

7.0 CALTRANS MITIGATION MONITORING PROGRAM

To ensure that all mitigation measures identified in this document are executed at the appropriate times, the following program will be implemented.

The program will follow a three-phase sequence: design of the project, construction, and post-construction/ maintenance activities. During design and preparation of the contract plans, there will be periodic environmental review to ensure that mitigation measures and other commitments are incorporated into the final project plans, specifications and cost estimates. A check will be made to determine that Caltrans has received all necessary permits, and that any additional actions or conditions specified by these permits are also included in the contract plans.

Before construction starts, field engineers and contract staff will hold meetings with Caltrans environmental specialists, who will identify environmental commitments and explain their background and importance. A preliminary environmental monitoring plan and schedule of field reviews by environmental staff for the duration of construction will be developed. The resident field engineer will keep a list of names of specialists who have expertise for the various environmental concerns which may arise during construction. The contractor's Storm Water Pollution Prevention Plan will also be reviewed periodically during construction. Proposed changes to the original contract plans will be reviewed by environmental staff to determine if environmental obligations or commitments to other agencies are affected, or if new impacts may result, to ensure that compliance with these obligations is fulfilled. Project files will be maintained by the Caltrans environmental branch to document field reviews, monitoring reports, and actions taken to address changes in the construction contract.

After construction is completed, the executed mitigation measures will be maintained. Their effectiveness will be determined through timely monitoring by Caltrans environmental and landscape specialists, and Caltrans' environmental engineering coordinator. Highway maintenance personnel will check that all drainage facilities, erosion control devices, irrigation systems, and other installations related to environmental commitments, are functioning as intended. Plantings will undergo an appropriate period of maintenance to ensure establishment, and plant materials will be replaced as necessary. The project environmental analyst will have a continuing coordination role during final design and construction monitoring. A monitoring form, the Mitigation Monitoring and Reporting Record (MMRR), will be used as a checklist to track each measure or task, and ensure completion of all commitments during the future phases of the project. The proposed MMRR appears on the following pages. The MMRR identifies the appropriate staff/ Caltrans branch who are responsible for ensuring each mitigation measure is done. The columns Action Taken, Task Completed, Remarks, and Environmental Compliance are therefore blank at this stage; these columns would be filled out in the future as each measure is implemented.

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
				Initial	Date		Initial	Date
DESIGN KICK-OFF	Project Manager	Beginning of 1 phase						
PRE-LOG-IN REVIEW	Design	80% Plans						
ENVIRONMENTAL PS&E REVIEW	Environmental Coordinator	District PS&E Circulation						
IN-HOUSE PRECONSTRUCTION MEETING	Project Manager	Contract Award						
Transfer Resident Engineer Book	Project Engineer	Preconst Meeting						
PREJOB MEETING with CONTRACTOR	Construction	Beginning of Construction						
ENVIRONMENTAL COMPLIANCE REVIEW	Construction	Safety Review						
DESIGN FEATURES MEMORANDUM	Construction / Design	Post Construction						
NOISE	Environ "C"							
Construct a noise abatement masonry wall at 1708 Cactus Rd and an earthen berm at 1812 Cactus Rd, w/in limits of the future proposed 905 ROW.	Resident Engineer/ Construction	During Construction						
Proposed noise barriers will be constructed as a first order of work within abatement areas, where feasible.	Resident Engineer/ Construction	During Construction						
No pile driving at night/ weekends or near sensitive receptors.	Resident Engineer/ Construction	During Construction						
WATER QUALITY								
Implement Caltrans SWMP, Storm Water Quality Handbooks, Contractors Guide, Specifications.	Resident Engineer/ Construction/ NPDES Staff	During Construction						
Implement SWPPP, use BMP's such as mulching, diversion and drainage structures, retention/detention and/or sediment basins, preserve existing vegetation, minimize erosion, vegetating disturbed slopes, & implementing biostrips or bioswales fiber roles.	Resident Engineer/ Construction/ NPDES Staff	During Construction						
Potential temp. BMs include the following: hydro-seeding, drainage inlet protecting, construction entrance, construction entrance, concrete washout and material delivery and storage.	Resident Engineer/ Construction/ NPDES Staff	During Construction						
Conform NPDES permits: order 99-06-DWQ, CAS000003 and for Dewatering No. CA0108707.	Resident Engineer/ Construction/ NPDES Staff	During Construction						

