COUNTY OF SAN MATEO, PLANNING AND BUILDING DEPARTMENT

NOTICE OF INTENT TO ADOPT
REVISED MITIGATED NEGATIVE DECLARATION

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et seq.), that the following project: *Gray Whale Cove Pedestrian Crossing*, when adopted and implemented, will not have a significant impact on the environment.

FILE NO.: PLN2018-00482

OWNER: State of California (Highway Right of Way and adjacent public lands)

APPLICANT:

San Mateo County	CalTrans
400 County Center	111 Grand Avenue
Redwood City, CA 94063	Oakland, CA 94612

ASSESSOR'S PARCEL NO.: Public Right of Way (State Route 1) and 036-380-180 (State Parks – 84 acres)

LOCATION: State Route 1 adjacent to the parking lot for Gray Whale Cove State Beach. Approximately .5 mile south of the Tom Lantos Tunnel at Devil's Slide.

PROJECT DESCRIPTION: The proposed project involves modifications to the Gray Whale Cove State Beach parking lot off of Highway 1 and the pedestrian crossing from the parking lot across the Highway to the beach, in order to improve pedestrian safety for beach users. The proposed project includes the addition of a pedestrian crosswalk on Highway 1; pedestrian hybrid beacons; widening pavement for the addition of a left turn lane and an acceleration lane; relocation and improvement of the parking lot entrance; as well as installation of associated overhead lighting, overhead signs and roadside signs.

The project will include the following components.

Modify parking lot access.
Access from Highway 1 to the Gray Whale Cove parking lot will be moved approximately 200 feet south of the current position. To provide this access, additional pavement will be added to widen the northbound shoulder and create 1) a new southbound acceleration lane, 2) a southbound left turn lane, and 3) a paved apron at the parking lot entrance. Grading and excavation will be needed to install these new areas of hardscape. Grading will also take place to resurface and level the existing parking lot.

Highway 1 widening.
Highway 1 will be widened up to 21 feet on the east side, and the lanes and shoulders restriped. An 8 foot wide pedestrian pathway will be installed adjacent to the west side of the highway (on the southbound side) to provide a connection between the proposed crosswalk and the existing access to the beach. The existing shoulder on the west side will be maintained. The northbound shoulder will be widened approximately 8 feet in the area of the crosswalk and parking lot entrance. Grading and excavation will be needed to install these new areas of hardscape. The total amount of additional paved or surfaced area will be approximately 13,500 sq. ft. (0.31 acre).

Crosswalk installation.
A pedestrian crosswalk will be installed (striped) on the south side of the relocated parking lot entrance. Both a pedestrian hybrid beacon and overhead lighting will be placed at the crosswalk. An overhead light will extend above the pedestrian hybrid beacon, providing lighting focused on the crosswalk. The beacons and overhead lighting will be placed over both the northbound and southbound traffic lanes. This permanent overhead lighting will be directed towards the highway pavement area. An additional beacon will be installed over the southbound lane to warn motorists of the upcoming crosswalk. It will be located approximately 490 feet north of the crosswalk and consist of a set of flashing beacon lights and a pedestrian crossing sign. Similarly, an additional beacon will be installed over the northbound lane about 250 feet before the crosswalk. Minor excavation will be needed to install foundations for new lighting and signs.

Utility connections.
Electrical power is already wired to the project area. Three new above ground utility cabinets will be installed along the east side of the highway road shoulder to support the new features. Trenching within the road shoulder will be required to connect the lighting and beacons to the cabinets.

Vegetation removal.
Ground cover vegetation will be cleared and grubbed throughout the project footprint. Removal of woody vegetation will be limited to three trees on the west side of the highway. The trees will be removed to provide driver-pedestrian visibility.

Construction staging and access.
Project-related equipment and materials will be staged within the existing parking lot. Access to work areas will be gained from the parking lot and Highway 1.

Site Cleanup and Restoration
Construction-related materials will be removed upon project conclusion. The temporarily disturbed areas will be revegetated with appropriate native plant species, to the extent practicable. Permanent erosion control, including soil stabilization measures such as hydroseeding, coir netting and non-filament mesh fiber rolls, will be applied to areas where it will be necessary to minimize erosion after construction has been completed. A permanent water quality treatment plan will be implemented. Disturbed areas will be contoured to conform to the surrounding landscape, restored using a combination of compost application and revegetation with native plants, and hydro-seeded with an appropriate native seed mix. Invasive, non-native plants, duff, and excavated material containing invasive plant material will be removed from the project footprint.

Conservation Measures
The applicants propose to reduce adverse effects to the California red-legged frog and San Francisco garter snake as well as other wildlife and habitat features by implementing the following measures:

1. USFWS Approved Biological Monitor. The names and qualifications of proposed biological monitor(s) will be submitted to the US Fish & Wildlife Service (Service) for approval prior to the start of construction. The Service-Approved Biological Monitors (Monitor(s)) will keep a copy of the amended biological opinion in their possession when onsite. Through communication with the Resident Engineer, the Monitor will be onsite during all work that could reasonably result in take of the California red-legged frog (CRLF) or San Francisco

garter snake (SFGS). The Monitor will have the authority to stop work that may result in the unauthorized take of special-status species. If the Monitor exercises this authority, the Service will be notified by telephone and email message within one (1) working day.

2. Worker Environmental Awareness Training. Construction personnel will attend a mandatory environmental education program delivered by the Monitor prior to taking part in site construction, including vegetation clearing. The program will focus on the conservation measures that are relevant to an employee's personal responsibility and will include an explanation as how to best avoid take of the CRLF and SFGS. At a minimum, the training will include a description of species; how they might be encountered within the project area; their status and protection; and the relevant *Conservation Measures* and *Terms and Conditions* of the biological opinion. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel. Distributed materials will include cards with distinctive photographs of CRLF and SFGS, as well as compliance reminders and relevant contact information. Documentation of the training, including sign-in sheets, will be kept on file and made available to the Service upon request.

3. Pre-Construction Surveys. Pre-construction surveys for the CRLF and SFGS will be conducted by the Monitor no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) within upland habitat. These efforts will consist of walking surveys of the project limits and, if possible, accessible adjacent areas within at least 50 feet of the project limits. The Monitor will investigate potential cover sites when it is feasible and safe to do so. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the project limits will be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the Monitor will investigate areas of disturbed soil for signs of CRLF and SFGS within 30 minutes following initial disturbance of the given area.

4. Discovery of Listed Species. The Monitor will be present during all activities that could reasonably result in take of the CRLF or SFGS. If at any point a listed species is discovered during these activities, the Monitor, through the Resident Engineer or their designee, will halt all work within 50 feet of the animal until it has either been captured and moved or has moved sufficiently from harm's way on its own volition.

5. Protocol for Species Observation: The Monitor will have the authority to halt work through coordination with the Resident Engineer in the event that a listed species is observed in the action area. The Resident Engineer will keep construction activities suspended in any construction area where the biologist has determined that a potential take of the species could occur. Work will resume after observed listed individuals leave the site voluntarily, the biologist determines that no wildlife is being harassed or harmed by construction activities, or the wildlife is removed by the biologist to a release site using Service-approved handling techniques.

6. Handling of Listed Species. If a listed species is discovered, the Resident Engineer and Monitor will be immediately informed.

    a. If a CRLF or SFGS are discovered in a construction zone, work will be halted immediately within 50 feet until the animal leaves the site or is captured and relocated by the Monitor.

b. The Service will be notified within one (1) working day if a CRLF or SFGS is discovered within the construction site.

c. The captured CRLF or SFGS will be released within appropriate habitat outside of the construction area but nearby the capture location. The release habitat will be determined by the Monitor.

d. The Service-Approved Biological Monitor will take precautions to prevent introduction of amphibian diseases in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Service 2005).

7. Injured Animals. Injured California red-legged frogs and San Francisco garter snakes will be cared for by a Service-Approved Biological Monitor(s) or a licensed veterinarian, if necessary. Any deceased California red-legged frogs or San Francisco garter snakes will be preserved according to standard museum techniques and will be held in a secure location. The Service and the California Department of Fish and Wildlife (CDFW) will be notified within one (1) working day of the discovery of a death or an injury to any listed species resulting from project-related activities or if a listed species is observed at a construction site. Notification will include the date, time, and location of the incident or the finding of a deceased or injured animal, clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle and other maps at a finer scale, as requested by the Service or CDFW, and any other pertinent information.

8. Inclement Weather Restriction. No work will occur during or within 24 hours following a rain event exceeding 0.2-inch as measured by the National Oceanic and Atmospheric Association National Weather Service for the Soquel, CA (SOQC1) base station available at:

http:/ /www.wrh.noaa.gov/mtr/versprod.php?pil=RR5&sid=RSA.

The Service and CDFW approval to continue work during or within 24 hours of a rain event will be considered on a case-by-case basis.

9. Construction Boundary and Wildlife Exclusion Fencing. Before the start of construction, the project footprint boundary will be clearly delineated using high-visibility orange fencing as necessary. A security fence will enclose the designated staging area within the Gray Whale Cove parking lot. Wildlife exclusion fencing will be attached to the base of the staging area security fencing and installed to isolate the work area where paving will take place. Construction work areas will include the active construction site and all areas providing support for the project, including areas used for vehicle parking, equipment and material storage and staging, and access roads. The fencing will remain in place throughout the duration of construction activities, and will be inspected regularly and fully maintained at all times. The final project plans will show all locations where boundary fencing will be installed and will provide installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, including vehicle operation, material and equipment storage, access roads and other surface disturbing activities.

10. Vegetation Removal. Vegetation removal will be limited to the designated work areas needed for access and workspace. Where possible, vegetation removal in temporary work areas will be cut above soil level to promote re-vegetative growth of established plants following construction.

11. Staging. Construction access, staging, storage, and parking areas will be located within Caltrans ROW and the Gray Whale Cove parking lot on compacted soil and paved surfaces.

12. Night Lighting. All artificial lighting will be directed downwards, towards the travel way from sensitive resources or habitats.

13. Vehicle and Equipment Checks. Operators will check underneath construction equipment and vehicles that have been stationary for more than 30 minutes for wildlife prior to moving them. They will notify the Service-Approved Biological Monitor if any reptile or amphibian is observed.

14. Proper Use of Erosion Control Devices. To avoid California red-legged frogs and San Francisco garter snakes from becoming entangled, trapped or injured, erosion control materials that use plastic or synthetic mono-filament netting will not be used within the action area.

15. Avoidance of Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project area overnight will be inspected before they are subsequently moved, capped and/ or buried.

16. Migratory Bird Treaty Act. To minimize and avoid take of migratory birds, their nests, and their young, Caltrans will conduct vegetation and tree trimming between September 30 and January 30 before project construction. This work will be limited to vegetation and trees that are within the project footprint. No grubbing or other ground disturbing actions will occur at this time. Upon completion of vegetation and tree trimming, Caltrans will install storm water and erosion control best management practices (BMPs). A Service-Approved Biological Monitor with appropriate construction and species experience will conduct nest and bird surveys and other wildlife surveys before and during tree cutting. All work will be conducted under a Regional Water Board approved Water Pollution Control Plan or Storm Water Pollution Protection Plan. Vegetation will be cleared only where necessary and will be cut above soil level. This will allow plants that reproduce vegetatively to re-sprout after construction.

    During the nesting season, pre-construction surveys for nesting birds will be conducted by a qualified biologist no more than 72 hours prior to the start of construction activities. If work is to occur within 300 feet of active raptor nests or 50 feet of active passerine nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. All clearing and grubbing of woody vegetation will be performed by hand or using light construction equipment, such as backhoes and excavators.

17. Poison Control. Pesticides and herbicides will not be used.

18. Invasive Species Management. To reduce the spread of invasive non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. The purpose of this order is to prevent

the introduction of invasive species and provide for their control to minimize economic, ecological, and human health impacts. In the event that high- or medium-priority noxious weeds, as defined by the California Department of Food and Agriculture or the California Invasive Plant Council, are disturbed or removed during construction-related activities, the contractor will contain the plant material associated with these noxious weeds and will dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area will be covered to the extent practicable with heavy black plastic solarization material until completion of construction. All earthmoving equipment, as well as seeding equipment to be used during project construction will be thoroughly cleaned before arriving on the project site.

19. Construction Site BMP's. The following site restrictions will be implemented to avoid or minimize impacts on special-status species and their habitats:

    a. The number and size of staging and work areas will be limited to the minimum necessary to construct the project and will be limited to existing paved surfaces or areas of compacted soil.

    b. Routes and boundaries of roadwork will be clearly marked before the start of construction or grading.

    c. To the maximum extent practicable, any borrow material will be certified to be nontoxic and weed free.

    d. All food and food-related trash items will be enclosed in sealed trash containers and will be properly disposed off-site.

    e. No pets belonging to project personnel will be allowed in the action area during construction.

    f. No firearms will be allowed in the project footprint except for those carried by authorized security personnel, or local, state or federal law enforcement officials.

    g. A *Spill Response Plan* will be prepared. Hazardous materials (e.g., fuels, oils, solvents) will be stored in sealable containers in a designated location that is at least 100 feet from any hydrologic features.

    h. All equipment will be properly maintained and free of leaks. Servicing of vehicles and construction equipment, including fueling, cleaning, and maintenance, will occur at least 100 feet from any hydrologic features unless it is an existing gas station.

20. Implementation of Water Quality/Erosion Control BMP's. Erosion control BMPs will be developed and implemented to minimize any wind or water-related erosion, in compliance with the requirements of the Regional Water Quality Control Board. Protective measures will include, at a minimum:

    a. No discharge of pollutants from vehicle and equipment cleaning will be allowed into any storm drains or watercourses.

b. Vehicle and equipment fueling and maintenance operations will be kept at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities.

c. Concrete wastes will be collected in washouts, and water from curing operations will be collected and disposed. Neither will be allowed into watercourses.

d. Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.

e. Dust control measures will include use of water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock (rocking), and covering temporary stockpiles when weather conditions require.

f. Coir rolls or straw wattles that do not contain plastic or synthetic monofilament netting will be installed along or at the base of slopes during construction, to capture sediment.

g. Graded areas will be protected from erosion using a combination of silt fences and fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (e.g., jute or coir) will be used as appropriate on sloped areas. Erosion control materials that use plastic or synthetic monofilament netting will not be used. This will include products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials will include natural fibers, such as jute, coconut, twine or other similar fibers.

21. Replant, Reseed, and Restore Disturbed Areas. In areas of soil disturbance, any native topsoil will be removed and stored in a suitable location until project completion. Caltrans will restore temporarily disturbed areas to their preconstruction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs (using a hydro-seed mix) to stabilize and prevent erosion.

22. Service Access. Ifrequested, before, during, or upon completion of groundbreaking and construction activities, Caltrans will allow access by U.S. Fish and Wildlife Service personnel into the project footprint to inspect the project and its activities.

23. Permits. Caltrans will include a copy of the USFWS Biological Opinion (BO) within the construction bid package of the proposed project. The Resident Engineer or their designee will be responsible for implementing the Conservation Measures and Terms and Conditions of the BO and the CDFW Incidental Take Permit.

FINDINGS AND BASIS FOR A NEGATIVE DECLARATION

The Current Planning Section has reviewed the initial study for the project and, based upon substantial evidence in the record, finds that:

1. The project will not adversely affect water or air quality or increase noise levels substantially.

2. The project will not have adverse impacts on the flora or fauna of the area.

3. The project will not degrade the aesthetic quality of the area.

4. The project will not have adverse impacts on traffic or land use.

5. In addition, the project will not:

    a. Create impacts which have the potential to degrade the quality of the environment.

    b. Create impacts which achieve short-term to the disadvantage of long-term environmental goals.

    c. Create impacts for a project which are individually limited, but cumulatively considerable.

    d. Create environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

The County of San Mateo has, therefore, determined that the environmental impact of the project is less than significant.

