relocated from the site either through direct capture or through passive exclusion. A report of the preconstruction survey shall be submitted to the implementing agency for their review and approval prior to the start of construction.	If applicable, project plans and CEQA documents shall include project-specific mitigation measures to reduce impacts to non-listed special status species. Implementation of the mitigation measures.	During project permitting and environmental review; prior to, during and after project construction.	Once during environmental review. During all initial ground disturbance, as applicable.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal, to recover special-status animal species unearthed by construction activities. ▪ Upon completion of the project, a qualified biologist shall prepare a final compliance report documenting all compliance activities implemented for the project, including the preconstruction survey results. ▪ If special-status bat species may be present and impacted by the project, within 30 days of the start of construction a qualified biologist shall conduct presence/absence surveys for special-status bats, in consultation with the CDFW, where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active bat roosts or colonies are present, the biologist shall evaluate the type of roost to determine the next step. ▫ If a maternity colony is present, all construction activities shall be postponed within a 250-foot buffer around the maternity colony until it is determined by a qualified biologist that the young have dispersed or as recommended by CDFW through consultation. Once it has been determined that the roost is clear of bats, the roost shall be removed immediately. ▫ If a roost is determined by a qualified biologist to be used by a large number of bats (large hibernaculum), alternative roosts, such as bat boxes if appropriate for the species, shall be designed and installed near the project site. The number and size of alternative roosts installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW. ▫ If other active roosts are located, exclusion devices such as valves, sheeting or flap-style one-way devices that allow bats to exit but not re-enter roosts discourage bats from occupying the site.				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
BIO-1(h) Preconstruction Surveys for Nesting Birds				
The implementing agencies shall, or can and should, implement the following measures during CEQA review of projects implementing the proposed 2022 RTP/SCS. For construction activities occurring during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the CFGC, the MBTA, and Bald and Golden Eagle Protection Act shall be conducted by a qualified biologist no more than 10 days prior to vegetation removal activities. A qualified biologist shall conduct preconstruction surveys for raptors. The survey for the presence of bald and golden eagles shall cover all areas within of the disturbance footprint plus a one-mile buffer where access can be secured. The survey area for all other nesting bird and raptor species shall include the disturbance footprint plus a 300-foot and 500-foot buffer, respectively. If active nests (nests with eggs or chicks) are located, the qualified biologist shall establish an appropriate avoidance buffer based on the species biology and the current and anticipated disturbance levels occurring in vicinity of the nest. All buffers shall be marked using high visibility flagging or fencing, and, unless approved by the qualified biologist, no construction activities shall be allowed within the buffers until the qualified biologist has verified that young have fledged from the nest, or the nest fails. For bald or golden eagle nests identified during the preconstruction surveys, an avoidance buffer of up to one mile shall be established on a case-by-case basis in consultation with the USFWS and CDFW. The size of the buffer may be influenced by the existing conditions and disturbance regime, relevant landscape characteristics, and the nature, timing, and duration of the expected disturbance. The buffer shall be established between February 1 and September 15; however, buffers may be relaxed earlier than September 15 if a qualified ornithologist determines that a given nest has failed or that all surviving chicks have fledged, and the nest is no longer in use.	If applicable, a survey for nesting birds shall be completed; if necessary, a buffer shall be created. Submit report of preconstruction nesting bird surveys and nest monitoring (if applicable).	During project permitting and environmental review; prior to construction activities; during construction activities if required.	Once during environmental review. Once prior to construction; as needed during construction activities.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
A report of these preconstruction nesting bird surveys and nest monitoring (if applicable) shall be submitted to the implementing agency for review and approval prior to the start of construction.				
BIO-1 (i) Worker Environmental Awareness Program (WEAP)				
The implementing agencies shall, or can and should, implement the following measures during CEQA review of projects implementing the proposed 2022 RTP/SCS. Prior to initiation of construction activities (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist retained by the implementing agency, to aid workers in recognizing special-status resources and review of the limits of construction and mitigation measures required. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting that they have attended the WEAP and understand the information presented to them.	Construction personnel shall attend WEAP training prior to working on the project and receive a fact sheet. Fact sheet to be made available at the project site.	Prior to start of construction and as new construction staff start working on project.	Once during environmental review. Once prior to construction.	Implementing agencies/project sponsor
BIO-2(a) Aquatic Resources Jurisdictional Delineation and Impact Avoidance				
The implementing agencies shall, or can and should, implement the following measures during CEQA review of projects implementing the proposed 2022 RTP/SCS. If the results of measure BIO-1(a) indicates projects implemented under the proposed 2022 RTP/SCS occur within or adjacent to wetland, drainages, riparian habitats, or other areas that may fall under the jurisdiction of the CDFW, USACE, and/or RWQCB, a qualified biologist shall complete an aquatic resources delineation in accordance with the requirement set forth by each agency. The result shall be submitted to the implementing agency, USACE, RWQCB, and/or CDFW, as appropriate, for review and approval, and the project shall be designed to avoid and minimize impacts to jurisdictional areas to the extent feasible. The delineation shall serve as the basis to identify potentially jurisdictional areas to be protected during construction,	If applicable, a jurisdictional delineation shall be completed and submitted to the applicable agencies listed in this mitigation measure. Design project to avoid and minimize impacts to jurisdictional areas to the extent feasible.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
through implementation of the avoidance and minimization identified in measure BIO-2(f).				