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				Initial	Date		Initial	Date
Comply with IBWC guidelines.	Resident Engineer	During Construction						
Use native or drought-tolerant species where appropriate for project landscaping.	Landscape Architecture	Post Construction						
For vernal pools/sensitive drainages: preserve existing vegetation buffers, use soil stabilizers, temporary sediment catchment devices, drainage diversion structures, etc.	Resident Engineer/ Construction/ Biology	During Construction						
AIR QUALITY								
To reduce temporary impacts from construction activities, the contractor must comply to the Department's standard specifications which comply w/ all air pollution control rules including practices for minimizing dust generation.	R.E./ Construction	During Construction						
Strict adherence to Department's Standard Specs - Section 10 Dust Control, Section 7-1.01F Air Pollution Control, Section 17 Watering, and Section 18 Dust Palliative.	R.E./ Construction	During Construction						
Apply water to site & equipment as frequently as necessary to control dust.	R.E./ Construction	During Construction						
Spread soil binders on site, unpaved roads, and parking areas.	R.E./ Construction	During Construction						
Wash off trucks/equipment before leaving the site, as necessary.	R.E./ Construction	During Construction						
Properly tune, maintain, and use of low-sulfur fuel for the equipment.	R.E./ Construction	During Construction						
BIOLOGICAL RESOURCES								
Reduce wetland impacts from vehicle contaminants by use of vegetated retention/detention basins.	P.E./ Qualified Biologist	Beginning of Construction						
Delineation and protection of ESAs may require the use of temporary fencing to prevent encroachment.	P.E./ Qualified Biologist	During Design and Construction						
All vernal pools, located outside the alignment footprint will be designated ESAs on plans & maps.	P.E./ Qualified Biologist	During Design and Construction						
The biologist should be consulted on implementation of BMPs for the project to ensure minimal affects to sensitive habitats.	R.E./ Qualified Biologist	During Design and Construction						
Possible BMPs implemented include silt fencing, gravel bags, hay bales, fiber rolls, native plantings, retaining walls, or other slope stabilization techniques.	R.E./ Qualified Biologist	During Design and Construction						
Qualified biologist will be made available for both pre-construction & construction phases.	R.E./ Qualified Biologist	During Design and Construction						

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
				Initial	Date		Initial	Date
Qualified biologist onsite when construction occurs adjacent to sensitive habitat.	R.E./ Qualified Biologist	During Construction						
Prior to grading operations, construction personnel will participate in an education program presented by the project biologist.	R.E./ Qualified Biologist	Beginning Construction						
Grading of the mitigation sites will be completed during the first year of construction of the Route 905 project & will be done outside the breeding season (Sep 16 - Feb 14), irrigation/planting will occur in the late fall to early winter following the first year of project construction.	R.E./ Qualified Biologist	Beginning Construction						
A qualified biologist will require staking and monitoring for successful avoidance to some vernal pools in the vicinity of Spring Canyon.	R.E./ Qualified Biologist	During Construction						
Strict adherence to Department's Standard Specs 5-1.regarding Migratory Bird Spec for Burrowing Owls.	R.E./ Qualified Biologist	Design/ Construction						
All three mitigation sites La Media Rd (Drainage 7), Wall-Hudson parcel & the Bonita Meadows mitigation Site were identified for proposed mitigation sites for wetlands, Waters of the US, and vernal pools.	Stewardship/ Project Engineer	Post Construction						
Vernal pool direct & indirect (watersheds disturbed by constr. that support the pool complexes) impacts mitigation will occur @ Wall-Hudson = vernal pool surface area (0.39 ac) w/ (3.9 ac) of contributing watershed totalling (4.29 ac)	Qualified Biologist	Design/ Construction						
Diegan coastal sage scrub mitigation will occur @ Wall-Hudson = 29.02 ac	Qualified Biologist	Design/ Construction						
Freshwater marsh mitigation will occur @ La Media Rd & Bonita Meadows = 0.80 ac	Qualified Biologist	Design/ Construction						
Maritime succulent scrub mitigation for permanent and temporary impacts from Spring Canyon bridge will occur @ Wall-Hudson = 12.65 ac	Qualified Biologist	Design/ Construction						