MITIGATION MEASURES included in the project to avoid potentially significant effects:

Mitigation Measure 1: Prior to completion of the project's construction, the applicant shall plant three replacement trees (minimum 15-gallon size) for the three Significant size trees removed. Tree replacement must be in the general vicinity of the project site.

Mitigation Measure 2: Minimize the adverse effects to the California red-legged frog and San Francisco garter snake and their habitat in the project area by implementing the proposed project, including the proposed *Conservation Measures*, with the following *Terms and Conditions:*

a. Approval request for Service-Approved Biological Monitors shall include, at a minimum:

    (1) relevant education;

    (2) relevant training concerning the California red-legged frog and San Francisco garter snake, identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service;

    (3) a summary of field experience conducting requested activities (to include project/research information);

    (4) a summary of BOs under which they were authorized to work with the California red-legged frog and San Francisco garter snake and at what level (such as construction monitoring versus handling), this will also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project;

(5) a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); and

(6) any relevant professional references with contact information. No project construction will begin until the applicants have received written Service approval for biologists to conduct specified activities.

b. If appropriate habitat for the California red-legged frog and San Francisco garter snake is located immediately adjacent to its capture location then the preferred option is short distance relocation to that habitat. The animal should not be moved outside of the area it would have traveled on its own. Captured animals should be released within suitable habitat as close to their capture location as feasible for their continued safety. Under no circumstances should an animal be relocated to another property without the owner's written permission. It is the applicant's responsibility to arrange for that permission. Service-Approved Biological Monitors must limit the duration of handling and captivity. While in captivity, California red-legged frogs and San Francisco garter snakes shall be kept individually in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.

c. *Reporting Requirements*
In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the applicants shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the applicants must reinitiate formal consultation as per 50 CFR 402.16.

1. Notification of injured or dead listed species will be made to the Coast-Bay Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623. When an injured or dead individual of the listed species is found, the applicants shall follow the steps outlined in the following *Disposition of Individuals Taken* section.

2. Sightings of any listed or sensitive animal species should be reported to the CNDDB (http:/ /www.dfg.ca.gov /biogeodata/ cnddb/).

3. Construction compliance reports will be addressed to the Coast-Bay Division Chief of the Endangered Species Program at the SFWO.

4. The applicants shall submit post-construction compliance reports prepared by the Service approved biologist to the Service within 60 calendar days following completion of each construction season or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report shall detail:

   (1) dates that relevant project activities occurred;

   (2) pertinent information concerning the success of the project in implementing avoidance and minimization measures;

   (3) an explanation of failure to meet such measures, if any;

(4) known project effects on the California red-legged frog and San Francisco garter snake;

(5) occurrences of incidental take of any listed species;

(6) documentation of employee environmental education; and

(7) other pertinent information.

d. *Disposition if Individuals Taken*
Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast-Bay Division Chief of the Endangered Species Program at the SFWO at (916) 414-6623.

RESPONSIBLE AGENCY CONSULTATION

U.S. Fish and Wildlife Service
Regional Water Quality Control Board
California Department of Fish and Wildlife
Bay Area Air Quality Management District

INITIAL STUDY

The San Mateo County Current Planning Section has reviewed the Environmental Evaluation of this project and has found that the probable environmental impacts are insignificant. A copy of the initial study is attached.

REVIEW PERIOD: August 29, 2019 – September 30, 2019

All comments regarding the correctness, completeness, or adequacy of this Negative Declaration must be received by the County Planning and Building Department, 455 County Center, Second Floor, Redwood City, no later than **5:00 p.m., September 30, 2019**.

CONTACT PERSON

Michael Schaller
Project Planner, 650/363-1849
mschaller@smcgov.org

Michael Schaller, Project Planner

County of San Mateo
Planning and Building Department

INITIAL STUDY
ENVIRONMENTAL EVALUATION CHECKLIST
(To Be Completed by Planning Department)

1. **Project Title:** Gray Whale Cove Pedestrian Crossing

2. **County File Number:** PLN2018-00482

3. **Lead Agency Name and Address:** San Mateo County Planning Department
455 County Center, 2nd Floor
Redwood City, CA 94063

4. **Contact Person and Phone Number:** Michael Schaller, Senior Planner
650/363-1849

5. **Project Location:** State Route 1 adjacent to the parking lot for Gray Whale Cove State Beach. Approximately .5 mile south of the Tom Lantos Tunnel at Devil's Slide.

6. **Assessor's Parcel Number and Size of Parcel:** Public Right of Way (State Route 1) and 036-380-180 (State Parks – 84 acres)

7. **Project Sponsor's Name and Address:**

San Mateo County	CalTrans
400 County Center	111 Grand Avenue
Redwood City, CA 94063	Oakland, CA 94612

8. **Name of Person Undertaking the Project or Receiving the Project Approval (if different from Project Sponsor):** n/a

9. **General Plan Designation:** Public Recreation (Rural)

10. **Zoning:** Planned Agricultural Development (PAD)

11. **Description of the Project:** The proposed project involves modifications to the Gray Whale Cove State Beach parking lot off of Highway 1 and the pedestrian crossing from the parking lot across the Highway to the beach, in order to improve pedestrian safety for beach users. The proposed project includes the addition of a pedestrian crosswalk on Highway 1; pedestrian hybrid beacons; widening pavement for the addition of a left turn lane and an acceleration lane; relocation and improvement of the parking lot entrance; as well as installation of associated overhead lighting, overhead signs and roadside signs.

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the action area. The Resident Engineer will keep construction activities suspended in any construction area where the biologist has determined that a potential take of the species could occur. Work will resume after observed listed individuals leave the site voluntarily, the biologist determines that no wildlife is being harassed or harmed by construction activities, or the wildlife is removed by the biologist to a release site using Service-approved handling techniques.

6. Handling of Listed Species. If a listed species is discovered, the Resident Engineer and Monitor will be immediately informed.

    a. If a CRLF or SFGS are discovered in a construction zone, work will be halted immediately within 50 feet until the animal leaves the site or is captured and relocated by the Monitor.

    b. The Service will be notified within one (1) working day if a CRLF or SFGS is discovered within the construction site.

    c. The captured CRLF or SFGS will be released within appropriate habitat outside of the construction area but nearby the capture location. The release habitat will be determined by the Monitor.

    d. The Service-Approved Biological Monitor will take precautions to prevent introduction of amphibian diseases in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Service 2005).

7. Injured Animals. Injured California red-legged frogs and San Francisco garter snakes will be cared for by a Service-Approved Biological Monitor(s) or a licensed veterinarian, if necessary. Any deceased California red-legged frogs or San Francisco garter snakes will be preserved according to standard museum techniques and will be held in a secure location. The Service and the California Department of Fish and Wildlife (CDFW) will be notified within one (1) working day of the discovery of a death or an injury to any listed species resulting from project-related activities or if a listed species is observed at a construction site. Notification will include the date, time, and location of the incident or the finding of a deceased or injured animal, clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle and other maps at a finer scale, as requested by the Service or CDFW, and any other pertinent information.

8. Inclement Weather Restriction. No work will occur during or within 24 hours following a rain event exceeding 0.2-inch as measured by the National Oceanic and Atmospheric Association National Weather Service for the Soquel, CA (SOQC1) base station available at:

    http:/ /www.wrh.noaa.gov/mtr/versprod.php?pil=RR5&sid=RSA.

    The Service and CDFW approval to continue work during or within 24 hours of a rain event will be considered on a case-by-case basis.

9. Construction Boundary and Wildlife Exclusion Fencing. Before the start of construction, the project footprint boundary will be clearly delineated using high-visibility orange fencing as necessary. A security fence will enclose the designated staging area within the Gray Whale Cove parking lot. Wildlife exclusion fencing will be attached to the base of the staging area security fencing and installed to isolate the work area where paving will take

place. Construction work areas will include the active construction site and all areas providing support for the project, including areas used for vehicle parking, equipment and material storage and staging, and access roads. The fencing will remain in place throughout the duration of construction activities, and will be inspected regularly and fully maintained at all times. The final project plans will show all locations where boundary fencing will be installed and will provide installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, including vehicle operation, material and equipment storage, access roads and other surface disturbing activities.

10. Vegetation Removal. Vegetation removal will be limited to the designated work areas needed for access and workspace. Where possible, vegetation removal in temporary work areas will be cut above soil level to promote re-vegetative growth of established plants following construction.

11. Staging. Construction access, staging, storage, and parking areas will be located within Caltrans ROW and the Gray Whale Cove parking lot on compacted soil and paved surfaces.

12. Night Lighting. All artificial lighting will be directed downwards, towards the travel way from sensitive resources or habitats.

13. Vehicle and Equipment Checks. Operators will check underneath construction equipment and vehicles that have been stationary for more than 30 minutes for wildlife prior to moving them. They will notify the Service-Approved Biological Monitor if any reptile or amphibian is observed.

14. Proper Use of Erosion Control Devices. To avoid California red-legged frogs and San Francisco garter snakes from becoming entangled, trapped or injured, erosion control materials that use plastic or synthetic mono-filament netting will not be used within the action area.

15. Avoidance of Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project area overnight will be inspected before they are subsequently moved, capped and/ or buried.

16. Migratory Bird Treaty Act. To minimize and avoid take of migratory birds, their nests, and their young, Caltrans will conduct vegetation and tree trimming between September 30 and January 30 before project construction. This work will be limited to vegetation and trees that are within the project footprint. No grubbing or other ground disturbing actions will occur at this time. Upon completion of vegetation and tree trimming, Caltrans will install storm water and erosion control best management practices (BMPs). A Service-Approved Biological Monitor with appropriate construction and species experience will conduct nest and bird surveys and other wildlife surveys before and during tree cutting. All work will be conducted under a Regional Water Board approved Water Pollution Control Plan or Storm Water Pollution Protection Plan. Vegetation will be cleared only where necessary and will be cut above soil level. This will allow plants that reproduce vegetatively to re-sprout after construction.

During the nesting season, pre-construction surveys for nesting birds will be conducted by a qualified biologist no more than 72 hours prior to the start of construction activities. If work is to occur within 300 feet of active raptor nests or 50 feet of active passerine nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. All clearing and grubbing of woody vegetation will be performed by hand or using light construction equipment, such as backhoes and excavators.

17. Poison Control. Pesticides and herbicides will not be used.

18. Invasive Species Management. To reduce the spread of invasive non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. The purpose of this order is to prevent the introduction of invasive species and provide for their control to minimize economic, ecological, and human health impacts. In the event that high- or medium-priority noxious weeds, as defined by the California Department of Food and Agriculture or the California Invasive Plant Council, are disturbed or removed during construction-related activities, the contractor will contain the plant material associated with these noxious weeds and will dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area will be covered to the extent practicable with heavy black plastic solarization material until completion of construction. All earthmoving equipment, as well as seeding equipment to be used during project construction will be thoroughly cleaned before arriving on the project site.

19. Construction Site BMP's. The following site restrictions will be implemented to avoid or minimize impacts on special-status species and their habitats:

    a. The number and size of staging and work areas will be limited to the minimum necessary to construct the project and will be limited to existing paved surfaces or areas of compacted soil.

    b. Routes and boundaries of roadwork will be clearly marked before the start of construction or grading.

    c. To the maximum extent practicable, any borrow material will be certified to be nontoxic and weed free.

    d. All food and food-related trash items will be enclosed in sealed trash containers and will be properly disposed off-site.

    e. No pets belonging to project personnel will be allowed in the action area during construction.

    f. No firearms will be allowed in the project footprint except for those carried by authorized security personnel, or local, state or federal law enforcement officials.

g. A *Spill Response Plan* will be prepared. Hazardous materials (e.g., fuels, oils, solvents) will be stored in sealable containers in a designated location that is at least 100 feet from any hydrologic features.

h. All equipment will be properly maintained and free of leaks. Servicing of vehicles and construction equipment, including fueling, cleaning, and maintenance, will occur at least 100 feet from any hydrologic features unless it is an existing gas station.

20. Implementation of Water Quality/Erosion Control BMP's. Erosion control BMPs will be developed and implemented to minimize any wind or water-related erosion, in compliance with the requirements of the Regional Water Quality Control Board. Protective measures will include, at a minimum:

    a. No discharge of pollutants from vehicle and equipment cleaning will be allowed into any storm drains or watercourses.

    b. Vehicle and equipment fueling and maintenance operations will be kept at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities.

    c. Concrete wastes will be collected in washouts, and water from curing operations will be collected and disposed. Neither will be allowed into watercourses.

    d. Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.

    e. Dust control measures will include use of water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock (rocking), and covering temporary stockpiles when weather conditions require.

    f. Coir rolls or straw wattles that do not contain plastic or synthetic monofilament netting will be installed along or at the base of slopes during construction, to capture sediment.

    g. Graded areas will be protected from erosion using a combination of silt fences and fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (e.g., jute or coir) will be used as appropriate on sloped areas. Erosion control materials that use plastic or synthetic monofilament netting will not be used. This will include products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials will include natural fibers, such as jute, coconut, twine or other similar fibers.

21. Replant, Reseed, and Restore Disturbed Areas. In areas of soil disturbance, any native topsoil will be removed and stored in a suitable location until project completion. Caltrans will restore temporarily disturbed areas to their preconstruction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs (using a hydro-seed mix) to stabilize and prevent erosion.

22. Service Access. Ifrequested, before, during, or upon completion of groundbreaking and construction activities, Caltrans will allow access by U.S. Fish and Wildlife Service personnel into the project footprint to inspect the project and its activities.

23. Permits. Caltrans will include a copy of the USFWS Biological Opinion (BO) within the construction bid package of the proposed project. The Resident Engineer or their designee will be responsible for implementing the Conservation Measures and Terms and Conditions of the BO and the CDFW Incidental Take Permit.

12. **Surrounding Land Uses and Setting:** The project site is surrounded by undeveloped open space to the south and east. To the west lies the Pacific Ocean and a pathway leading down from SR-1 to the beach at Gray Whale Cove. To the north lies additional park land and an undeveloped parking area associated with the County Parks' Green Valley Trail. There is little development in the surrounding area. The project is located within the Caltrans ROW and the bordering State Park lands (Grey Whale Cove State Beach to the west and McNee Ranch State Park to the east). The surrounding landscape is characterized by steep to rolling hills covered by open grasslands, forests, woodlands, scrub, and densely vegetated riparian corridors.

The Highway and the Gray Whale Cove State Beach parking lot are located on a bench constructed at the western base of Montara Mountain, which spills over a bluff to the Pacific Coast line. Within the project area, the Highway is limited to two lanes with no paved shoulders and occasional pullouts and road cuts.

The northern slope of Montara Mountain is included in the Green Valley Creek watershed. The northern extent of the proposed project area is within the expansive Green Valley. Green Valley is vegetated by coastal scrub and dense low profile riparian vegetation. The dense vegetation provides difficult foot access and conceals the drainage features and wetlands that have been identified in other investigations but are not evident in review of aerial photography. Wetlands and side ponds have been identified in this area. Green Valley Creek appears to be seasonally intermittent but water has ponded long enough through the summer months to support California red-legged frog larvae.