BIO-2(b) Wetland, Drainages, and Riparian Habitat Restoration				
The implementing agencies shall, or can and should, implement the following measures during CEQA review of projects implementing the proposed 2022 RTP/SCS. Unavoidable impacts to jurisdictional wetlands, drainages, and riparian habitat shall be mitigated at an appropriate ratio to fully offset project impacts, as determined by a qualified biologist retained by the implementing agency and shall occur on-site or as close to the impacted habitat as possible. A mitigation and monitoring plan consistent with regulatory agency requirements shall be developed by a qualified biologist and submittal to the regulatory agency overseeing the project for approval. Alternatively, mitigation shall be accomplished through purchase of credits from an approved wetlands mitigation bank.	Ensure, if applicable, CEQA documents mitigate impacts to jurisdictional wetlands and riparian habitats at a ratio to fully offset project impacts, as determined by a qualified biologist. Ensure a mitigation and monitoring plan is developed be developed by a qualified biologist.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
BIO-2(c) Landscaping Plan				
If landscaping is proposed for a specific project, a qualified biologist/landscape architect retained by the implementing agency shall prepare a landscape plan. Drought tolerant, locally native plant species shall be used. Noxious, invasive and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List and/or California Invasive Plant Council Inventory shall not be permitted. Species selected for planting shall be regionally appropriate native species that are known to occur in the adjacent native habitat types.	Retain a qualified biologist/landscape architect, if applicable, to prepare a landscaping plan that includes all requirements in this mitigation measure; species shall be regionally appropriate native species found in adjacent native habitats.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
BIO-2(d) Sensitive Natural Community Avoidance and Mitigation				
If the results of measure BIO-1(a) indicates projects implemented under the proposed 2022 RTP/SCS would impact sensitive natural communities, the implementing agency shall avoid impacts to sensitive natural communities through final project design modifications if feasible. If the implementing agency determines that sensitive natural communities cannot be avoided, impacts shall be mitigated on-	If applicable, project plans shall include final project design modifications shall be developed to avoid impacts to sensitive vegetation communities. If avoidance is not possible, impacts shall be mitigated at a ratio to fully offset project impacts, as determined by a qualified biologist.	During project permitting and environmental review.	Once during environmental review and then, when applicable, in accordance with the Restoration Plan.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
site or offsite at an appropriate ratio to fully offset project impacts, as determined by a qualified biologist based on any applicable resource agency guidelines. Temporarily impacted areas shall be restored to pre-project conditions. A Restoration Plan shall be developed by a qualified biologist and submitted to the implementing agency.	Ensure temporarily impacted areas are restored to pre-project conditions. Ensure a qualified biologist develops a Restoration Plan.			
BIO-2(e) Invasive Weed Prevention and Management Program				
Prior to start of construction for each project that occurs within or adjacent to native habitats, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist retained by the implementing agency to prevent invasion of native habitat by non-native plant species. The plan shall be submitted to the implementing agency for review and approval. A list of target species shall be included, along with measures for early detection and eradication. The plan, which shall be implemented by the implementing agency, shall also include, but not be limited to, the following measures to prevent the introduction of invasive weed species: ▪ During construction, limit the use of imported soils for fill. If the use of imported fill material is necessary, the imported material must be obtained from a source that is known to be free of invasive plant species. ▪ To minimize colonization of disturbed areas and the spread of invasive species, the contractor shall stockpile topsoil and redeposit the stockpiled soil after construction or transport the topsoil to a permitted landfill for disposal. ▪ All erosion control materials, including straw bales, straw wattles, or mulch used on-site must be free of invasive species seed. ▪ Exotic and invasive plant species shall be excluded from any erosion control seed mixes and/or landscaping plant palettes associated with the proposed project. ▪ All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas.	Retain a qualified biologist to develop an Invasive Weed Prevention and Management Program if project is in or next to native habitats.	During project permitting and environmental review; prior to construction activities; during construction activities.	Once during environmental review. Once prior to construction; ongoing during construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
BIO-2(f) Wetlands, Drainages, and Riparian Habitat Best Management Practices During Construction				
The following best management practices shall be required by the implementing agency for development within or adjacent to wetlands, drainages, or riparian habitat: ▪ Access routes, staging and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other waters including locating access routes and ancillary construction areas outside of jurisdictional areas. ▪ To control sedimentation during and after project implementation, appropriate erosion control materials shall be deployed to minimize adverse effects on jurisdictional areas in the vicinity of the project. ▪ Project activities within the jurisdictional areas should occur during the dry season (typically between June 1 and November 1) in any given year, or as otherwise directed by the regulatory agencies. ▪ During construction, no litter or construction debris shall be placed within jurisdictional areas. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site. ▪ Raw cement, concrete, or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project related activities, shall be prevented from contaminating the soil and/or entering wetlands, drainages, or riparian habitat. ▪ All refueling, maintenance and staging of equipment and vehicles shall occur at least 100 feet from bodies of water and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills.	If applicable, ensure project plans incorporate the best management practices listed in this mitigation measure.	During project permitting and environmental review; prior to construction activities; during construction activities.	Once during environmental review and prior to construction; ongoing during construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
BIO-3(a) Project Design for Wildlife Connectivity				
The implementing agency shall implement the following measures. All projects including long segments of fencing and lighting shall be designed to minimize impacts to wildlife. Where fencing or other project components is required for public safety concerns, these project components shall be designed to permit wildlife movement by incorporating design features such as: ▪ A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals; ▪ A minimum 12 inches between the top two wires, or top the fence with a wooden rail, mesh, or chain link instead of wire to prevent animals from becoming entangled; ▪ If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement, or the fence may be installed with the bottom at least 16 inches above the ground level; ▪ If fencing or other project components must be designed in such a manner that wildlife passage would not be permitted, wildlife crossing structures shall be incorporated into the project design as appropriate; and ▪ Lighting installed as part of any project shall be designed to be minimally disruptive to wildlife (see mitigation measure AES-3(a) Roadway Lighting for lighting requirements).	Project plans for projects with fencing and lighting shall be designed to minimize impacts to wildlife. Project plans shall incorporate wildlife crossing structures when a crossing is applicable.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
BIO-3 (b) Maintain Connectivity in Drainages				
The implementing agency shall implement the following measures. Permanent structures shall be avoided to the extent feasible within any drainage or river that serves as a wildlife migration corridor that would impede wildlife movement. In addition, upon completion of construction within any drainage, areas of stream channel and banks that are temporarily impacted shall be returned to pre-construction contours and in a condition that allows for unimpeded passage through the area once the work has been complete.	Ensure construction plans and building plans avoid placement of permanent structures in drainages or rivers such that wildlife movement would be impeded. Ensure temporary impacts to stream channels are restored. If applicable, ensure a diversion plan is provided for the project.	During project permitting and environmental review. Ensure temporary impacts to stream channels are restored after construction is completed.	Once during environmental review. Once post-construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
If water is to be diverted around work sites, a diversion plan shall be submitted to the implementing agency for review and approval prior to issuance of project construction permits/approvals. The diversion shall be designed in a way as to not impede movement while the diversion is in place.				