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Seasonal pond/ linear streambed mitigation will occur @ Bonito Meadows = 3.96 ac	Qualified Biologist	Design/ Construction						
Nonnative grassland mitigation will occur @ Bonita Meadows parcel = 44.7 ac w/ an additional 22.4 ac occurring @ Wall-Hudson	Qualified Biologist	Design/ Construction						
At the La Media Rd (Drainage 7) site creation of 2.96 ac of Diegan CSS adjacent to riparian habitat.	Qualified Biologist/ Stewardship	Design/ Construction						
At the La Media Rd and Bonita Meadows parcels the following compensation for ACOE & CDFG jurisdictional areas will occur: freshwater marsh 0.31 ha (0.76 ac), southern willow scrub (6.20 ac), mule fat scrub (3.96 ac), disturbed wetlands (3.02 ac).	Qualified Biologist/ Stewardship	Design/ Construction						
A 2-yr plant establishment, and 3-yr habitat mgmt & mtrg program for vernal pool, and San Diego button-celery mitigation will be implemented at the Wall-Hudson property	Stewardship/ Project Engineer	Post Construction						
For Quino checkerspot butterfly, approx 0.51 ac of vernal pool habitat & 4.15 ac of watershed @ the Wall Hudson property will be created & enhanced.	Stewardship/ Project Engineer	Post Construction						
An endowment in perpetuity for long term management will be placed on the mitigation lands at the Wall-Hudson property and Bonita Meadows with an estimated 6.4 ac of MSS, 12.3 ac of Diegan CSS, and 67.1 ac of nonnative grassland being preserved.	Stewardship/ Project Engineer	Post Construction						
Maintain wildlife corridor between Spring/Denney Canyons with a bridge.	Project Engineer	Design/ Construction						
Temporary disturbance to both upland & riparian habitat types, w/in Spring Canyon, will offset through revegetation of the area (1:1 ratio)	R.E./ Qualified Biologist	Construction						
All of the following invasive exotic plant species will be removed from La Media Rd drainage & Bonita Meadows Site: pampas grass, giant reed, tamarisk, ice plant, tobacco tree, acacia, fennel, and cocklebur plants.	R.E./ Qualified Biologist	Construction						

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Salvage topsoil and duff apply to graded slopes.	R.E./ Qualified Biologist	Construction						
Collect native seeds/ cuttings for revegetation.	R.E./ Qualified Biologist	Construction						
Plant trees and shrubs with irrigation.	R.E./ Qualified Biologist	Design/ Construction						
Full implementation of the Final Wetlands Mitigation Plan (see Wetland Mitigation Plan For The State Route 905 Extension Project).	Project Engineer/ Construction	Design/ Construction						
As part of the Final Wetlands Mitigation Plan a monitoring plan will be prepared that outlines the methods of transplantation, seed collection, restoration &/or creation, planting scheme, exotics control, irrigation schedule, grading requirements, along with success criteria for the project.	R.E./ Stewardship	Prior to Construction						
Prior to disturbance of pool 56, seeds of the SD button-celery should be collected.	R.E./ Qualified Biologist	Construction						
Contour grading will be conducted around the remaining watershed of pool 57 to re-create what was lost.	Project Engineer/ Construction	Design/ Construction						
Linne soil sites will be surveyed for sensitive plants prior to construction.	R.E./ Qualified Biologist	Design/ Construction						
Where Linne soils are found, they will be salvaged, stockpiled (for shortest time possible), & redistributed under consultation of a district qualified biologist.	R.E./ Qualified Biologist	Design/ Construction						
Salvage soil in vernal pools to use in newly created pools.	R.E./ Qualified Biologist	Construction						
Salvage & transplantation of SD barrel cactus & other sensitive plant species will be conducted to them maximum extent practicable, overseen by a qualified biologist.	R.E./ Qualified Biologist	Construction						