There are numerous drainages within 0.5 mile of the proposed project area that are part of the Green Valley watershed. A detention basin is located approximately 0.25 mile north of the proposed project area, immediately east of SR-1 and adjacent to the access road to a Caltrans operations and maintenance facility. Aquatic features have also been associated with the southern entrance to the Devil's Slide tunnels, located approximately 0.5 mile north of the project area.

The Grey Whale Cove parking lot is the center of the proposed project and is located between the base of Montara Mountain and Grey Whale Cove. The parking lot includes upper and lower parking areas that consists of pavement and packed soil. The surface topography results in shallow ponding within the parking lot following rain events. Unnamed drainages coursing down the steep mountain slope lead to a gently sloped area bordering the eastern edge of the parking lot. An unnamed drainage enters a culvert that crosses under SR-1 to discharge to the ocean. The culvert near the parking lot discharges through the SR-1 road prism, creating a freshwater wetland between Grey Whale Cove and SR-1.

The proposed project is within California Red-Legged Frog Recovery Unit 5 (Central Coast). The California red-legged frog is relatively abundant within this segment of the Coast Range.

Compared to other portions of their historic range, habitat loss and degradation has been low to moderate in the project vicinity. Occurrence of the listed frog has been documented in the area, including an observation from lower Green Valley Creek, on the east side of SR 1, approximately 420 feet north of the north end of the proposed project footprint. California red-legged frog breeding has been confirmed with the observation of larvae within an isolated wetland approximately 0.35 mile northeast of the project footprint within Green Valley. Adult frogs have been observed within the detention basin approximately 0.25 mile north of the project site, near the Caltrans' operations and maintenance building access road. The project area is also within the historic range of the San Francisco garter snake, and all of the constituent habitat elements essential for the snake are present within the project vicinity (i.e. – Green Valley).

13. **Other Public Agencies Whose Approval is Required:**

- CalTrans – Encroachment Permit
- U.S. Fish and Wildlife Service – Biological Opinion

14. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?:**

No California Native American tribe has requested consultation pursuant to Public Resources Code section 21080.3.1. All work is to occur within the existing Highway 1 road alignment. No previously undisturbed or actively used area is part of this project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Significant Unless Mitigated" as indicated by the checklist on the following pages.

X	Aesthetics		Energy		Public Services
	Agricultural and Forest Resources		Hazards and Hazardous Materials		Recreation
	Air Quality		Hydrology/Water Quality		Transportation
X	Biological Resources		Land Use/Planning		Tribal Cultural Resources
	Climate Change		Mineral Resources		Utilities/Service Systems
	Cultural Resources		Noise		Wildfire
	Geology/Soils		Population/Housing	X	Mandatory Findings of Significance

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in 5. below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. Sources used or individuals contacted should be cited in the discussion.

1.	**AESTHETICS**. Except as provided in Public Resources Code Section 21099, would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
1.a.	Have a substantial adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?		X		
Discussion: Construction of the project will require the removal of three significant size (as defined by the County's Significant Tree Protection Ordinance) Monterey Cypress trees (23", 24" and 48" dia.). These three trees are located on the west side of the Highway, between the beach access road and highway retaining walls to the south. Removal of these trees is necessary to improve sight distance for southbound drivers. Removal of these three trees will significantly affect the scenic landscape in this area as well as potentially reduce habitat for bird species in the area. The value of trees as both a scenic and biological resource are reflected by policies within the County's Local Coastal Program and the Significant Tree Protection Ordinance. Even though the removal of these three trees is justified in light of the purpose of the project, their loss must still be mitigated: **Mitigation Measure 1:** Prior to completion of the project's construction, the applicant shall plant three replacement trees (minimum 15-gallon size) for the three Significant size trees removed. Tree replacement must be in the general vicinity of the project site. **Source:** Site Visit; Project Plans; San Mateo County Significant Tree Protection Ordinance				
1.b.	Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?		X		
Discussion: See discussion under Question 1(a). **Source:**					
1.c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings, such as significant change in topography or ground surface relief features, and/or development on a ridgeline? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?		X		

Discussion: As discussed above, the project will require the removal of three trees which poses a significant visual impact. The project involves minimal grading and no development is proposed on a ridgeline. **Source:** Project Plans					
1.d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?			X	
Discussion: The project will include the installation of push button activated hybrid beacon lights at the crosswalk. These beacons will include street lights at the top in order to illuminate the crosswalk at night. Additionally, there will be pedestrian crossing signs with flashing beacons approximately 150 feet away on either side of the crosswalk. All of these new signs and lights are necessary for pedestrian safety, but they are, by definition, a new source of light where none currently exists. However, the new light sources are confined to a relatively small area, in and around the crosswalk. Additionally, this portion of the San Mateo Coast does not contain residences or other buildings that would be occupied at night. In that regard there are no everyday occupants who will be adversely impacted by the new light sources. **Source:** Project Plans, Site Visit					
1.e.	Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?		X		
Discussion: The project site is within the Cabrillo Highway County Scenic Corridor. The impact of the project upon visual resources within the Corridor was discussed under Questions 1(a) and (d). **Source:** San Mateo County GIS; Site reconnaissance, Project Plans					
1.f.	If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X
Discussion: The project site is not within a Design Review District. **Source:** San Mateo County Zoning Maps and Ordinance					
1.g.	Visually intrude into an area having natural scenic qualities?		X		
Discussion: See discussion under Question 1(a) and (d). **Source:**					

2. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
2.a.	For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X

Discussion: The project site consists of existing paved portions of Highway 1 and disturbed/unvegetated areas immediately adjacent to the paved travel way. There is no evidence that these areas have been farmed within the last 75 years, nor would they be suitable for farming due to the immediate proximity of the highway. Land immediately adjacent to the highway, but outside of the right-of-way consists of a paved parking area which has been in existence, in one form or another, for over 50 years.

Source: Project plans; California Resources Agency Farmland Mapping and Monitoring Program

2.b.	Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?				X

Discussion: See discussion under Question 2(a).

Source:

2.c.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?				X

Discussion: See discussion under Question 2(a).

Source:

2.d.	For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?				X
Discussion: See discussion under Question 2(a). **Source:**					
2.e.	Result in damage to soil capability or loss of agricultural land?				X
Discussion: See discussion under Question 2(a). **Source:**					
2.f.	Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? *Note to reader: This question seeks to address the economic impact of converting forestland to a non-timber harvesting use.*				X
Discussion: The project site does not meet the definitions of forestland or timberland. **Source:** Project Plans, Site Visit, San Mateo County GIS					

3.	**AIR QUALITY**. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
3.a.	Conflict with or obstruct implementation of the applicable air quality plan?			X	

Discussion: The project is in San Mateo County within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The project is within a relatively rural area of the San Mateo Coast, and prevailing winds from the ocean to the west generally maintain relatively good air quality conditions.

Air quality basins are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance for each criteria pollutant based on whether the federal and state air quality standards have been achieved. With respect to National Ambient Air Quality

Standards (NAAQS), the SFBAAB is designated as a nonattainment area for ozone and PM2.5, and as an attainment or unclassified area for all other pollutants. With respect to the California Ambient Air Quality Standards (CAAQS), the SFBAAB is designated as a nonattainment area for ozone, PM10, and PM2.5, and as an attainment area for all other pollutants (BAAQMD 2018).
For the reasons described below, the project would not have an adverse or significant impact to air quality, consisting only of safety improvements (no traffic capacity changes), and construction activities are limited in duration and intensity.

Construction. Construction of the project would result in the temporary generation of reactive organic gases (ROG), nitrogen oxides (NOX), PM10, and PM2.5 emissions associated primarily from off-road construction equipment, on-road motor vehicles, soil grading, and material transport. ROG and NOX emissions are primarily associated with mobile equipment exhaust. Fugitive dust emissions are primarily associated with site preparation (area disturbed) and transportation (trucks delivering or removing materials, worker trips). Construction at State Route 1 at the Gray Whale Cove parking area will involve a limited number of workers over a 3 to 4 month time period, and is not considered a complex construction project.

Construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Roadway Construction Emissions Model (Version 8.1.0) with conservative assumptions regarding the duration and scope of construction (SMAQMD 2018). The Roadway Construction Emissions Model Version 8.1.0 uses equipment data and emission factors from OFFROAD2011 and EMFAC2014.The total criteria pollutant construction emissions for the project are presented in Table 1, and are low because of the relatively low intensity of construction activity for this project (limited equipment and workforce). Estimated construction emissions would not exceed BAAQMD's applicable mass emission thresholds of significance that are listed in the table.

Table 1. Construction-Related Criteria Pollutant Emissions

Emissions Sources	ROG	NO_X	PM_{10} (exhaust + dust)	$PM_{2.5}$ (exhaust + dust	CO2e
Total Emissions (tons/total construction period)	Less than 0.01	0.06	0.28	0.01	23.6
Average Maximum Daily Emissions (lbs/day) [(a)]	Less than 0.01	0.04	0.13	0.03	15.5
Thresholds of Significance[(b)] (lbs/day)	54	54	82	54	No construction threshold
Exceeds Thresholds?	No	No	No	No	No/Not Applicable

Notes:
(a) Average Maximum Daily Emissions were calculated based on 22 working days per month over a 4 month construction period and are based on the total construction emissions.

(b) Thresholds from Table 2-1 of the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017a).
ROG = reactive organic gases; NOX = oxides of nitrogen; PM10 = particulate matter with aerodynamic diameter less than 10 microns; PM2.5 = particulate matter with aerodynamic diameter less than 2.5 microns; lbs/day = pounds per day

Federal Air Quality Conformity (Exempt). 40 CFR 93.126 and 40 CFR 93.127 describe projects that

are exempt from federal air quality conformity requirements. This project has been identified by San Mateo County as an element of the "Highway 1 Congestion & Safety Improvement Project" in the Transportation Improvement Program (TIP) under ID # SM-170001 and Regional Transportation Plan (RTP) under ID #17-06-0005. That project included a series of improvements on Highway 1, including a proposed "pedestrian crossing at Gray Whale Cove."

This TIP listing identifies the project's air quality status as "Exempt (40 CFR 93.127) – Intersection Channelization Projects." As the project is eligible for federal funding, the project sponsor (San Mateo County) will submit the project for concurrence to the MTC Air Quality Task Force for confirmation that it is exempt.

Elements of this project also meet the definition of an exempt safety project under "Table 2" of 40 CFR 93.126 under the following descriptions:

Safety

- Railroad/highway crossings,
- Projects that correct, improve, or eliminate a hazardous location or feature, and
- Increasing sight distance.

The proposed pedestrian crossing of State Route 1 will provide a safe and signalized pedestrian crossing of the highway where there is no current striped or designated crosswalk. It will improve an existing hazardous crossing between a State Park parking area and an associated trail to the beach. It will increase sight distance in the southbound direction by removing trees that currently reduce driver's vision of the highway.

California Environmental Quality Act (CEQA) Significance Criteria. It is not anticipated that the project will result in a significant air quality impact based on the following:

CEQA Air Quality Impact Criteria	Discussion
a) Conflict with or obstruct implementation of an applicable air quality plan? b) Violate air quality standard or contribute substantially to an existing or projected air quality violation? c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	This is a safety project only, and will not change or affect traffic patterns or volumes on State Route 1. There will be no change in air quality emissions related to highway traffic. Construction emissions will be temporary, for approximately 3 months. Standard specifications will require the contractor to control dust emissions through periodic watering of the site, and maintain equipment.
d) Expose sensitive receptors to substantial pollutant concentrations? e) Create objectionable odors affecting a	No sources of substantial emissions or odors are anticipated from construction. Beach and park users will only temporarily pass near the project construction site when they park and leave their vehicles, with no extended

substantial number of people?	exposure.
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? g) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	The project will enhance pedestrian access across State Highway 1, and will not create or increase any post construction greenhouse gas emissions. There will be temporary greenhouse gas emissions during construction, but of limited duration and amount (as listed in Table 1). The construction emissions will not be significant.

Source: *Air, Noise, and Traffic Review, Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County* prepared by AECOM, August 1, 2018

3.b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?			X	

Discussion: See discussion under Question 3(a).

Source:

3.c. Expose sensitive receptors to substantial pollutant concentrations, as defined by the Bay Area Air Quality Management District?			X	

Discussion: See discussion under Question 3(a).

Source:

3.d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Discussion: As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations. In this case, the proposed project is the construction of a pedestrian crossing across Highway 1. There is no evidence to suggest that, post-construction, this pedestrian crossing will generate any odors. Although some odor may occur during construction due to the use of diesel-fueled engines, construction activities will be temporary and will only affect a few nearby receptors (construction personnel) for a limited period of time. Upon completion of the proposed project, objectionable odors will not occur from the pedestrian crossing. Therefore, this project will not create objectionable odors that would affect a substantial number of people and this impact can be considered less than significant.

Source: *Air, Noise, and Traffic Review, Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County* prepared by AECOM, August 1, 2018

4.	**BIOLOGICAL RESOURCES**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
4.a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		

Discussion: As described above, California red-legged frogs have been identified within the project vicinity. In addition, the adjacent Green Valley area provides ideal habitat for the listed San Francisco garter snake. Adult California red-legged frogs are highly mobile and have been documented to move more than 2 miles over upland habitat. The frog habitat within the project area has direct connectivity with habitat adjacent to the project site and is well within the feasible movement distance to documented breeding locations. Vertical barriers can limit or prevent passage but California red-legged frogs are not adverse to steep topography and could move back and forth between the action area and nearby resource areas. The California red-legged frog and San Francisco garter snake could be encountered throughout the hardscape and landscape areas of the project footprint where they risk injury under staged and moving equipment/vehicles and ground disturbing activities. Construction noise, vibration, and increased human activity may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors resulting in avoidance of areas that have suitable habitat but intolerable levels of disturbance. Short-term temporal effects will occur when vegetative and debris cover and subterranean upland habitat is removed along the road shoulder as a result of project construction. In their Biological Opinion, the USFWS determined that reasonable and prudent measures are necessary to minimize the effect of the project on the California red-legged frog and San Francisco garter snake. The applicants are responsible for the implementation and compliance with this measure:

Mitigation Measure 2: Minimize the adverse effects to the California red-legged frog and San Francisco garter snake and their habitat in the project area by implementing the proposed project, including the proposed *Conservation Measures*, with the following *Terms and Conditions:*

a. Approval request for Service-Approved Biological Monitors shall include, at a minimum:

(1) relevant education;

(2) relevant training concerning the California red-legged frog and San Francisco garter snake, identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service;

(3) a summary of field experience conducting requested activities (to include project/research information);

(4) a summary of BOs under which they were authorized to work with the California red-legged frog and San Francisco garter snake and at what level (such as construction monitoring versus handling), this will also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project;

(5) a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); and

(6) any relevant professional references with contact information. No project construction will begin until the applicants have received written Service approval for biologists to conduct specified activities.

b. If appropriate habitat for the California red-legged frog and San Francisco garter snake is located immediately adjacent to its capture location then the preferred option is short distance relocation to that habitat. The animal should not be moved outside of the area it would have traveled on its own. Captured animals should be released within suitable habitat as close to their capture location as feasible for their continued safety. Under no circumstances should an animal be relocated to another property without the owner's written permission. It is the applicant's responsibility to arrange for that permission. Service-Approved Biological Monitors must limit the duration of handling and captivity. While in captivity, California red-legged frogs and San Francisco garter snakes shall be kept individually in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.

c. *Reporting Requirements*
In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the applicants shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the applicants must reinitiate formal consultation as per 50 CFR 402.16.

1. Notification of injured or dead listed species will be made to the Coast-Bay Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623. When an injured or dead individual of the listed species is found, the applicants shall follow the steps outlined in the following *Disposition of Individuals Taken* section.