BIO-3 (c) Construction Best Management Practices to Minimize Disruption to Wildlife				
The following construction best management practices shall be incorporated by the implementing agency into all grading and construction plans to minimize temporary disruption of wildlife, which could hinder wildlife movement: Designation of a 20 mile per hour speed limit in all construction areas. ▪ Daily construction work schedules shall be limited to daylight hours only. ▪ Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition. ▪ All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week. ▪ No pets are permitted on project site during construction.	Ensure construction plans incorporate best management practices to minimize disruption to wildlife.	During project permitting and environmental review; prior to issuance of grading and construction permits.	Once during environmental review. Periodically during construction.	Implementing agencies/project sponsor
Cultural Resources				
CR-1 Built Environment Historical Resources				
Prior to individual project permit issuance, the implementing agency of a 2022 RTP/SCS project involving earth disturbance or construction of permanent above ground structures or roadways shall prepare a map defining the project area. This map shall indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will help in determining whether known and potential historical resources are located within the project area. If a structure greater than 45 years in age is within the identified impact zone, a survey and evaluation of the structure(s) to determine their eligibility for recognition under State, federal, or local historic preservation criteria shall be conducted. The evaluation shall be prepared by an architectural historian or historical architect meeting the Secretary of the	Prepare a map defining the Area of Potential Effects. Retain an architectural historian, or historical architect, to determine eligibility of structure for recognition under state, federal, or local historic preservation criteria, if applicable. Implement identified historical resource mitigation measures.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Interior's Standards and Guidelines for Archeology and Historic Preservation, Professional Qualification Standards (PQS) as defined in 36 CFR Part 61. All buildings and structures 45 years of age or older within the project area shall be evaluated in their historic context and documented in a report meeting the State Office of Historic Preservation guidelines. All evaluated properties shall be documented on Department of Parks and Recreation Series 523 Forms. The report shall be submitted to the implementing agency for review and concurrence. If historical resources are identified within the project area of a proposed project, efforts shall be made to the extent feasible to ensure that impacts are mitigated. Application of mitigation shall generally be overseen by a qualified architectural historian or historic architect meeting the PQS, unless unnecessary in the circumstances (e.g., preservation in place). In conjunction with any development application that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction activities shall be provided to the implementing agency for review. To the greatest extent possible the relocation, rehabilitation, or alteration of the resource shall be consistent with the *Secretary of the Interior's Standards for the Treatments of Historic Properties* (Standards). In accordance with CEQA, a project that has been determined to conform with the Standards generally would not cause a significant adverse direct or indirect impact to historical resources (14 CCR § 15126.4(b)(1)). Application of the Standards shall be overseen by a qualified architectural historian or historic architect meeting the PQS. In conjunction with any development application that may affect the historical resource, a report identifying and specifying the treatment of character-defining features and construction activities shall be provided to the implementing agency for review and concurrence. If significant historical resources are identified on a development site and compliance with the Standards and or avoidance is not possible, appropriate site-specific mitigation measures shall be established and undertaken. Mitigation				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
measures may include documentation of the historical resource in the form of a Historic American Building Survey-Like report. The report shall comply with the Secretary of the Interior's Standards for Architectural and Engineering Documentation and shall generally follow the HABS Level III requirements, including digital photographic recordation, detailed historic narrative report, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the PQS and submitted to the implementing agency prior to issuance of any permits for demolition or alteration of the historical resource.				
CR-2(a) Archaeological Resources Impact Minimization				
Before construction activities, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct a record search at the Northwest Information Center to determine whether the project area has been previously surveyed and whether resources were identified. When recommended by the Information Center, implementing agencies shall, or can and should, retain a qualified archaeologist to conduct archaeological surveys before construction activities. Implementing agencies shall, or can and should, follow recommendations identified in the survey, which may include, but would not be limited to subsurface testing, designing, and implementing a Worker Environmental Awareness Program (WEAP), construction monitoring by a qualified archaeologist, avoidance of sites and preservation in place, and/or data recovery if avoidance is not feasible. Recommended mitigation measures shall be consistent with *State CEQA Guidelines* Section 15126.4(b)(3) recommendations and may include but not be limited to preservation in place and/or data recovery. All cultural resources work shall follow accepted professional standards in recording any find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area.	Retain a qualified archaeologist to conduct a record search to determine whether the project area has been previously surveyed and whether resources were identified. Implement recommendations identified in the survey. Project construction plans shall include required components to stop work if archaeological resources are uncovered.	During project permitting and environmental review; prior to construction activities; during construction activities.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
CR-2(b) Unanticipated Discoveries During Construction				