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Before entering or leaving the construction site, equipment will be inspected for evidence of invasive species/seeds, any plants/seeds detected will be washed away.	R.E./ Qualified Biologist	Construction						
Changing of oil, refueling, other potential hazardous substance operations shall be restricted to designated areas that are a minimum 31 meters (m) 100 feet (ft) from any ESA. And these areas will surrounded with BMPs to further prevent the contamination from a spill.	R.E./ Qualified Biologist	Construction						
Project lighting will be directed onto the roadway or construction site and away from sensitive habitat.	R.E./ Qualified Biologist	Construction						
No pile driving & clearing of vegetation will occur from Feb. 15 - Sept. 1, to avoid impacts to nesting birds.	Project Engineer/ Construction	Construction						
If activities must occur during the breeding season, a mandatory preconstruction survey by a qualified biologist will be conducted to ensure that nesting birds are not present within the proposed work area.	Project Engineer/ Construction	Construction						
Temporary stabilization will be undertaken on graded cut & fill slopes such as hydroseeding, application of duff, or bonded fiber matrix (any seed mix will need certification of its purity).	R.E./ Qualified Biologist	Construction						
Revegetation with native plant species shall occur as early as possible.	L.A./ Qualified Biologist	Post Construction						
A minimum 1.8 m (6 ft) high fence will placed along the ROW to preclude human access into the adjacent habitat and prevent wildlife from traversing the freeway. The fence will be buried 0.3 m (1ft) (in the MHPA) to prevent animals from digging under the barrier.	R.E/ Qualified Biologist	Construction						
OCCS preserved will be connected to Spring Canyon by an approx. 91 m (300 ft) long and 1.5 m (5 ft) high culvert under the freeway.	R.E/ Qualified Biologist	Construction						
A fenced/protected wildlife corridor (detention basin & native vegetation) will be maintained between the OCCS preserved & Spring Canyon, approx. 50 m (164 ft) wide & 300 m (984 ft) long.	R.E/ Qualified Biologist	Construction						

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Spring Canyon Bridge will provide bats w/ potential sites for day/ night roosting.	R.E./ Qualified Biologist	Construction						
Equipment will be inspected for evidence of invasive seeds/species when entering or leaving the site.	R.E./ Qualified Biologist	Construction						
All plants used in the landscaping & mitigation will comply w/ federal, state, and county laws for infestations.	R.E./ Qualified Biologist	Construction						
Proposed seed palettes will be reviewed & approved by a qualified biologist prior to application.	L.A./ Qualified Biologist	Post Construction						
Any graded habitat adjacent to Spring Canyon corridor or within/near the MHPA will be revegetated with an approved native plant mix.	P.E./ Qualified Biologist	Post Construction						
Revegetation methods could include duff, hydroseeding, planting, &/or irrigation.	P.E./ Qualified Biologist	Post Construction						
VISUAL								
Above standard highway planting will be done east of Caliente Blvd.	Landscape Architecture	W/in 1 yr of Construction Completion						
Mature Eucalyptus and other trees removed during construction will be replaced at a 5:1 ratio.	Landscape Architecture	W/in 1 yr of Construction Completion						
Plant and irrigate trees and shrubs planted at select locations (especially gateway, canyons).	Landscape Architecture	W/in 1 yr of Construction Completion						
Preserve existing mature plant material where feasible.	R. E./ Construction	During Construction						
Slope revegetation: hydroseed emphasize native species, irrigate select areas.	Landscape Architecture	W/in 1 yr of Construction Completion						
Native habitat will be restored adjacent to Route 905 w/in MHPA, and in the canyon at the west end of the project	Landscape Architecture	W/in 1 yr of Construction Completion						
Reveg of canyon bottoms will have an emphasis of riparian species.	Landscape Architecture	W/in 1 yr of Construction Completion						
Reveg of canyon slopes will have an emphasis on similar species and structure of adjacent slopes.	Landscape Architecture	W/in 1 yr of Construction Completion						
Special treatment/design of highway appurtenances, concrete surfaces, signage, lighting at select locations (gateway)	Landscape Architecture	Design/ Construction						