2. Sightings of any listed or sensitive animal species should be reported to the CNDDB (http:/ /www.dfg.ca.gov /biogeodata/ cnddb/).

3. Construction compliance reports will be addressed to the Coast-Bay Division Chief of the Endangered Species Program at the SFWO.

4. The applicants shall submit post-construction compliance reports prepared by the Service approved biologist to the Service within 60 calendar days following completion of each construction season or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report shall detail:

(1) dates that relevant project activities occurred;

(2) pertinent information concerning the success of the project in implementing avoidance and minimization measures;

(3) an explanation of failure to meet such measures, if any;

(4) known project effects on the California red-legged frog and San Francisco garter snake;

(5) occurrences of incidental take of any listed species;

(6) documentation of employee environmental education; and

(7) other pertinent information.

d. *Disposition if Individuals Taken*
Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast-Bay Division Chief of the Endangered Species Program at the SFWO at (916) 414-6623.

Source: *Formal Consultation on the State Route 1 Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California (Caltrans EA 1 Q130)*, U.S. Fish & Wildlife Service, August, 2019

4.b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				X

Discussion: No riparian or other sensitive habitats have been identified in or immediately adjacent to the project work area. As discussed under the project setting section, riparian and wetland habitats do exist in nearby areas. However, these areas are sufficiently far away to not be impacted by project construction, particularly if proposed erosion control measures are implemented.

Source: Project Plans; Site Visit; *Gray Whale Cove Pedestrian Access Improvement Project, Natural Environment Study*, prepared by AECOM, December 2018

4.c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X

Discussion: A reconnaissance survey for wetlands within the project footprint was conducted during the February 2018 site visit to identify potentially jurisdictional wetlands and other waters of

the U.S. subject to regulation under Section 401 and Section 404 of the Federal Clean Water Act and Section 1602 of the California Fish and Game Code. No potentially jurisdictional wetlands or waters of the U.S. were observed within the project footprint. Likewise, there are no features meeting the Coastal Commission one parameter wetland definition.

Source: *Gray Whale Cove Pedestrian Access Improvement Project, Natural Environment Study*, prepared by AECOM, December 2018

4.d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		

Discussion: See discussion under Question 4(a).

Source:

4.e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?			X	

Discussion: The Natural Environment Study prepared for this project identified 31 trees within the project footprint and adjoining areas. However, of those 31 trees, only 23 are of sufficient size to be protected under the County's Significant Tree Ordinance. The project engineers have identified three trees that must be removed to accommodate the project, in addition to five trees which must be pruned back:

Tree ID	Species	DBH (inches)	Tree Impacts
#6	Monterey Pine	8	Pruning
#8	Monterey Pine	8	Pruning
#11	Monterey Cypress	25	Pruning
#13	Monterey Cypress	30	Pruning
#14	Monterey Cypress	30	Pruning
#18	Monterey Cypress	24	To be removed
#19	Monterey Cypress	23	To be removed
#27	Monterey Cypress	48	To be removed

This removal/pruning is required in order to provide sufficient site distance and improved visibility for southbound vehicles approaching the proposed crosswalk. None of the trees are considered a

significant biological resource. No bird nests were observed in the trees during site visits conducted for the preparation of the Natural Environment Study (prepared by AECOM). That is not to say that birds could not begin nesting in the trees prior to project construction, but measures to address such a situation were included above under Mitigation Measure 2. Nor are these trees unique. These two species of trees are found throughout San Mateo's coastal zone in varying densities and sizes. Neither the County's LCP nor the Significant Tree Ordinance prohibit the removal of these trees when their removal is considered as part of a larger permitting process, in this case the issuance of a CDP, which will be required for this project. It will be possible to make the findings for a tree removal permit as part of the consideration for the CDP.

Source: *Gray Whale Cove Pedestrian Access Improvement Project, Natural Environment Study*, prepared by AECOM, December 2018; Project Plans

4.f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or state habitat conservation plan?				X

Discussion: The project site is not within the boundaries of any said conservation plan.

Source: Calif. Dept. of Fish & Wildlife (CDFW); U.S. Fish & Wildlife Service (USFW)

4.g.	Be located inside or within 200 feet of a marine or wildlife reserve?				X

Discussion: While adjacent to the Monterey Bay National Marine Sanctuary, the project site is over 200 feet away from the mean high tide line, which marks the westernmost/land boundary of the Sanctuary.

Source: Monterey Bay National Marine Sanctuary web site.

4.h.	Result in loss of oak woodlands or other non-timber woodlands?				X

Discussion: The project site does not contain oak woodlands or other non-timber woodlands.

Source: Site visit; project plans

5. CULTURAL RESOURCES. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
5.a.	Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Section 15064.5?				X

Discussion: An Archeological Survey Report (prepared by AECOM) was prepared for this project. The background research, literature review, and field survey conducted for this report identified no archaeological resources in the APE. The report concluded that:

"The project will not cause a substantial adverse change to a historical or archaeological resource as defined by CEQA. No historical resources were identified during the identification efforts completed for this project. The deepest project impacts are located along the margins, or shoulder area, of State Route 1, that generally consists of fill and landscaping. Given that the soils in the area are thin and poorly developed and overlay bedrock, subsurface impacts will occur in areas not sensitive for buried archaeology. The project will therefore, have no impact to historical resources." **Source:** *Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California; Archaeological Survey Report* (prepared by AECOM, November 2018)					
5.b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?				X
Discussion: See discussion under Question 5(a) above. **Source:**					
5.c.	Disturb any human remains, including those interred outside of formal cemeteries?				X
Discussion: See discussion under Question 5(a) above. **Source:**					

6.	**ENERGY**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
6.a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?				X
Discussion: While final construction plans for the proposed pedestrian crossing have not been completed, the limited scope of the project and the tight construction budget for this project makes it unlikely that any unnecessary construction will be occur. Energy use will during the operation phase of the project will be minimal, just that which is necessary to operate the light system. **Source:** Project Plans, Project Analysis					
6.b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.				X
Discussion: There is no evidence to suggest that the project will obstruct a state or local plan for renewable energy or efficiency.					

Source: Project Plans, Project Analysis

7. GEOLOGY AND SOILS. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
7.a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42 and the County Geotechnical Hazards Synthesis Map.*				X
Discussion: The project site is not within or adjacent to a mapped earthquake fault zone. **Source:** Alquist-Priolo Earthquake Fault Zoning Map (Half Moon Bay Quad) – Calif. Dept. of Conservation				
ii. Strong seismic ground shaking?			X	
Discussion: The nearest known fault zone to the project site is the Seal Cove fault zone which is approximately 1.5 miles southwest of the project site. The San Andreas fault zone lies approximately 5.5 miles northeast of the project site. A major earthquake along either fault line could produce strong ground shaking. However, the project will not create any habitable structures or potentially unstable slopes adjacent to habitable structures or infrastructure. **Source:** Alquist-Priolo Earthquake Fault Zoning Map (Half Moon Bay Quad) – Calif. Dept. of Conservation; Project Plans				
iii. Seismic-related ground failure, including liquefaction and differential settling?				X
Discussion: The project site is not within a mapped liquefaction hazard zone or on soils known to be susceptible to liquefaction or differential settling. Again, the project will not create any habitable structures or potentially unstable slopes adjacent to habitable structures or infrastructure. **Source:** Calif. Geological Survey Seismic Hazards Zones maps; Project Plans				
iv. Landslides?				X

Discussion: See response to question 7(a)(ii). **Source:**				
v. Coastal cliff/bluff instability or erosion? *Note to reader: This question is looking at instability under current conditions. Future, potential instability is looked at in Section 7 (Climate Change).*				X
Discussion: The adjacent coastal bluff has not shown signs of instability or erosion. The toe of the bluff is sufficiently upslope from the mean high tide line to avoid substantial wave action which could lead to bluff erosion. **Source:** Project Plans, Google Earth				
7.b. Result in substantial soil erosion or the loss of topsoil?				X
Discussion: The proposed project will involve minimal grading on relatively flat slopes. With the implementation of standard erosion control measures as required for all construction projects in San Mateo County, there should be minimal, if any, erosion from the project site. **Source:** Project Plans				
7.c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, severe erosion, liquefaction or collapse?				X
Discussion: See response to question 7(a)(iii). **Source:**				
7.d. Be located on expansive soil, as defined in Table 18-1-B of Uniform Building Code, creating substantial direct or indirect risks to life or property?				X
Discussion: Based upon the U.S. Dept. of Agriculture soil maps for San Mateo County, the soils on the project site are not identified as expansive soils. No habitable structures or over steepened slopes will be created by this project. **Source:** U.S. Dept. of Agriculture soil maps for San Mateo County				
7.e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion: No septic system or other wastewater disposal system is proposed. **Source:** Project Plans					
7.f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
Discussion: See discussion under Question 5.a above. There is no evidence to suggest that the project site contains fossil resources. **Source:**					

8.	**CLIMATE CHANGE**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
8.a.	Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?			X	
Discussion: GHG emissions were estimated using the Roadway Construction Emissions Model (RoadMod), version 7.1.2 (Sacramento Metropolitan Air Quality Management District, 2016), which BAAQMD recommends for linear construction projects, for each of the project components. Notably, there are no long-term sources of GHGs associated with project development. Once the project is completed, there will be no additional GHG generation associated with the project above existing levels. GHGs associated with construction will be generated by construction equipment, haul trucks, and worker vehicles. The modeling program estimates that maximum annual GHGs of 40.9 metric tons of CO2e will be emitted during all construction activities related to this project. Based upon this estimate, the proposed project will not exceed the BAAQMD's most stringent GHG threshold of 1,100 metric tons per year and should be considered less than significant. **Source:** Roadway Construction Emissions Model (RoadMod), ver. 8.1.0, Project Plans, BAAQMD CEQA Air Quality Guidelines				
8.b.	Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X
Discussion: San Mateo County has developed an Energy and Climate Change Element for the General Plan (San Mateo County, 2013). The Element includes energy use reduction measures, transportation measures, and solid waste reduction measures to reduce GHGs. The project consists of a pedestrian crossing with associated lighting. This crossing is to address existing safety issues caused by pedestrians crossing Cabrillo Highway from the parking lot on the east side of the					

highway to the beach access on the west side. The pedestrian crossing, in and of itself, will not generate new vehicle trips and thus will not result in new or additional long-term sources of GHGs, therefore the reduction strategies contained in the County's Climate Change Element do not apply. Thus, the project would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. **Source:** San Mateo County Energy and Climate Change Element 2013, BAAQMD Guidelines					
8.c.	Result in the loss of forestland or conversion of forestland to non-forest use, such that it would release signifi-cant amounts of GHG emissions, or significantly reduce GHG sequestering?				X
Discussion: The project site does not contain forestland, nor will the project involve the removal of a significant number of trees. **Source:** Project Plans					
8.d.	Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?				X
Discussion: See response to question 7(a)(v). **Source:** San Mateo County GIS					
8.e.	Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X
Discussion: See response to question 7(a)(v). **Source:**					
8.f.	Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: There are no creeks, rivers, or other waterbodies within or adjacent to the project site. **Source:** San Mateo County GIS, Site visit.					
8.g.	Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: See response to question 8(f). **Source:**					

9.	**HAZARDS AND HAZARDOUS MATERIALS**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
9.a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?				X
Discussion: No hazardous materials, pesticides or herbicides, are proposed for use in this project. **Source:** Project Plans					
9.b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
Discussion: See response to question 9(a). **Source:**					
9.c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
Discussion: There are no existing or proposed schools within one mile of the project site. **Source:** Project Plans, Site visit					
9.d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
Discussion: The County's consultant for this project, AECOM, conducted a hazardous materials review of the project site. There is no evidence that the project has ever been developed and used for any use other than the associated Highway 1. There is no evidence to suggest that any hazardous materials have ever been stored on the project site. **Source:** Project Plans, Site visit					

9.e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?				X
Discussion: There are no airports within 2 miles of the project site. The project site is not within the boundaries of an airport land use plan. **Source:** Project Plans, Site visit					
9.f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
Discussion: There is no evidence to suggest that the project will interfere with any emergency response plan. No work will occur that will permanently impede or close a public road. **Source:** Project Plans, Site visit, San Mateo County GIS database					
9.g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X
Discussion: No habitable structures are proposed with this project. The proposed traffic/pedestrian improvements will not increase the exposure to wildland fires above what already exists at the site. **Source:** Project Plans, Site visit, San Mateo County GIS database					
9.h.	Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: The project will not create housing or other habitable structures. **Source:** Project Plans, Site visit, San Mateo County GIS database					
9.i.	Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: The project site is not within an existing or anticipated 100-year flood hazard area. **Source:** Project Plans, Site visit, San Mateo County GIS database					
9.j.	Expose people or structures to a signifi-cant risk of loss, injury or death involving				X

	flooding, including flooding as a result of the failure of a levee or dam?				
Discussion: See response to question 9(i). There are no levees or dams near or adjacent to the project site. **Source:** Project Plans, Site visit, San Mateo County GIS database					
9.k.	Inundation by seiche, tsunami, or mudflow?				X
Discussion: The project site is not adjacent to a lake (seiche hazard), is outside of any anticipated tsunami hazard zone (the site sits approximately 100 feet above the mean high tide line), and there are no adjacent, unstable slopes (mudflow). **Source:** Project Plans, Site visit, San Mateo County GIS database					

10.	**HYDROLOGY AND WATER QUALITY**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
10.a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?			X	
Discussion: As with any construction project, there will be some ground disturbance which could, if not addressed, result in erosion and deposition of sediment off-site. However, implementation of CalTrans standard erosion control measures which is required by their Standard Operating Procedures will reduce any potential erosion to a less than significant level. The existing on-site drainage systems do not need to be significantly altered to accommodate the proposed project. **Source:** Project Plans, Site visit					
10.b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
Discussion: The proposed project does not require a water source (including groundwater). There is no aspect of this project that would interfere with groundwater recharge.					

Source: Project Plans, Site visit				
10.c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:			X	
i. Result in substantial erosion or siltation on- or off-site;			X	
Discussion: There are no river or stream features on the project site. There is a small, ephemeral drainage to the east of the existing parking lot. This stream feeds into a culvert which then conveys stormwater under the highway and deposits it on the east side of the highway. The project will result in a minor addition of new impermeable surfaces, primarily new acceleration and deceleration lanes to allow for safe access into the parking lot. Any additional drainage coming off these new surfaces will be directed toward the existing drop inlet for the above mentioned culvert. There is no evidence to suggest that the proposed project will substantially alter the existing drainage pattern of the site or area. **Source:** Project Plans, Site visit				
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X	
Discussion: See response to question 10(c)(i). **Source:**				
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
Discussion: See response to question 10(c)(i). **Source:**				
iv. Impede or redirect flood flows?				X
Discussion: See response to question 10(c)(i). **Source:**				
10.d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
Discussion: The project site is not within a known flood hazard, tsunami, or seiche zone.				