During construction activities, implementing agencies shall, or can and should, implement the following measures. If evidence of any prehistoric or historic-era subsurface archaeological features, deposits or tribal cultural resources are discovered during construction-related earthmoving activities (e.g., ceramic shard, trash scatters, lithic scatters), all ground-disturbing activity proximate to the discovery shall be halted until a qualified archaeologist (36 CFR Section 61) can assess the significance of the find. If the find is a prehistoric archaeological site, the appropriate Native American group shall be notified. If the archaeologist determines that the find does not meet the CRHR standards of significance for cultural resources, construction may proceed. If the archaeologist determines that further information is needed to evaluate significance, a testing plan shall be prepared and implemented. If the find is determined to be significant by the qualified archaeologist (i.e., because the find is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall work with the implementing agency to avoid disturbance to the resources, and if complete avoidance is not feasible in light of project design, economics, logistics and other factors, shall recommend additional measures such as the preparation and implementation of a data recovery plan. All cultural resources work shall follow accepted professional standards in recording any find including submittal of standard DPR Primary Record forms (Form DPR 523) and location information to the appropriate California Historical Resources Information System office for the project area. If the find is a prehistoric archaeological site, the culturally affiliated California Native American tribe shall be notified and afforded the opportunity to monitor mitigative treatment. During evaluation or mitigative treatment, ground disturbance and construction work could continue in other parts of the project area that are distant enough from the find not to impact it, as determined by the qualified archaeologist.	Place conditions of approval on project to ensure that if archaeological resources are uncovered work is halted until the procedures described in this mitigation measure have been completed.	During project permitting and environmental review; prior to construction activities; during construction activities.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Geology and Soils				
GEO -5 Paleontological Resources Mitigation and Monitoring Program				
The implementing agency of a proposed 2022 RTP/SCS project involving ground disturbing activities (including grading, trenching, foundation work and other excavations) shall, or can and should, retain a qualified paleontologist, defined as a paleontologist who meets the Society of Vertebrate Paleontology (SVP) standards for Qualified Professional Paleontologist (SVP 2010), to conduct a Paleontological Resources Assessment (PRA). The PRA shall determine the age and paleontological sensitivity of geologic formations underlying the proposed disturbance area, consistent with SVP Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. If underlying formations are found to have a high potential (sensitivity) for paleontological resources and/or could be considered a unique geologic feature, the following measures shall apply: ▪ **Avoidance.** Avoid routes and project designs that would permanently alter unique paleontological and unique geological features. If avoidance practices cannot be implemented, the following measures shall apply. ▪ **Retention of a Qualified Paleontologist.** A Qualified Paleontologist shall be retained to create a Paleontological Resources Monitoring and Mitigation Program (PRMMP) to direct all mitigation measures related to paleontological resources. The Qualified Paleontologist shall meet the qualifications for a Qualified Professional Paleontologist, which is defined by the SVP as an individual, preferably with an M.S. or Ph.D. in paleontology or geology, who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010).	Retain a qualified paleontologist to conduct a PRA. Place conditions of approval on project to ensure procedures described in this mitigation measure are completed before and throughout construction, if the project area is underlying high sensitivity or unique geologic features.	During project permitting and environmental review; prior to construction activities; during construction activities.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ **Paleontological Worker Environmental Awareness Program (WEAP).** Prior to the start of ground disturbance activity, construction personnel shall be informed on the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. ▪ **Paleontological Monitoring.** Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring will be determined by the Qualified Paleontologist based on the observation of the geologic setting from initial ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions once the full depth of excavations has been reached, they may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. Monitoring shall be reinstated if any new ground disturbances are required, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time. In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following measures to mitigate impacts to significant fossil resources: ▫ **Fossil Salvage**. If significant fossils are discovered, the implementing agency shall be notified immediately, and the qualified paleontologist (or paleontological monitor) shall recover them. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
periods. In this case, the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. ▫ **Preparation and Curation of Recovered Fossils**. Once salvaged, fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection, such as the Natural History Museum of Los Angeles County, along with all pertinent field notes, photos, data, and maps. ▪ **Final Paleontological Resources Mitigation and Monitoring Report**. Upon completion of ground disturbing activity (and curation of fossils, if necessary) the Qualified Paleontologist shall prepare a final mitigation and monitoring report outlining the results of the PRMMP. The report shall include discussion of the location, duration and methods of the monitoring, stratigraphic sections, any recovered fossils, and the scientific significance of those fossils, and where fossils were curated. The report shall be submitted to the implementing agency. If the monitoring efforts recovered fossils, then a copy of the report shall also be submitted to the designated museum repository, such as the Natural History Museum of Los Angeles County				
Greenhouse Gas Emissions and Climate Change				
GHG –1 Construction GHG Reduction Measures				
The project sponsor shall incorporate the most recent GHG emission reduction measures for off-road construction vehicles during construction. The measures shall be noted on all construction plans, and the implementing agency shall perform periodic site inspections. Current GHG-reducing measures include the following: ▪ Use of diesel construction equipment meeting CARB's Tier 4 certified engines wherever feasible for off-road heavy-duty diesel engines and comply with the State Off-Road Regulation. Where the use of Tier 4 engines is not feasible,	Ensure construction plans specify construction equipment is subject to the CARB Regulation for In-use Off-road Diesel Vehicles and, if feasible, construction equipment meets Tier 4 standards; or at least Tier 2 standards; and perform periodic site inspections. Ensure periodic site inspections are conducted.	During project permitting and environmental review	Once during environmental review; periodically during construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Tier 3 certified engines shall be used; where the use of Tier 3 engines are not feasible, Tier 2 certified engines shall be used; ▪ Use of on-road heavy-duty trucks that meet CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; ▪ Minimizing idling time (e.g., five-minute maximum). Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the five-minute idling limit; ▪ Use of electric-powered equipment in place of diesel-powered equipment when feasible; ▪ Use of alternatively fueled or catalyst-equipped diesel construction equipment when feasible, to the extent electric powered equipment is not feasible; ▪ Substitute gasoline-powered in place of diesel-powered equipment, when neither electric-powered equipment or alternatively fueled or catalyst-equipped diesel equipment is feasible; and ▪ Project proponents shall incentivize that construction workers carpool, and/or use electric vehicles to commute to and from the project site.				