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Landform mitigation include rounding and blending of slopes.	R. E./ Construction	Design/ Construction						
Minimize the extent of cut and fill slopes where feasible.	R. E./ Construction	Design/ Construction						
Integrate drainage/ maintenance features into slopes.	R. E./ Construction	Design/ Construction						
No non-native planting adjacent to sensitive habitats.	Landscape Architecture	W/in 1 yr of Construction Completion						
Use of temporary irrigation until plants are established.	Landscape Architecture	W/in 1 yr of Construction Completion						
Use of geosynthetic fabric lining for drains with vegetation where feasible.	R. E./ Construction	Design/ Construction						
Use of color and texture for select concrete drains/ walls.	R. E./ Construction	Design/ Construction						
Underground utilities for street improvements as feasible.	R. E./ Construction	During Construction						
For walls greater than 2-m (6ft) surface variations should be used.	Landscape Architecture	Design/ Construction						
Planting of vines on walls will be utilized to minimize graffiti and color & texture to the surface, as feasible.	Landscape Architecture	Design/ Construction						
Lighting: use shielding to avoid glare for homes and canyons	Design/ Landscape Architecture	Design/ Construction						
CULTURAL/ PALEONTOLOGICAL RESOURCES (monitoring)								
A qualified paleontologist will be at the pre-construction meeting to consult with contractors concerning excavation schedules, field techniques, and safety issues	R.E.	Preconst Meeting						
ESA's will be delineated adjacent to recorded sites and declared off-limits to construction activities	Cultural Resource Branch	Design/ Construction						
Const contractor will have to ensure mitigation monitoring is undertaken by a qualified archaeologist for archy site CA-SDI-11,424	Cultural Resource Branch	Design/ Construction						
Archy monitoring will also be undertaken on the former grounds of St. Johns Church.	Cultural Resource Branch	Design/ Construction						

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If cultural materials are unearthed during construction, Department policy stipulates that work stop in the vicinity of the find until a qualified archaeologist can assess its nature.	Cultural Resource Branch	During Construction						
PALEONTOLOGICAL monitor will be on-site at all times during the original cutting of previously undisturbed deposits of the San Diego & Otay Formations	Cultural Resource Branch	During Construction						
PALEONTOLOGICAL monitor will be on-site at a 1/2 time basis for cutting of the Linda Vista Formation	Cultural Resource Branch	During Construction						
If fossils are being found additional monitoring time may be required and vice versa if no fossils are being found.	Cultural Resource Branch	Design/Construction						
When fossils are discovered, the paleontologist will recover them. Some specimens may require an extended salvage period, requiring a temporary halting of construction activities in those areas.	Cultural Resource Branch	Design/Construction						
Fossil remains collected will be cleaned, repaired, sorted, cataloged, and be deposited (as a donation) in a scientific institution such as the San Diego Natural History Museum	Cultural Resource Branch	Design/Construction						
A final report will be completed by the qualified paleontologist summarizing the results of the mitigation program.	Cultural Resource Branch	Design/Construction						
PERMITS								
U.S. Army Corps Section 404	Stewardship	Design/Construction						
RWQCB: Section 401, 402	Stewardship/Design	Design/Construction						
CA Department of Fish and Game (Endangered Species)	Biology	Design/Construction						
Section 1601 Streambed Alteration Agreement	Stewardship/Biology	Design/Construction						
U.S. Fish and Wildlife (Endangered Species)	Biology	Design/Construction						