Operational use of the project will not involve the storage or use pollutants or other chemicals. **Source:** Project Plans, Site visit				
10.e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X
Discussion: At the present time, there is no groundwater management plan in this area of the County, nor is there a specific water quality control plan for this particular area of the County. The project does not require a water source nor is there any aspect of the project that could conceivably conflict with a future water quality control plan or groundwater management plan. **Source:** Project Plans, Site visit				
10.f. Significantly degrade surface or ground-water water quality?			X	
Discussion: See response to question 10(a). **Source:**				
10.g. Result in increased impervious surfaces and associated increased runoff?			X	
Discussion: The project will result in a small, incremental increase in the amount of impervious surface on the project site. However, the amount of increase is minor in scope and the existing storm drain system is adequate to handle the minor increase. **Source:** Project Plans, Site visit				

11. LAND USE AND PLANNING. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
11.a. Physically divide an established community?				X
Discussion: There are no town, villages or other habitations within a one mile radius of the site. **Source:** Site visit				
11.b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X
Discussion: There is no evidence to support a conclusion that the project will conflict with any				

adopted County plans. **Source:** Project Plans, Site visit, San Mateo County LCP, San Mateo County General Plan				
11.c. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X
Discussion: On busy weekends, when the weather is nice, more than 50 people frequently park at the site and cross the highway to gain access to the adjacent beach. That is existing condition. The proposed project will not intensify or change that situation. **Source:** Project Plans, Site visit				

12. MINERAL RESOURCES. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
12.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X
Discussion: There are no identified mineral resources on the project site. **Source:** SMC General Plan				
12.b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Discussion: The project site is not designated as a mineral resource recovery site. **Source:** SMC General Plan				

13. NOISE. Would the project result in:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***

13.a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	

Discussion: The project could potentially generate noise levels above those set in the County Noise Ordinance during certain phases of project construction. There are no sensitive receptors within one mile of the project site. Additional noise sources in the area include traffic on Highway 1. The San Mateo County Code, Section 4.88.360 (Noise Ordinance), provides the following exemption for construction related noise: "noise sources associated with demolition, construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. weekdays, 5:00 p.m. and 9:00 a.m. on Saturdays or at any time on Sundays, Thanksgiving and Christmas (are exempt from the restrictions of the Noise Ordinance)". None of the proposed project activities would occur during the above periods. As a result, the project would have a less-than-significant impact with respect to County noise standards.

Source: Project Plans, County GIS database, County Noise Ordinance

13.b.	Generation of excessive ground-borne vibration or ground-borne noise levels?			X	

Discussion: While the project will generate some ground-borne vibration during certain phases of construction, this is a temporary impact and there are no sensitive receptors nearby that would be impacted.

Source: Project Plans

13.c.	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure to people residing or working in the project area to excessive noise levels?				X

Discussion: The project site is not within an airport land use plan or within 2 miles of a public or private airport/airstrip.

Source: County GIS

14. POPULATION AND HOUSING. Would the project:

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
14.a.	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and				X

	businesses) or indirectly (for example, through extension of roads or other infrastructure)?				
Discussion: The project involves the construction of a pedestrian crossing. No infrastructure that could support population growth will be improved or extended to accommodate this project. No commercial, industrial or residential uses are proposed. **Source:** Project Plans					
14.b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X
Discussion: There is no housing within or adjacent to the project site. **Source:** Project plans, County GIS database, Site Visit					

15.	**PUBLIC SERVICES**. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	***Potentially Significant Impacts***	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
15.a.	Fire protection?				X
15.b.	Police protection?				X
15.c.	Schools?				X
15.d.	Parks?				X
15.e.	Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?				X
Discussion: Because construction activities would be short-term and would involve a workforce of 4 to 16 construction workers on any given day, project construction would not significantly increase demand for fire and police protection services throughout the project vicinity, and would not change any uses on the site. The project is not expected to significantly affect the Coastside Fire Protection District's or San Mateo County Sheriff's Office's ability to maintain service ratios, response times, and other performance objectives. No new or physically altered facilities would be required. For these reasons, the project's impact with respect to the provision of fire and police protection facilities would be less than significant. There is no aspect of the project that would result in an increase in demand on local school services. The proposed project would not result in an increase of permanent employees; therefore it would not result in a permanent increase in the use of existing					

park and recreation facilities and new or physically altered facilities would not be required. The proposed project would not involve new permanent employees and, therefore, it is not expected to increase the use of other public facilities such as libraries or hospitals.

Source: Project plans

16. RECREATION. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
16.a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
Discussion: See Question 15(d), above. **Source:**				
16.b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
Discussion: See Question 15(d), above. **Source:**				

17. TRANSPORTATION. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
17.a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and parking?				X
Discussion: The project is intended to address an identified traffic safety issue. Construction of the pedestrian crossing will reduce the potential for fatal accidents at this location on Highway 1 and is consistent with existing traffic plans for the Coastside as well as the County's LCP. **Source:** Project plans, San Mateo County LCP, Site Visit				

17.b.	Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) *Criteria for Analyzing Transportation Impacts*? *Note to reader: Section 15064.3 refers to land use and transportation projects, qualitative analysis, and methodology.*				X
Discussion: CEQA Guidelines Section 15064.3 establishes a new method for analyzing certain transportation impacts created by a proposed project. Under the new requirements, circulation impacts must be analyzed based on vehicle miles traveled (VMT). For a land use project, if the estimated VMT exceeds an established threshold of significance, then it could be a significant impact. Each Lead Agency is responsible for establishing their own thresholds of significance and has until July 1, 2020 to do so. At this time, San Mateo County has not adopted VMT thresholds of significance, but the responsible County departments (Public Works and Planning) are working on this threshold with the aim of adopting a threshold by the required deadline. Until such time as the required threshold is established, the County's existing standard of analysis (Level of Service) is the applicable standard of review. **Source:** Staff Analysis					
17.c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
Discussion: See response to Question 17(a) above. **Source:**					
17.d.	Result in inadequate emergency access?				X
Discussion: See response to Question 17(a) above. **Source:**					

18.	**TRIBAL CULTURAL RESOURCES**. Would the project:				
		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
18.a.	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a				X

California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)				X
Discussion: The project site has been developed as a highway and adjacent parking area for over 50 years. There is no evidence that the project site has ever been utilized as a cultural resource. As cited in Section 5 above, local Native American tribal representatives were contacted as part of the cultural resources evaluation. None of the representatives indicated that the site was a cultural resource. The project site is not listed on the California Register. **Source:** Site Visit; *Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California; Archaeological Survey Report* (prepared by AECOM, November 2018)				
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. (In applying the criteria set forth in Subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)				X
Discussion: See response to Question 18(a). **Source:**				

19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
	Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
19.a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
Discussion: The proposed project will not produce any wastewater nor will it require the				

construction of new water or wastewater treatment facilities or expansion of such facilities. No significant changes to the existing stormwater drainage system within the project site are proposed. No new electrical, natural gas or telecomm facilities are proposed for this project. **Source:** Project Plans, Site Visit				
19.b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
Discussion: The project will not result in habitable structures which require water for either consumption or fire suppression. **Source:** Project Plans				
19.c. Result in a determination by the waste-water treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
Discussion: The Project site is not connected to a municipal wastewater treatment system. **Source:** Project Plans, San Mateo County GIS				
19.d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
Discussion: There is no evidence that the project will generate significant new levels of solid waste. All waste disposal shall be at the County's only landfill – Ox Mountain, which currently has sufficient space to accommodate the anticipated modest waste stream from this site. **Source:** Project Plans				
19.e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?				X
Discussion: See discussion under Question 19(d). **Source:**				

20.	**WILDFIRE**. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impacts	Significant Unless Mitigated	Less Than Significant Impact	No Impact
20.a. Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
Discussion: The Project site is located in an area designated as a "Very High Fire Hazard Risk" on the State's Fire Hazard Severity Zone maps. The project consists of the installation of traffic lights and a pedestrian crossing. There are no proposed structures that would physically block or inhibit movement of vehicles on Highway 1. San Mateo County has an adopted emergency evacuation plan for the Urban Mid-Coast area. There is no component of this project that will interfere with this plan. The project will not create new residences that could increase the number of people that might be trapped during an emergency event. **Source:** Project Plans, Site visit, County GIS database, San Mateo County Hazard Mitigation Plan (July 2016)				
20.b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
Discussion: The Project site sits at the mouth of a wide but shallow canyon surrounded by hillsides covered with brush. For the Half Moon Bay area, prevailing winds tend to come from the west or north. Prevailing winds from the west would tend to diminish the threat of uncontrolled spread of wildfire towards the project (which is within the road right-of-way) and the adjacent parking lot. Generally, if a wildfire were to break on one of the adjacent hillsides and the wind is coming from the west, it would push the fire and smoke away from the project site and towards the uninhabited surrounding hill country. No aspect of the project will exacerbate the existing level of fire hazard posed to the surrounding area. No habitable structures are proposed as part of this project. **Source:** Weatherspark.com: "*Average Weather in Half Moon Bay area*"; Site Visit; County GIS database; Project Plans				
20.c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
Discussion: The proposed project involves the installation of a pedestrian crossing and associated infrastructure within the Highway 1 right of way. No fire prevention infrastructure is required by the State Fire Code for such improvements. **Source:** 2013 California Fire Code; Project Plans				
20.d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a				X

	result of runoff, post-fire slope instability, or drainage changes?				

Discussion: The slopes surrounding the project site are covered primarily with low brush with some trees scattered within the brush. If a catastrophic wildfire were to burn through these hills, it could potentially leave the adjacent slopes denuded and susceptible to instability if heavy rains were to occur before replacement vegetation was able to take hold. The soils on the adjacent hillsides are primarily Scarper-Miramar complex which has a moderate rate of permeability but a relatively high erosion hazard rating. While landslide hazard cannot be ruled out, given the soil characteristics, the more likely effect of heavy rainfall on these barren slopes would be accelerated erosion of the course sandy loam material.

No habitable structures are proposed as part of this project. The adjacent State beach and parking lot do see high usage during nice weather days. However, the parking lot (which would be the most susceptible to landslide hazard) is pre-existing and not a part of this project.

Source: *Soil Survey of San Mateo, Eastern Part,* U.S. Soil Conservation Service, 1991; Project Plans

21. MANDATORY FINDINGS OF SIGNIFICANCE.

		Potentially Significant Impacts	***Significant Unless Mitigated***	***Less Than Significant Impact***	***No Impact***
21.a.	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		

Discussion: A potentially significant impact related to loss of trees (as a visual resource) was identified and a mitigation measure was proposed which will reduce this impact to a less than significant level. Additionally, the USFWS Biological Opinion recognized the potential for impacts to migrating California red-legged frog and San Francisco garter snake due to construction activities. The applicants have proposed conservation measures to minimize this potential impact. The USFWS has also recommended additional measures to reduce the potential for incidental take of these two species. With the inclusion of these measures, the project is not expected to significantly degrade the quality of the environment, or substantially reduce habitat or affect populations of any wildlife, fish, or plant species. There are no known historical or pre-historical resources on the project site.

21.b.	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively consider-			X	

able" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				
Discussion: The project will not have impacts to agriculture or forestry resources, mineral resources, or population and housing that would combine with other projects. The proposed pedestrian crossing improvements will have a significant impact with respect to visual resources due to tree removal. However, this impact is limited to the project site and there is no evidence to suggest that this site specific impact will combine with other projects in the area to create a significant cumulative impact. For the reasons presented in the above document, the proposed project is not expected to result in adverse impacts to human beings, either directly or indirectly. All impacts identified in this document are less than significant, or reduced to less than significant levels with implementation of mitigation measures, and the project's incremental contribution to potential cumulative impacts will not be cumulatively considerable. Therefore, the project's impact is considered less than significant.				
21.c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	
Discussion: See Question 21(b) above.				

RESPONSIBLE AGENCIES. Check what agency has permit authority or other approval for the project.

AGENCY	YES	NO	TYPE OF APPROVAL
Bay Area Air Quality Management District		X	
Caltrans	X		Encroachment Permit
City		X	
California Coastal Commission		X	
County Airport Land Use Commission (ALUC)		X	
Other: _____		X	
Regional Water Quality Control Board		X	
San Francisco Bay Conservation and Development Commission (BCDC)		X	
Sewer/Water District:		X	
State Department of Fish and Wildlife		X	

AGENCY	YES	NO	TYPE OF APPROVAL
State Department of Public Health		X	
State Water Resources Control Board		X	
U.S. Army Corps of Engineers (CE)		X	
U.S. Environmental Protection Agency (EPA)		X	
U.S. Fish and Wildlife Service	X		Biological Opinion

MITIGATION MEASURES

	Yes	No
Mitigation measures have been proposed in project application.		X
Other mitigation measures are needed.	X	

The following measures are included in the project plans or proposals pursuant to Section 15070(b)(1) of the State CEQA Guidelines:

Mitigation Measure 1: Prior to completion of the project's construction, the applicant shall plant three replacement trees (minimum 15-gallon size) for the three Significant size trees removed. Tree replacement must be in the general vicinity of the project site.

Mitigation Measure 2: Minimize the adverse effects to the California red-legged frog and San Francisco garter snake and their habitat in the project area by implementing the proposed project, including the proposed *Conservation Measures*, with the following *Terms and Conditions:*

a. Approval request for Service-Approved Biological Monitors shall include, at a minimum:

(7) relevant education;

(8) relevant training concerning the California red-legged frog and San Francisco garter snake, identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service;

(9) a summary of field experience conducting requested activities (to include project/research information);

(10) a summary of BOs under which they were authorized to work with the California red-legged frog and San Francisco garter snake and at what level (such as construction monitoring versus handling), this will also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project;

(11) a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); and

(12) any relevant professional references with contact information. No project construction will begin until the applicants have received written Service approval for biologists to conduct specified activities.

b. If appropriate habitat for the California red-legged frog and San Francisco garter snake is located immediately adjacent to its capture location then the preferred option is short distance relocation to that habitat. The animal should not be moved outside of the area it would have traveled on its own. Captured animals should be released within suitable habitat as close to their capture location as feasible for their continued safety. Under no circumstances should an animal be relocated to another property without the owner's written permission. It is the applicant's responsibility to arrange for that permission. Service-Approved Biological Monitors must limit the duration of handling and captivity. While in captivity, California red-legged frogs and San Francisco garter snakes shall be kept individually in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.

c. *Reporting Requirements*
In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, the applicants shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, the applicants must reinitiate formal consultation as per 50 CFR 402.16.

5. Notification of injured or dead listed species will be made to the Coast-Bay Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623. When an injured or dead individual of the listed species is found, the applicants shall follow the steps outlined in the following *Disposition of Individuals Taken* section.

6. Sightings of any listed or sensitive animal species should be reported to the CNDDB (http:/ /www.dfg.ca.gov /biogeodata/ cnddb/).

7. Construction compliance reports will be addressed to the Coast-Bay Division Chief of the Endangered Species Program at the SFWO.

8. The applicants shall submit post-construction compliance reports prepared by the Service approved biologist to the Service within 60 calendar days following completion of each construction season or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report shall detail:

(1) dates that relevant project activities occurred;

(2) pertinent information concerning the success of the project in implementing avoidance and minimization measures;

(3) an explanation of failure to meet such measures, if any;

(4) known project effects on the California red-legged frog and San Francisco garter snake;

(5) occurrences of incidental take of any listed species;

(6) documentation of employee environmental education; and

(7) other pertinent information.

d. *Disposition if Individuals Taken*
Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast-Bay Division Chief of the Endangered Species Program at the SFWO at (916) 414-6623.

DETERMINATION (to be completed by the Lead Agency).