GHG-2 Land Use Project Energy Consumption and Water Use Reduction Measures				
For land use projects under their jurisdiction, cities and the County can and should implement measures to reduce energy consumption, water use, solid waste generation, and VMT, all of which contribute to GHG emissions. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions. These measures include, but are not limited to: ▪ Require new residential and commercial construction to install solar energy systems or be solar-ready ▪ Require new residential and commercial development to install low flow water fixtures	Use project-level analysis of energy consumption, solid waste generation, and water use and incorporate mitigation measures as needed to specifications described in measure. Place conditions of approval on the project requiring energy- and water-saving measures.	During project permitting and environmental review.	Once during environmental review and discretionary approval decisions for land use projects. Once prior to issuance of an occupancy permit.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Require new residential and commercial development to install water-efficient drought-tolerant landscaping, including the use of compost and mulch ▪ Require new development to exceed the applicable Title 24 energy-efficiency requirements ▪ Require new development to be fully electric ▪ Require new residential and commercial development to offer information on recycling, composting, and disposal of household hazardous waste and e-waste ▪ Require new development to implement circulation design elements in parking lots for no-residential uses to reduce vehicle queuing and improve the pedestrian environment				
GHG-4(a) Transportation-Related GHG Reduction Measures				
The implementing agency shall incorporate the most recent GHG emission reduction measures and/or technologies for reducing VMT and associated transportation related GHG emissions. Current GHG-reducing measures include the following: ▪ Installation of electric vehicle charging stations beyond those required by State and local codes ▪ Utilization of electric vehicles and/or alternatively fueled vehicles in company fleet ▪ Provision of dedicated parking for carpools, vanpool, and clean air vehicles ▪ Provision of vanpool and/or shuttle service for employees ▪ Implementation of reduced parking minimum requirements ▪ Implementation of maximum parking limits ▪ Provision of bicycle parking facilities beyond those required by State and local codes ▪ Provision of a bicycle-share program ▪ Expansion of bicycle routes/lanes along the project site frontage ▪ Provision of new or improved transit amenities (e.g., covered turnouts, bicycle racks, covered benches, signage,	Place conditions of approval on project requiring implementation of GHG and/or VMT reduction measures described in this mitigation.	During project permitting and environmental review.	Once during environmental review and discretionary approval decisions for land use projects	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
lighting) if project site is located along an existing transit route ▪ Expansion of existing transit routes ▪ Provision of transit subsidies ▪ Expansion of sidewalk infrastructure along the project site frontage ▪ Provision of safe, pedestrian-friendly, and interconnected sidewalks and streetscapes ▪ Provision of employee lockers and showers ▪ Provision of on-site services that reduce the need for off-site travel (e.g., childcare facilities, automatic teller machines, postal machines, food services) ▪ Provision of alternative work schedule options, such as telework or reduced schedule (e.g., 9/80 or 10/40 schedules), for employees ▪ Implementation of transportation demand management programs to educate and incentivize residents and/or employees to use transit, smart commute, and alternative transportation options				
Hazards and Hazardous Materials				
HAZ-3 Site Remediation				
If an individual project included in the proposed 2022 RTP/SCS is located on or near a hazardous materials and/or waste site compiled by Government Code Section 65962.5, the implementing agency shall prepare a Phase I ESA in accordance with the American Society for Testing and Materials' E-1527-05 standard. For work requiring any demolition or renovation, the Phase I ESA shall make recommendations for any hazardous building materials survey work that shall be done. All recommendations included in a Phase I ESA prepared for a site shall be implemented. If a Phase I ESA indicates the presence or likely presence of contamination, the implementing agency shall require a Phase II ESA, and recommendations of the Phase II ESA shall be fully implemented. Examples of typical recommendations provided in Phase I/II ESAs include removal	Where applicable, prepare a Phase I ESA meeting the specifications of this mitigation measure. Place conditions of approval on project requiring incorporation of recommendations of the Phase I ESA, and if applicable, Phase II ESA.	During project permitting and environmental review.	Once during environmental review. Once prior to issuing grading or demolitions permits; periodically during construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
of contaminated soil in accordance with a soil management plan approved by the local environmental health department; covering stockpiles of contaminated soil to prevent fugitive dust emissions; capturing groundwater encountered during construction in a holding tank for additional testing and characterization and disposal based on its characterization; and development of a health and safety plan for construction workers.				
Hydrology and Water Quality				
HYD -2(a) Construction Dust Suppression Water Supply				
For all proposed 2022 RTP/SCS projects, where feasible, reclaimed and/or recycled water shall be used for dust suppression during construction activities. This includes use of such reclaimed water in water trucks utilized for project construction occurring outside developed areas and away from water infrastructure which would otherwise provide such reclaimed water. This measure shall be noted on construction plans and shall be spot checked by the local jurisdiction.	Place conditions of approval of individual projects requiring implementation of mitigation detailed in this measure.	During project permitting and environmental review; during construction.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor
HYD -2(b) Landscape Watering				
In jurisdictions that do not already have an appropriate local regulatory program related to landscape watering, proposed 2022 RTP/SCS projects that include landscaping shall be designed with drought tolerant plants and drip irrigation. When feasible, native plant species shall be used. In addition, landscaping associated with proposed improvements shall be maintained using reclaimed water when feasible. If reclaimed water could feasibly be utilized for project landscape watering due to proximity of reclaimed water sources but is unavailable due to lack of connecting infrastructure, local agencies or transportation sponsors shall conduct an analysis of the upgrades needed to provide such infrastructure, which will include the potential for new connections to existing reclaimed water systems to provide reclaimed water to other nearby sources besides the proposed project in the analysis, and shall perform such steps as necessary to utilize available reclaimed water if feasible.	If applicable, place conditions of approval requiring landscaping features described in this mitigation.	During project permitting and environmental review; during construction.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Noise				
N -1 Construction Noise Reduction				
To reduce construction noise levels to achieve applicable standards, implementing agencies for transportation and land use projects shall implement the measures identified below where feasible and necessary. a. **Compliance with local Construction Noise Regulations.** Implementing agencies shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites without pile driving, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements relating to construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise. b. **Noise Complaint and Enforcement Manager.** Designate an on-site construction complaint and enforcement manager for projects within 800 feet of sensitive receivers. Implementing agencies shall post phone numbers for the on-site enforcement manager at construction sites along with complaint procedures and who to notify in the event of a problem. c. **Pile Driving.** For any project within 3,200 feet of sensitive receptors that requires pilings, the implementing agency shall require caisson drilling or sonic pile driving as opposed to pile driving, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review. d. **Construction Equipment Noise Control.** Implementing agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).	Ensure consistency with local noise ordinance requirements relating to construction for sensitive uses. Place conditions of approval on project to require construction noise reduction measures detailed in this mitigation.	During project permitting and environmental review; prior to construction; during construction activities.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
e. **Impact Equipment Noise Control.** Implementing agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrically powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.				
f. **Construction Activity Timing Restrictions.** The following timing restrictions shall apply to proposed 2022 RTP/SCS activates creating noise levels at or above 65 dBA at a nearby dwelling unit, except where timing restrictions are already established in local codes or policies. Construction activities shall be limited to: ▪ Monday through Friday: 7 a.m. to 6 p.m. ▪ Saturday: 9 a.m. to 5 p.m.				