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FARMLAND								
Replace necessary agricultural infrastructure or pay fair damages to property owner.	Right-of-Way	Prior to construction						
Salvage topsoil in material site, replace at end of grading unless affected areas are developing.	Resident Engineer/ Construction	Beginning of Construction						
LAND USE								
Project will be consistent w/ all the MSCP guidelines for the Otay Mesa area	Project Engineer	Prior to construction						
The Otay Mesa Community Plan identifies a six-lane highway (La Media to POE) where the current proposed project is located; therefore the proposed alternative is consistent with local planned land use.	Project Manager/City Staff	Prior to construction						
COMMUNITY								
Inform emergency providers of all detours.	R.E./ Construction	During Construction						
Pedestrian and bicycle access will be maintained.	R.E./ Construction	During Construction						
Construction signage, signalization, or flag persons will be used during construction in areas with pedestrian access.	R.E./ Construction	During Construction						
Expedient demolition of existing structures would occur to mitigate vandalism and crime.	R.E./ Construction	During Construction						
Prepare traffic management plan/ retain home and business access.	R.E./ Construction	Design/ During Construction						
Project design will maintain access to all businesses affected by the project, both during and after project construction.	R.E./ Construction	Design/ During Construction						
Maintain regional/ local circulation during construction via temp. detours.	R.E./ Construction	During Construction						
RELOCATION								
For those displaced, relocation assistance payments, moving costs, & counseling will be provided in accordance w/ the Uniform Relocation Assistance and Real Property Acquisition Policies Act.	R.E./ Construction	Prior to construction						

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				Initial	Date		Initial	Date
Eligible tenants and homeowners would be entitled to certain supplemental payments for increased rents or payments for portion of a down payment on a home or increased cost of replacement homes over and above the amount received for their homes, respectively.	R.E./ Construction	During Construction						
Provide relocation assistance to eligible residents/businesses.	Right-of-Way	Prior to construction						
Partial takes of business properties will be compensated at fair market value.	Right-of-Way	Prior to Construction						
FLOODPLAIN								
Install cross-culverts to allow for the continued natural flow of floodwaters and minimize physical disturbance to the floodplain.	R.E./ Construction	During Construction						
Minimize impacts by implementation of BMP's to control erosion and reduce sedimentation downstream, and strict adherence to standard practices/use of ESA's.	R.E./ Construction	During Construction						
All temporarily disturbed areas will be revegetated.	R.E./ Construction	During Construction						
Cooperate as partner/fair share participant in OMDMP (costs must be equal to or less than those planned by the Department).	P.E./ Construction	Design/ Construction						
HAZARDOUS WASTE								
BMPs will be implemented to avoid or minimize the potential influx of contaminants into the local runoff & surface waters (e.g. vegetation-lined retention and detention basins).	R.E./ Construction	Beginning Construction						
Conduct soil testing at refuse sites to determine any contamination.	P.E./ Haz Waste Coordinator	Design/ Beginning Construction						
Develop appropriate health/safety plan with information from approved Remedial Action Workplan for Tripp Landfill.	P.E./ Haz Waste Coordinator	Design/ Prior to Construction						
If hazardous waste is discovered, work is stopped, area is flagged, and the Hazardous Waste Coordinator will be notified immediately.	R.E./ Construction	During Construction						
Standard operations/ maintenance procedures will be followed including HW&SRP for any potential spills.	R.E./ Construction	Design/ Prior to Construction						