On the basis of this initial evaluation:

	I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Planning Department.
X	I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because of the mitigation measures in the discussion have been included as part of the proposed project. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

(Signature)

Date

(Title)

ATTACHMENTS

A. Project Plans

B. *Air, Noise, and Traffic Review, Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County* prepared by AECOM, August 2018

C. *Formal Consultation on the State Route 1 Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California (Caltrans EA 1 Q130)*, U.S. Fish & Wildlife Service, August, 2019

D. *Gray Whale Cove Pedestrian Access Improvement Project, Natural Environment Study*, prepared by AECOM, December 2018

E. *Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California; Archaeological Survey Report* prepared by AECOM, November 2018

County of San Mateo - Planning and Building Department

ATTACHMENT A

INDEX OF PLANS

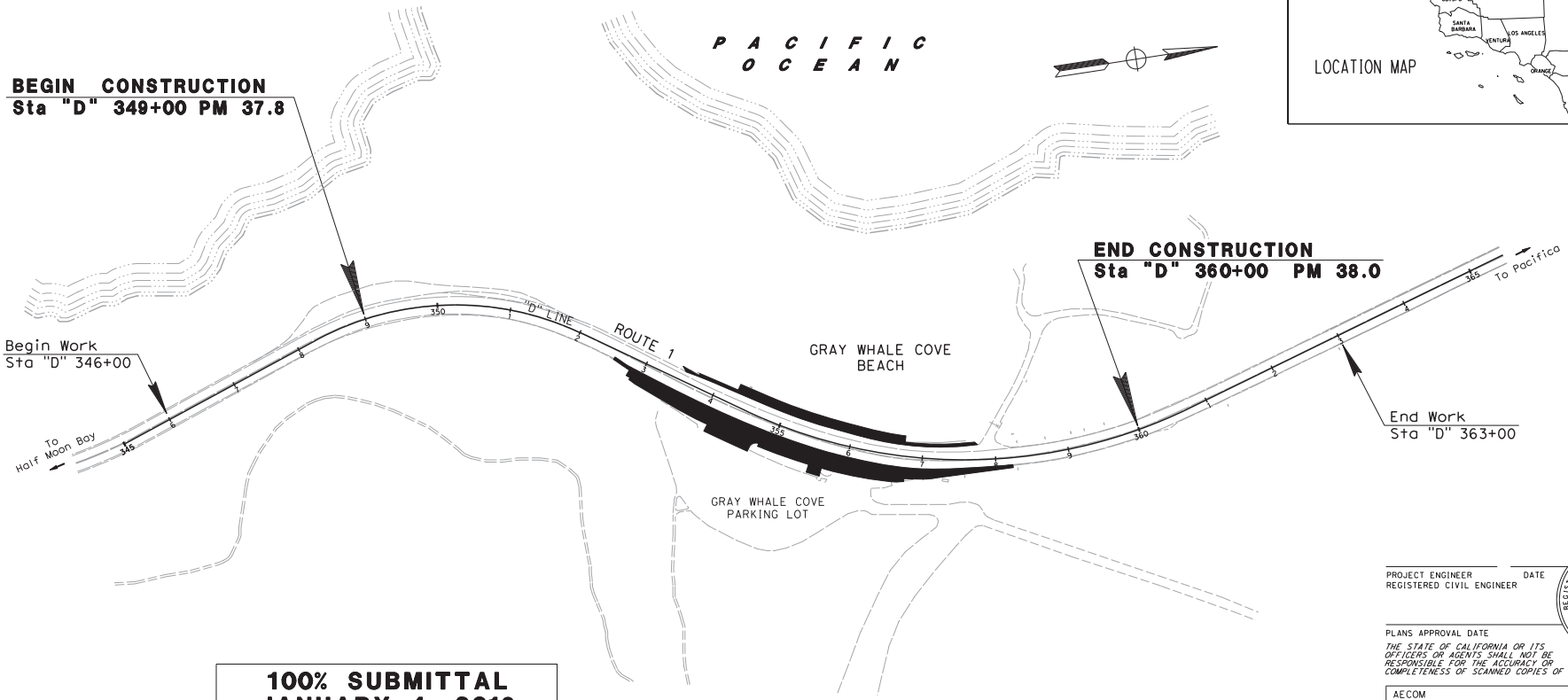
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN SAN MATEO COUNTY
IN MONTARA
FROM 0.6 MILE NORTH OF MONTARA MOUNTAIN TRAILHEAD
TO 0.6 MILE SOUTH OF TOM LANTOS TUNNELS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2018

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.



100% SUBMITTAL
JANUARY 4, 2019

NO SCALE

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

AECOM
100 W. SAN FERNANDO St, SUITE 200
SAN JOSE, CA 95113-2254

SAN MATEO COUNTY TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

CONTRACT No.	04-1Q1300
PROJECT ID	0418000207

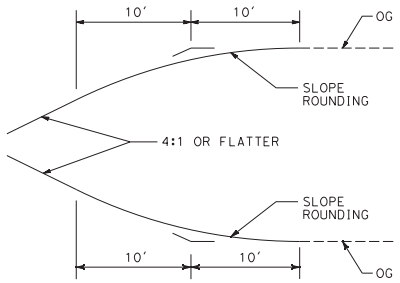
APPROVED AS TO IMPACT ON STATE FACILITIES AND CONFORMANCE WITH APPLICABLE STATE STANDARDS AND PRACTICES AND THAT TECHNICAL OVERSIGHT WAS PERFORMED.

CONSULTANT DESIGN MANAGER	CALTRANS DESIGN OVERSIGHT APPROVAL	REGISTRATION No.	LICENSE Exp DATE	DATE SIGNED
SCOTT C. KELSEY	ATIF ABRAR			

LAST REVISION 12-14-18
DATE PLOTTED => 1/2/2019
TIME PLOTTED => 2:40:30 PM

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. EXACT LOCATIONS AND TYPES OF HMA DIKES, AND CURBS ARE SHOWN ON THE LAYOUTS, CONSTRUCTION DETAILS, AND SUMMARY OF QUANTITIES SHEETS.
3. FOR REMOVAL ITEMS, SEE LAYOUTS AND SUMMARY OF QUANTITY SHEETS.
4. ROUND TOP AND TOE OF SLOPES UNLESS IT CONFLICTS WITH THE FEATURES AT THE TOE OR TOP OF THE SLOPE, SEE DETAIL A TYPICAL SLOPE ROUNDING.



DETAIL A
TYPICAL SLOPE ROUNDING

DESIGN DESIGNATION:

STATE ROUTE 1

ADT (2020)	16,960	D	=	52%
ADT (2040)	21,230	T	=	7.60%
DHV	2,210	V	=	45 MPH
ESAL	2,791,314	TI	=	10

PAVEMENT CLIMATE REGION: CENTRAL COAST

ABBREVIATIONS:

BS	BACK OF SIDEWALK
Veg Cntl	VEGETATION CONTROL

EXISTING PAVEMENT STRUCTURE SECTIONS:

◇1 STATE ROUTE 1
0.50' AC (TYPE A)
1.60' CL 3 AB

◇2 STATE ROUTE 1 - SOUTHBOUND OUTSIDE SHOULDER
0.50' AC (TYPE A)

PROPOSED PAVEMENT STRUCTURE SECTIONS:

[1] 0.50' HMA (TYPE A)
1.60' CL 2 AB

[2] 0.50' PCC
0.50' CL 2 AB

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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100 W. SAN FERNANDO St
Suite 200
SAN JOSE, CA 95113-2254

SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM
CHECKED BY: SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

TYPICAL CROSS SECTIONS
NO SCALE

X-1

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:34 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ca001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

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REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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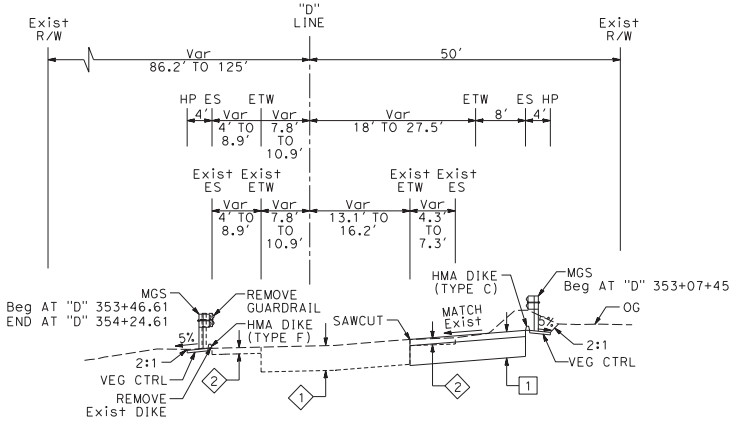

ROUTE 1
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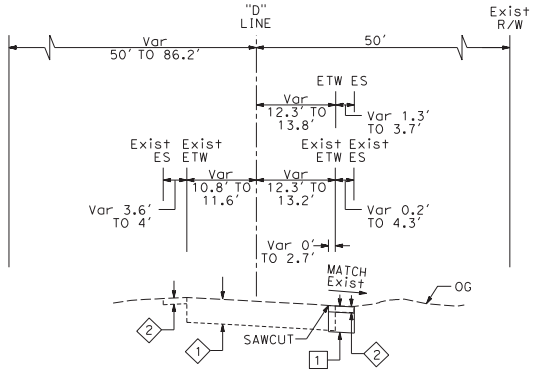

ROUTE 1
"D" 352+56.72 TO "D" 352+82.04

TYPICAL CROSS SECTIONS

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:37 PM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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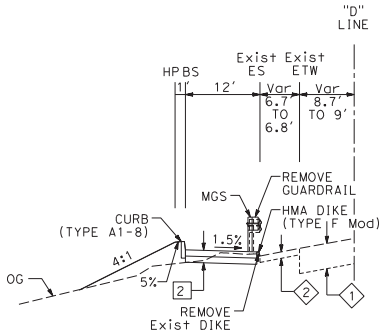
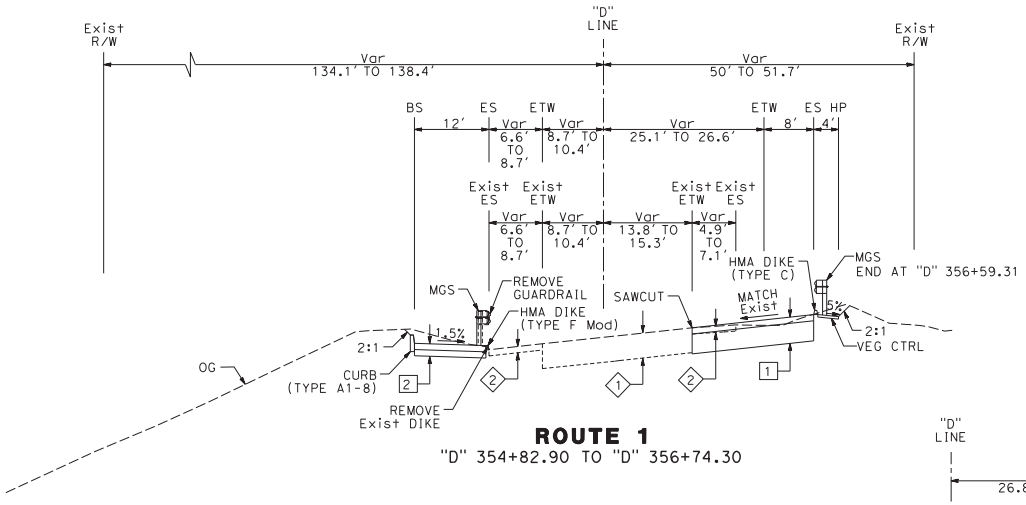
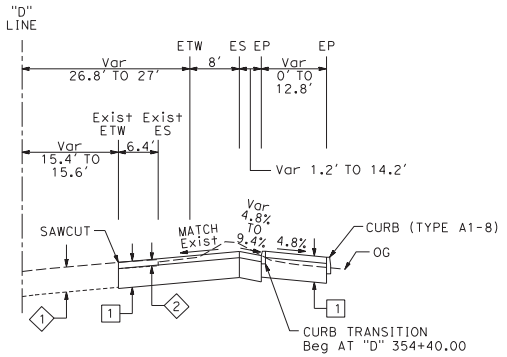
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070



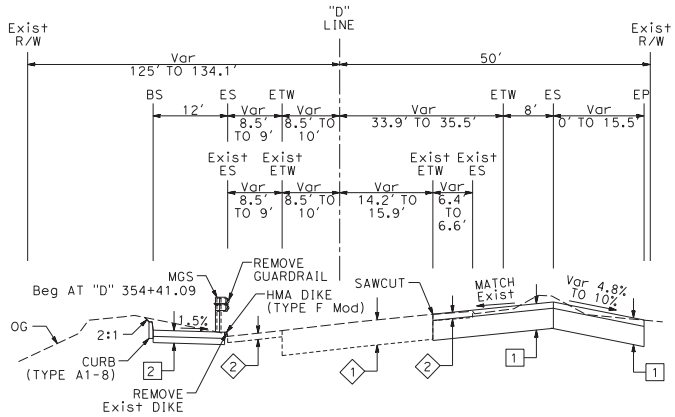
"D" LINE SHOULDER DETAIL
"D" 356+50.00 TO "D" 356+74.30



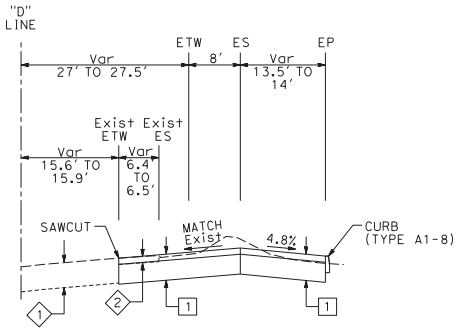
ROUTE 1
"D" 354+82.90 TO "D" 356+74.30



"D" LINE SHOULDER DETAIL
"D" 354+40.00 TO "D" 354+45.55



ROUTE 1
"D" 354+30.00 TO "D" 354+82.90



"D" LINE SHOULDER DETAIL
"D" 354+30.23 TO "D" 354+40.00

TYPICAL CROSS SECTIONS

NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN
CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM
CHECKED BY: SCOTT KELSEY
REVISED BY / DATE REVISED:

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:39 PM

BORDER LAST REVISED 7/2/2010
USERNAME => jason.hom
DGN FILE => 0418000207_ca003.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0703
PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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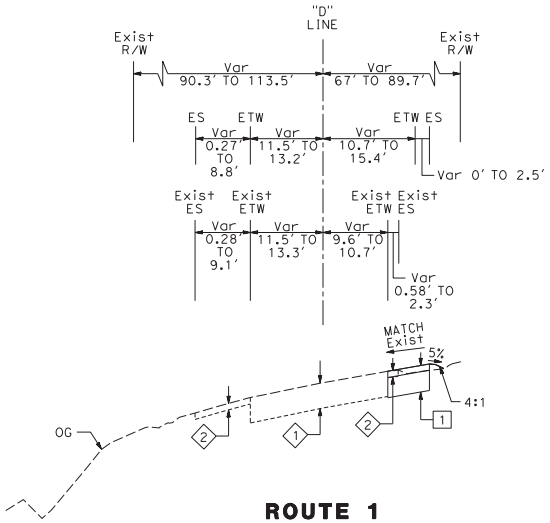
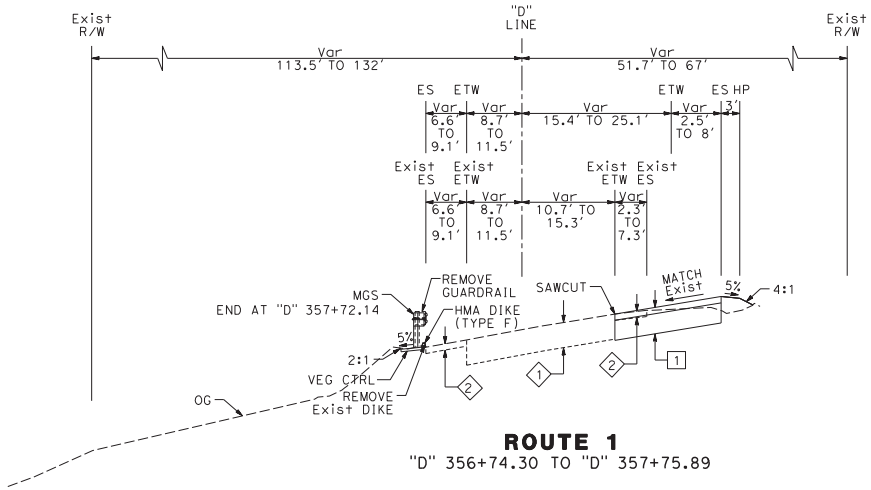
100 W. SAN FERNANDO St
Suite 200
SAN JOSE, CA 95113-2254

SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070



ROUTE 1
"D" 357+75.89 TO "D" 358+22.87



ROUTE 1
"D" 356+74.30 TO "D" 357+75.89

TYPICAL CROSS SECTIONS

NO SCALE

X-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:41 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ca004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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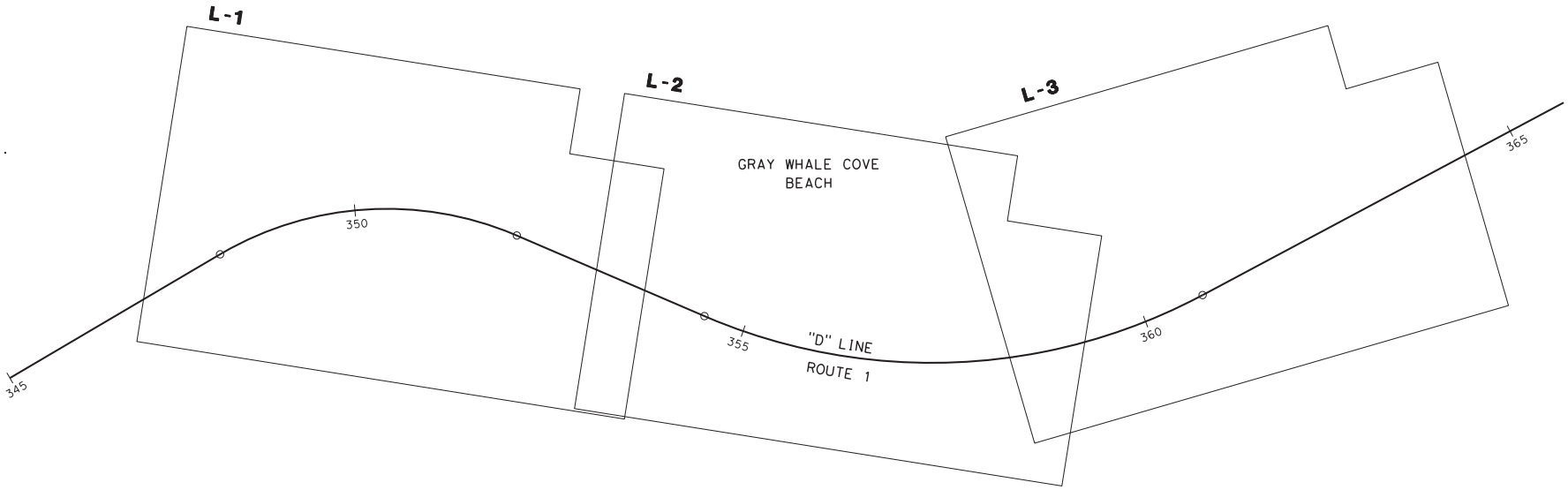
SAN CARLOS, CA 94070

NOTE:

1. SAME SHEET NUMBER AND ORIENTATION FOR ALL 20 SCALE PLAN VIEW SHEETS EXCEPT C-SHEETS.



KEY MAP AND LINE INDEX

NO SCALE

K-1

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:42 PM

BORDER LAST REVISED 7/2/2010

USERNAME => jason.hom
DGN FILE => 04180000207_da001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

PROFESSIONAL LAND SURVEYOR DATE

PLANS APPROVAL DATE

PROFESSIONAL LAND SURVEYOR — BRIAN W. COLESON No. 8367 Exp. 12-31-19 — STATE OF CALIFORNIA

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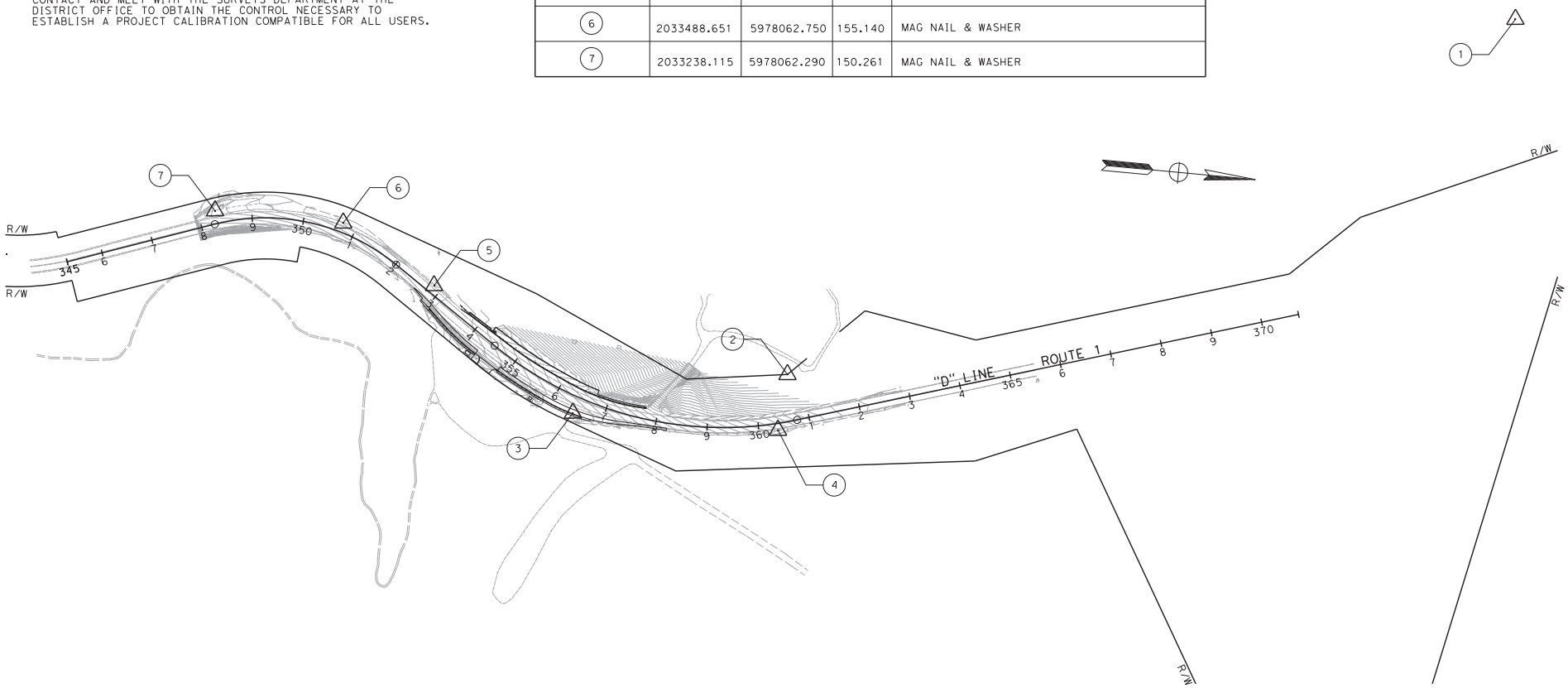
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. FOR COMPLETE PROJECT CONTROL DATA, SEE THE SURVEY ON FILE IN THE SURVEYS DEPARTMENT AT THE DISTRICT OFFICE.
3. HORIZONTAL DATUM IS THE NORTH AMERICAN DATUM OF 1983 (2011), CALIFORNIA COORDINATE SYSTEM ZONE 3, EPOCH 2010.00. ALL DISTANCES ARE BASED ON SURVEY FEET AND ARE GRID DISTANCES. TO CONVERT GRID DISTANCES TO GROUND LEVEL DISTANCES, MULTIPLY GRID DISTANCES BY 1.0000730.
4. ELEVATION ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BENCHMARK IS CONTROL POINT 1, HAVING AN ELEVATION OF 260.32 FEET.
5. IN THE EVENT GLOBAL POSITIONING SYSTEM MACHINE CONTROL GUIDANCE IS USED FOR THIS PROJECT, THE CONTRACTOR SHALL CONTACT AND MEET WITH THE SURVEYS DEPARTMENT AT THE DISTRICT OFFICE TO OBTAIN THE CONTROL NECESSARY TO ESTABLISH A PROJECT CALIBRATION COMPATIBLE FOR ALL USERS.

POINT (#)	NORTHING	EASTING	Elev	DESCRIPTION
1	2035722.763	5977455.014	260.318	FND SM-19. BRASS DISK SET IN CONCRETE
2	2034376.886	5978275.340	94.892	FND 1" IRON PIPE WITH PLASTIC PLUG AND TAG
3	2033968.314	5978388.900	149.365	MAG NAIL & WASHER
4	2034368.686	5978384.928	133.088	MAG NAIL & WASHER
5	2033675.959	5978167.451	155.260	MAG NAIL & WASHER
6	2033488.651	5978062.750	155.140	MAG NAIL & WASHER
7	2033238.115	5978062.290	150.261	MAG NAIL & WASHER



PROJECT CONTROL

SCALE: 1" = 100'

PC-1

APPROVED FOR PROJECT CONTROL AND MONUMENTATION INFORMATION ONLY

CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_dc001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

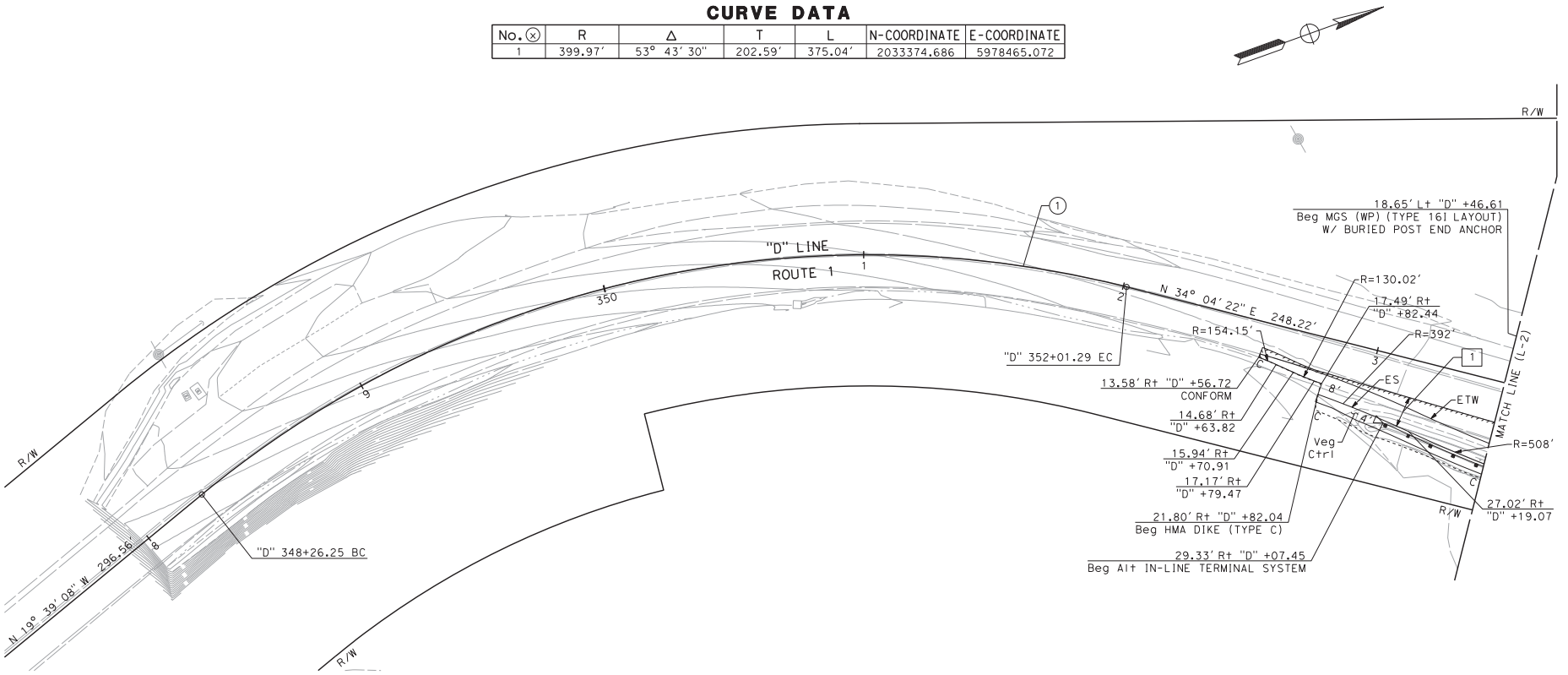
- SAWCUT
- No. STRUCTURAL SECTION (SEE TYPICAL CROSS SECTIONS)
- REMOVE TREE (CLEARING & GRUBBING)

ABBREVIATIONS:

Veg Cntl VEGETATION CONTROL

CURVE DATA

No. ⊗	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	399.97′	53° 43′ 30"	202.59′	375.04′	2033374.686	5978465.072



LAYOUT

SCALE: 1" = 20′

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:48 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ea001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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Suite 200
SAN JOSE, CA 95113-2254

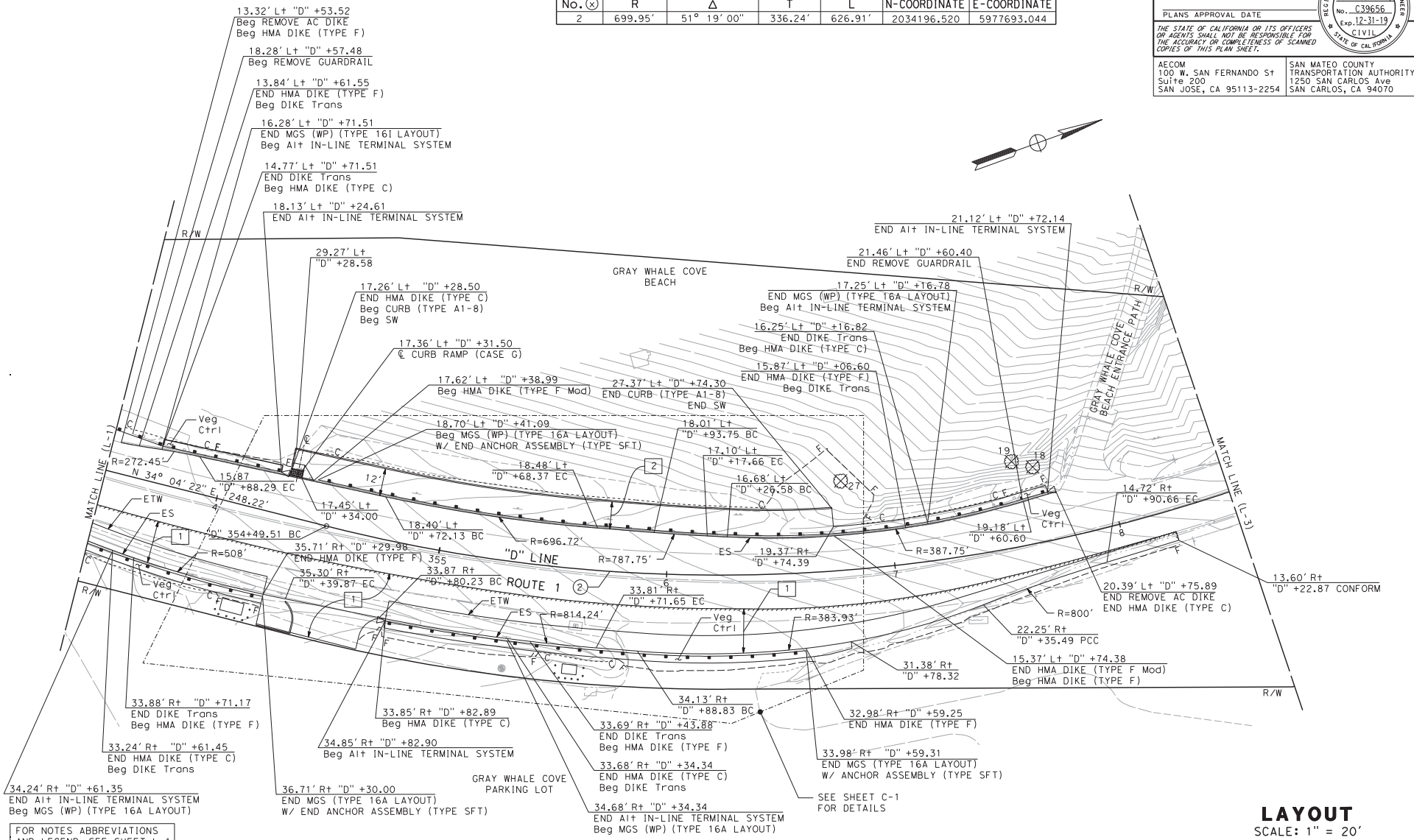
SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⓧ	R	Δ	T	L	N-COORDINATE	E-COORDINATE
2	699.95′	51° 19′ 00"	336.24′	626.91′	2034196.520	5977693.044