g. Placement of Stationary Noise Sources. Locate stationary noise sources as far from noise-sensitive receptors as possible. Stationary noise sources that must be located near existing receptors will be equipped with the best available mufflers				
N -2 Noise Assessment and Control for Mobile and Point Source Reduction				
Implementing agencies for 2022 RTP/SCS projects shall complete detailed noise assessments using applicable guidelines (e.g., Caltrans Traffic Noise Analysis Protocol) for roadway projects that may impact noise sensitive receptors. The implementing agency shall ensure that a noise survey is conducted that, at minimum: ▪ Determines existing and projected noise levels	Prior to issuance of grading or building permits, ensure noise assessments have been completed. Place conditions of approval to require implementation of recommendations in project-specific noise assessments.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Determines the amount of attenuation needed to reduce potential noise impacts to applicable State and local standards ▪ Identifies potential alternate alignments that allow greater distance from, or greater buffering of, noise-sensitive areas ▪ If warranted, recommends methods for mitigating noise impacts, including: ▫ Appropriate setbacks ▫ Sound attenuating building design, including retrofit of existing structures with sound attenuating building materials ▫ Use of sound barriers (earthen berms, sound walls, or some combination of the two) ▫ Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible. Where new or expanded roadway projects are found to expose receptors to noise exceeding normally acceptable levels, the individual project lead agency shall implement techniques as recommended in the project-specific noise assessments. The preferred methods for mitigating noise impacts shall include the use of appropriate setbacks and sound attenuating building design, including retrofit of existing structures with sound attenuating building materials where feasible. In instances where use of these techniques is not feasible, the use of sound barriers (earthen berms, sound walls, or some combination of the two) shall be considered. Whenever possible, a combination of elements shall be used, including open grade paving, solid fences, walls, and landscaped berms. Other techniques such as rubberized asphalt or “quiet pavement” shall be used where feasible to reduce road noise for new roadway segments or modifications requiring repaving. The effectiveness of noise reduction measures shall be monitored by taking noise measurements and installing adaptive mitigation measures to achieve applicable standards.				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
N-3(a) Vibration Mitigation for Construction of Transportation Projects				
Where local vibration and groundborne noise standards do not apply, implementing agencies of proposed 2022 RTP/SCS projects utilizing heavy construction equipment shall estimate vibration levels generated by construction activities and use the Caltrans vibration damage potential threshold criteria to screen for and screen out projects as to their potential to damage buildings on site or near a project. If construction equipment would generate vibration levels exceeding acceptable levels as established by Caltrans, implementing agencies of the proposed 2022 RTP/SCS shall, or can and should, complete the following tasks: ▪ Prior to construction, survey the project site for vulnerable buildings, and complete geotechnical testing (preconstruction assessment of the existing subsurface conditions and structural integrity), for any older or historic buildings within 50 feet of pile driving. The testing shall be completed by a qualified geotechnical engineer and qualified historic preservation professional and/or structural engineer. ▪ Prepare and submit a report to the lead agency that contains the results of the geological testing. If recommended by the preconstruction report implementing agencies shall require ground vibration monitoring of nearby historic structures. Methods and technologies shall be based on the specific conditions at the construction site. The preconstruction assessment shall include a monitoring program to detect ground settlement or lateral movement of structures in the vicinity of pile-driving activities and identify corrective measures to be taken should monitored vibration levels indicate the potential for building damage. In the event of unacceptable ground movement with the potential to cause structural damage, all impact work shall cease, and corrective measures shall be implemented to minimize the risk to the subject, or adjacent, historic structure.	If applicable, place conditions of approval on project to require construction noise reduction measures detailed in this mitigation.	During project permitting and environmental review and during; during construction activities.	Once during environmental review. Ongoing throughout construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ To minimize disturbance withing 550 feet of pile-driving activities, implement "quiet" pile-driving technology, such as predrilling of piles and the use of more than one pile driver to shorten the duration of pile driving), where feasible, in consideration of geotechnical and structural requirements and conditions as defined as part of the geotechnical testing, if testing was feasible. ▪ Use cushion blocks to dampen noise from pile driving. ▪ Phase operations of construction equipment to avoid simultaneous vibration sources				
N -3(b) Vibration Mitigation for Operation of Transportation Projects				
Where local vibration and groundborne noise standards do not apply, implementing agencies of proposed 2022 RTP/SCS projects shall comply with all applicable local vibration and groundborne noise standards, or in the absence of such local standards, comply with guidance provided by the FTA in Transit Noise and Vibration Impact Assessment (FTA 2018) to assess impacts to buildings and sensitive receptors and reduce vibration and groundborne noise. FTA recommended thresholds shall be used except in areas where local standards for groundborne noise and vibration have been established. Methods that can be implemented to reduce vibration and groundborne noise impacts include, but are not limited to: ▪ Bus and Truck Traffic ▪ Constructing of noise barriers ▪ Use noise reducing tires and wheel construction on bus wheels ▪ Use vehicle skirts (i.e., a partial enclosure around each wheel with absorptive treatment) on freight vehicle wheels	Prior to issuance of grading or building permits, ensure noise assessments have been completed. Place conditions of approval to require implementation of recommendations in project-specific noise assessments.	During project permitting and environmental review	Once during environmental review.	Implementing agencies/project sponsor
N –4 Noise Mitigation for Land Uses				
If a land use project is located in an area with exterior ambient noise levels above local noise standards, the implementing agency shall ensure that a noise study is conducted to determine the existing exterior noise levels in the vicinity of the project. If the project would be impacted by ambient noise	Comply with all applicable local and/or FTA vibration and groundborne noise standards.	During project permitting and environmental review.	Once during environmental review. Open during project operation.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
levels, feasible attenuation measures shall be used to reduce operational noise to meet acceptable standards. In addition, noise insulation techniques shall be utilized to reduce indoor noise levels to thresholds set in applicable State and/or local standards. Such measures may include but are not limited to dual-paned windows, solid core exterior doors with perimeter weather stripping, air conditioning system so that windows and doors may remain closed, and situating exterior doors away from roads. The noise study and determination of appropriate mitigation measures shall be completed during the project's individual environmental review.	Place conditions of approval to require implementation of recommendations in project-specific noise studies.			
N-5 Noise Mitigation Near Airports				
Implementing agencies for all new development proposed to be located within an existing airport influence zone, as defined by the locally adopted ALUCP or local general plan, or within two miles of a private use airport, shall require a site-specific noise compatibility study. The study shall consider and evaluate existing aircraft noise, based on specific aircraft activity data for the airport in question, and shall include recommendations for site design and building construction. Such measures may include but are not limited to dual-paned windows, solid core exterior doors with perimeter weather stripping, air conditioning system so that windows and doors may remain closed, and situating exterior doors away from roads, such as dual paned windows. The noise study and determination of appropriate mitigation measures shall be completed during the project's individual environmental review.	If applicable, require a site-specific noise compatibility study. Place conditions of approval on adherence to recommendations to site design and building construction, as recommended in the study.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
Public Services and Recreation				
PS -1 Increased Public Service Demand				
During the CEQA review process for individual public services facilities, the implementing agency with responsibility for construction of new public service facilities or the expansion of existing facilities, including those of fire and police services, parks, and other public facilities, can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or	Require mitigation to avoid or reduce significant environmental impacts related to project-specific construction and expansion of public service facilities.	During project permitting and environmental review	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
expansion of such facilities. Cities and the County can and should recognize the need for these measures in CEQA reviews of land use projects. The environmental impacts associated with such construction or expansion of public services facilities should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce significant impacts associated with air quality, noise, transportation, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of new public or expanded public service facilities.				
REC-1 Impact Reduction from New Recreational Facilities				
During project specific design and CEQA review, the County and cities, and other agencies with responsibility for the construction of new or expanded recreation facilities, can and should apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction of such facilities. The environmental impacts associated with such construction should be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions should include those necessary to avoid or reduce significant impacts associated with air quality, noise, transportation, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction of new or expanded recreation facilities, including recreational trails.	Require mitigation to avoid or reduce significant environmental impacts related to project-specific construction and expansion of recreation facilities, including recreational trails.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
Transportation				
T -2(a) Regional VMT Reduction Programs				
Implementing agencies shall require implementation of VMT reduction strategies through TDM programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, and other land use project conditions that reduce VMT. Programs shall be designed to reduce VMT from existing	Require the inclusion VMT reduction strategies included in this mitigation measure at a program and project-level.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
land uses, where feasible, and from new discretionary residential or employment land use projects. The design of programs and project specific mitigation shall focus on VMT reduction strategies that increase travel choices and improve the comfort and convenience of sharing rides in private vehicles, using public transit, biking, or walking. Modifications may include but are not limited to: ▪ Provide car-sharing, vanpool, bike sharing, and ride-sharing programs ▪ Implement or provide access to commute reduction programs ▪ Provide a bus rapid transit system ▪ Improve pedestrian or bicycle networks, or transit service ▪ Provide transit passes ▪ Encourage telecommute programs ▪ Incorporate affordable housing into the project ▪ Increase density ▪ Increase mixed uses within the project area ▪ Incorporate improved pedestrian connections within the project/neighborhood ▪ Incentivize development in low VMT communities ▪ Incentivize housing near commercial and offices ▪ Increase access to goods and services, such as groceries, schools, and daycare ▪ Incorporate neighborhood electric vehicle network ▪ Orient the project toward transit, bicycle, and pedestrian facilities ▪ Provide traffic calming ▪ Provide bicycle parking ▪ Limit parking ▪ Separate out parking costs ▪ Provide parking cash-out programs				

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
T-2(b) Project Level VMT Analysis and Reduction				
Transportation project sponsor agencies shall evaluate transportation projects that involve increasing roadway capacity for their potential to increase VMT. Where project-level increases are found to be potentially significant, implementing agencies shall, or can and should, identify and implement measures that reduce VMT. Examples of measures that can reduce the VMT associated with increases in roadway capacity include tolling new lanes to encourage carpools and fund transit improvements; converting existing general-purpose lanes to high occupancy vehicle lanes; VMT banks; and implementing or funding offsite travel demand management. Implementing agencies shall evaluate VMT as part of project specific CEQA review and discretionary approval decisions for land use projects. Where project level significant impacts are identified, implementing agencies shall identify and implement measures that reduce VMT. Examples of measures that reduce VMT include infill development, mixed use and transit-oriented development, TDM strategies, complete streets, reduced parking requirements, and providing alternative transportation facilities, such as bike lanes and transit stops	Evaluate the potential for projects to increase VMT. Where project-level significant impacts are identified, develop and implement mitigation measures to reduce VMT.	During project permitting and environmental review	Once during environmental review.	Implementing agencies/project sponsor
Tribal Cultural Resources				
TRC-1 Tribal Cultural Resources Impact Minimization				
Implementing agencies shall, or can and should, comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts: ▪ Avoidance and preservation of the resources in place, including, but not limited to: designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other	Ensure compliance with AB 52; and when applicable, implement measures identified in this mitigation measure.	During project permitting and environmental review. During construction.	Once during environmental review. Ongoing throughout project construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
open space to incorporate the resources with culturally appropriate protection and management criteria. ▪ Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: ▫ Protecting the cultural character and integrity of the resource ▫ Protecting the traditional use of the resource ▫ Protecting the confidentiality of the resource ▪ Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving or utilizing the resources or places ▪ Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources.				
Utilities and Service Systems				
UTIL -1(a) Water and Wastewater Facilities				
During the CEQA review process for individual facilities, TCAG and transportation project sponsor agencies, and cities in the TCAG region, Tulare County, and other utility providers with responsibility for the construction of new water or wastewater treatment and collection facilities or the expansion of existing facilities shall, or can and should, apply necessary mitigation measures to reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion shall be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions shall include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality and others that apply to specific	Require mitigation to avoid or reduce significant environmental impacts related to project-specific construction and expansion of wastewater treatment and collection facilities.	During project permitting and environmental review	.Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
construction or expansion of water or wastewater treatment and collection facilities projects.				
UTIL -1 (b) Stormwater Facilities				
During the CEQA review process for individual facilities, TCAG and transportation project sponsor agencies, and cities in the TCAG region, Tulare County, and other special districts with responsibility for the construction of new stormwater drainage facilities or the expansion of existing facilities to adequately meet projected capacity needs shall, or can and should, apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion shall be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions shall include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of storm water drainage facilities projects	Require mitigation to avoid or reduce significant environmental impacts related to project-specific construction and expansion of stormwater facilities.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
UTIL -1 (c) Stormwater Control Methods				
During the CEQA review process for individual projects, TCAG and transportation project sponsor agencies, and cities in the TCAG region and Tulare County shall, or can and should, implement the following measures where feasible: ▪ For transportation projects, incorporate stormwater control, retention, and infiltration features, such as detention basins, bioswales, vegetated median strips, and permeable paving, early into the design process to ensure such features are analyzed during environmental review. Implement mitigation measures identified for such features on a project specific basis, where feasible and necessary based on project and site-specific considerations. ▪ For land use projects, incorporate stormwater control, retention, and infiltration features, such as use of	Require incorporation of stormwater controls detailed in this measure for the construction and expansion of individual facilities.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
permeable paving materials, dry wells, bioswales, or green roofs, early into the design process to ensure such features are analyzed during environmental review. Implement mitigation measures identified for such features on a project specific basis, where feasible and necessary based on project and site-specific conditions.				
UTIL -1 (d) Electric Power, Natural Gas, or Telecommunications Facilities				
During the CEQA review process, cities, Tulare County, and TCAG region energy and telecommunications providers and other agencies with responsibility for the construction or approval of new electric power, natural gas, or telecommunications facilities or the expansion of existing facilities to adequately meet projected capacity needs shall, or can and should, apply necessary mitigation measures to avoid or reduce significant environmental impacts associated with the construction or expansion of such facilities. The environmental impacts associated with such construction or expansion shall be avoided or reduced through the imposition of conditions required to be followed by those directly involved in the construction or expansion activities. Such conditions shall include those necessary to avoid or reduce impacts associated with air quality, noise, traffic, biological resources, cultural resources, greenhouse gas emissions, hydrology and water quality, and others that apply to specific construction or expansion of natural gas and electric facilities projects.	Require mitigation to avoid or reduce significant environmental impacts related to project-specific construction and expansion of electric power, natural gas, or telecommunications facilities.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor
UTIL –2 Solid Waste Generation and Disposal				
During the CEQA review process for individual facilities, TCAG and transportation project sponsor agencies, cities in the TCAG region, and Tulare County shall, or can and should, implement the following measures where feasible: ▪ Provide an easily accessible area that is dedicated to the collection and storage of non-hazardous recycling materials. ▪ Maintain or reuse existing building structures and materials during building renovations and redevelopment. ▪ Use salvaged, refurbished, or reused materials to help divert such items from landfills.	Place conditions of approval of individual projects on the implementation of mitigation detailed in this measure.	During project permitting and environmental review	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Divert construction waste from landfills, where feasible, through means such as: ▫ Submitting and implementing a construction waste management plan that identifies materials to be diverted from disposal; ▫ Establishing diversion targets, possibly with different targets for different types and scales of development; ▫ Helping project sponsors and implementing agencies share information on available materials with one another, to aid in the transfer and use of salvaged materials.				
UTIL -4 General Conservation Measures				
During the CEQA review process for individual projects, TCAG and transportation project sponsor agencies, and cities in the TCAG region and Tulare shall, or can and should, implement water conservation measures to reduce water demand. They shall, or can and should, coordinate with relevant water services to ensure demand can be accommodated and identify a water consumption budget. Any water conservation measures that reduce demand for potable water, such as reducing water use for landscape irrigation for transportation projects or use of water-conserving fixtures in envisioned land use projects, shall be employed. Reclaimed water shall be used when possible. Specific conservation measures that shall be implemented may include, but would not be limited to: ▪ Limiting planting to native and non-native plants appropriate for the project microclimate so no water beyond natural rainfall is required for healthy plant survival after the plant establishment period ▪ Limiting supplemental water provided by irrigation to non-potable, unless not practicable ▪ Submitting written documentation of water availability prior to issuance of grading permits	Coordinate with water services to ensure demand can be accommodated, identify a water consumption budget, and implement the use of water conservation measures identified in this mitigation.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
Wildfire				
WF -1 (a) Wildfire Risk Reduction				
If an individual transportation or land use project included in proposed 2022 RTP/SCS is located within or less than two miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to: ▪ Require the use of fire-resistant vegetation native to Tulare County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, invasive species. ▪ Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures. ▪ Provide public education about wildfire risk, fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place. ▪ Require adherence to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments. ▪ Ensure sufficient emergency water supply. ▪ Encourage the use of fire-resistant vegetation native to Tulare County and/or the local microclimate of the project site and discourage the use of fire-prone species especially non-native, invasive species. ▪ Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not	If a project is within two miles of an SRA or VHFHSZ, the implementing agency shall require appropriate mitigation to reduce the risk.	During project permitting and environmental review. Additional measures listed should be implemented prior to and during construction.	During environmental review. Ongoing throughout project construction.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
adequately address fire hazards associated with the project as a whole or the individual phase of the project. ▪ Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings. ▪ Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher. ▪ Smoking and open fires shall be prohibited at individual transportation or land use projects sites included in proposed 2022 RTP/SCS during construction and operations. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County.				
WF -1 (b) Fire Protection Plan				
Individual transportation or land use projects included in 2022 RTP/SCS shall prepare a Fire Protection Plan that meets TCFD requirements. The plan shall contain (but not be limited to) the following provisions: ▪ All construction equipment shall be equipped with appropriate spark arrestors and carry fire extinguishers. ▪ A fire watch with appropriate firefighting equipment shall be available at the Project site at all times when welding activities are taking place. Welding shall not occur when sustained winds exceed that set forth by the TCFD unless a TCFD-approved windshield is on site. ▪ A vegetation management plan shall be prepared to address vegetation clearance around all WTGs and a regularly scheduled brush clearance of vegetation on and adjacent to all access roads, power lines, and other facilities.	If a project is within two miles of an SRA or VHFHSZ, implement mitigation described in this measure, such as maintaining and enforcing defensible space.	During project permitting and environmental review.	Once during environmental review.	Implementing agencies/project sponsor

Mitigation Measure	Action Required	Timing	Monitoring Requirements	Responsible Agency
▪ Operational fire water tanks shall be installed prior to construction. ▪ Provisions for fire/emergency services access if roadway blockage occurs due to large loads during construction and operation ▪ Cleared, maintained parking areas shall be designated; no parking shall be allowed in non-designated areas. ▪ The need for and/or use of dedicated repeaters for emergency services. ▪ Appropriate Hot Work permits (such as cutting and welding permits) shall be obtained from the jurisdictional fire agency. ▪ Individual transportation or land use projects included in proposed 2022 RTP/SCS shall participate in the Red Flag Warning program with local fire agencies and the National Weather Service. The Applicant shall stop work during Red Flag conditions to reduce the risk of wildlife ignition. ▪ Compliance with California PRC sections 4291, 4442, and 4443.				