FOR NOTES ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

LAYOUT

SCALE: 1" = 20′

L-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN | CALCULATED-DESIGNED BY: SCOTT KELSEY | CHECKED BY: SHABNAM YARI / JASON HOM | REVISED BY | DATE REVISED

LAST REVISION 12-14-18 | DATE PLOTTED => 11/2/2019 | TIME PLOTTED => 2:40:49 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ea002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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SAN JOSE, CA 95113-2254

SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CURVE DATA

No. ⊗	R	Δ	T	L	N-COORDINATE	E-COORDINATE
2	699.95′	51° 19′ 00"	336.24′	626.91′	2034196.520	5977693.044

FOR NOTES ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT

SCALE: 1" = 20′

L-3

REVISED BY	DATE REVISED
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 12-14-18

DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:51 PM

BORDER LAST REVISED 7/2/2010

USERNAME => jason.hom
DGN FILE => 0418000207_ea003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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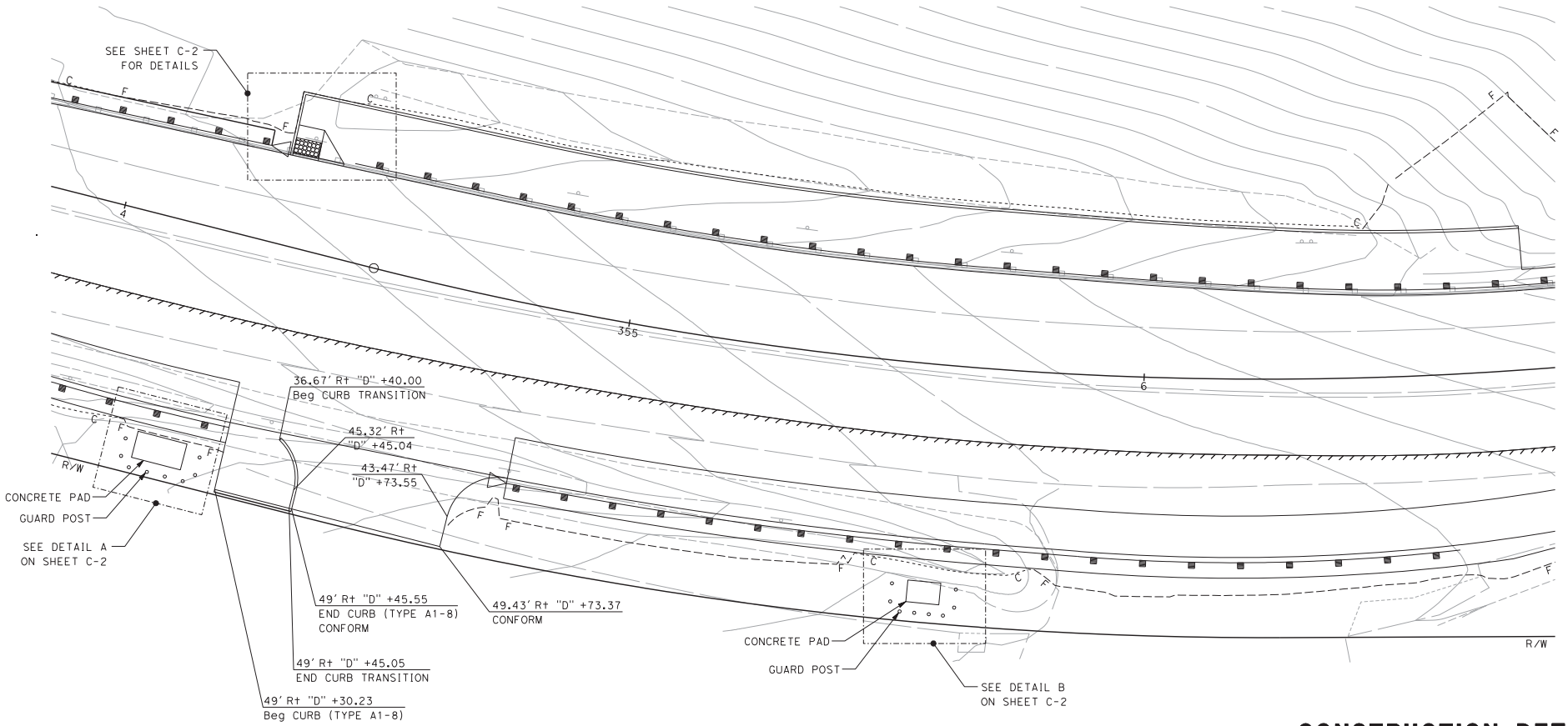
SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FOR NOTES ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

CONSTRUCTION DETAILS

SCALE: 1" = 10'

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:53 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ga001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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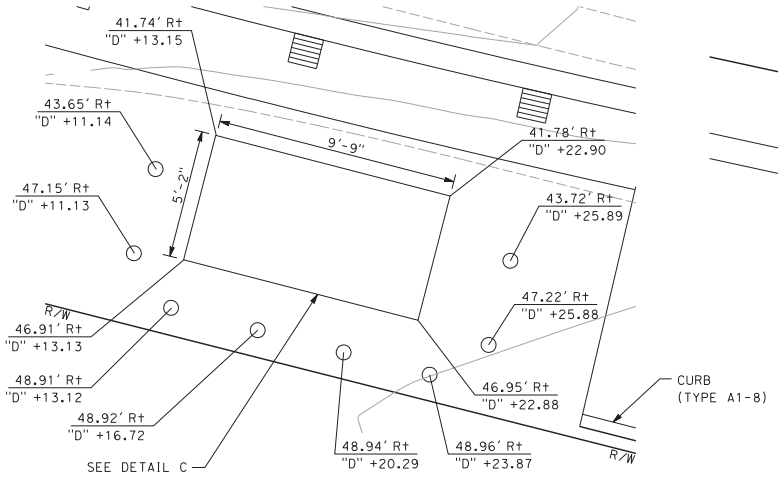
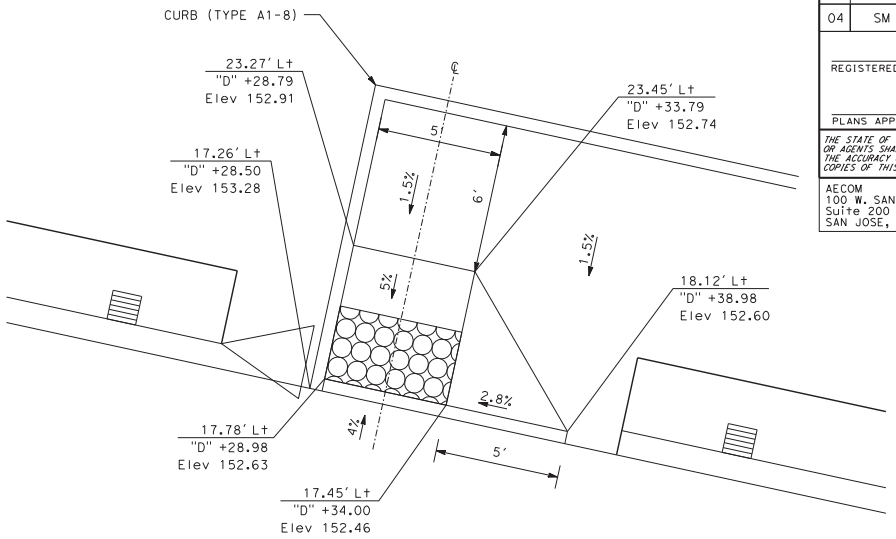
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTE:

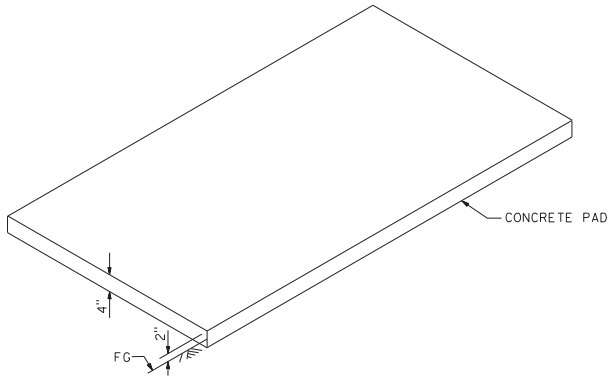
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



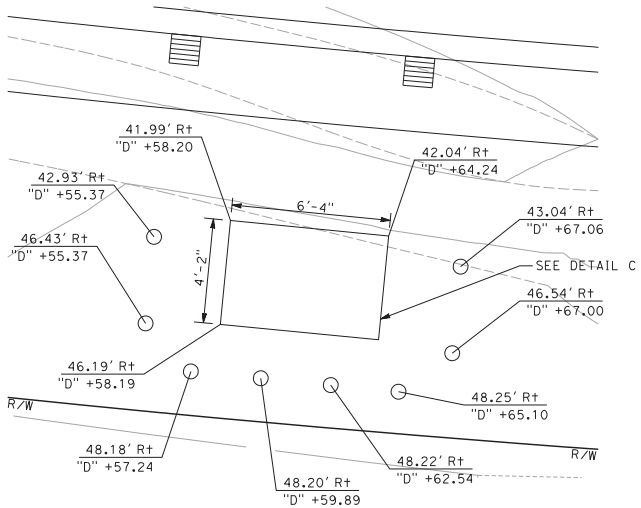
DETAIL A



CURB RAMP (CASE G)



DETAIL C



DETAIL B

FOR NOTES ABBREVIATIONS
AND LEGEND, SEE SHEET L-1

CONSTRUCTION DETAILS

NO SCALE

C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:40:55 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ga002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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SAN JOSE, CA 95113-2254

SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

PAVEMENT ELEVATIONS

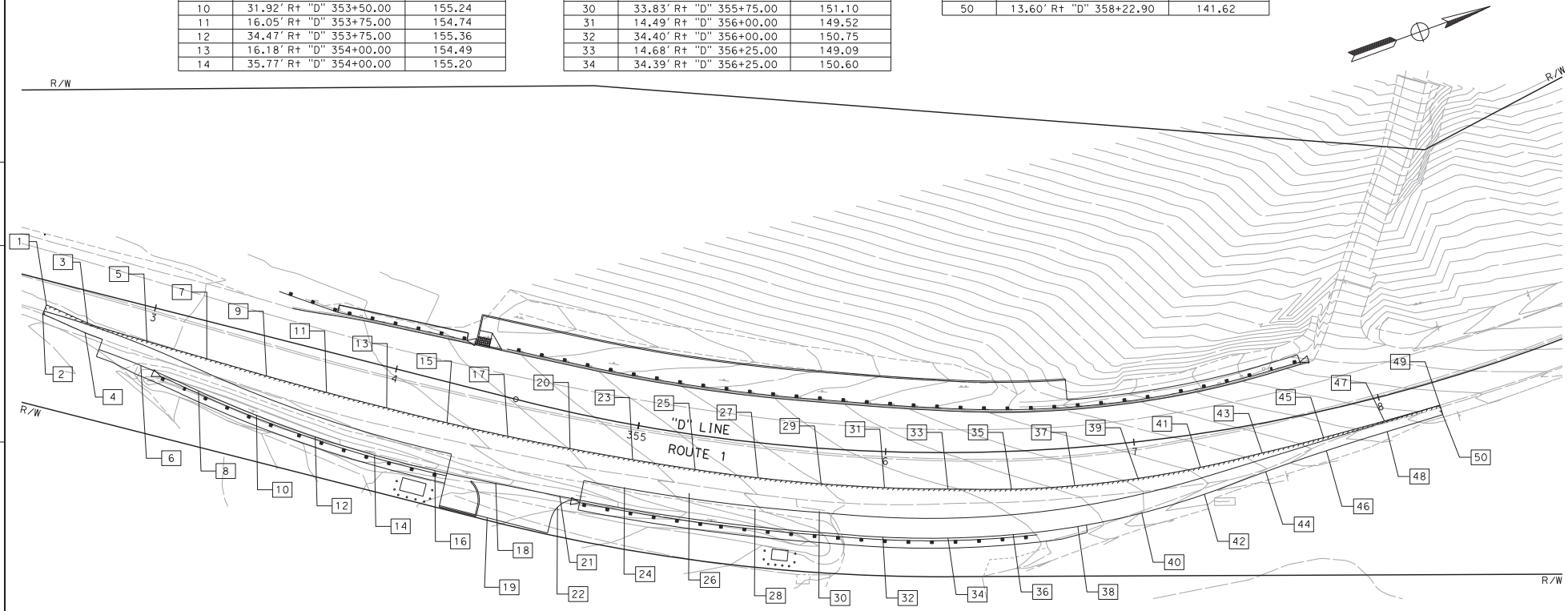
No.	LOCATION	ELEVATION (FT)
1	9.61′ Rt "D" 352+57.24	154.93
2	13.60′ Rt "D" 352+56.89	154.76
3	12.56′ Rt "D" 352+75.00	154.96
4	16.60′ Rt "D" 352+75.00	154.85
5	13.87′ Rt "D" 353+00.00	154.99
6	23.88′ Rt "D" 353+00.00	154.89
7	14.73′ Rt "D" 353+25.00	154.95
8	28.12′ Rt "D" 353+25.00	155.07
9	15.55′ Rt "D" 353+50.00	154.88
10	31.92′ Rt "D" 353+50.00	155.24
11	16.05′ Rt "D" 353+75.00	154.74
12	34.47′ Rt "D" 353+75.00	155.36
13	16.18′ Rt "D" 354+00.00	154.49
14	35.77′ Rt "D" 354+00.00	155.20

PAVEMENT ELEVATIONS

No.	LOCATION	ELEVATION (FT)
15	15.96′ Rt "D" 354+25.00	154.15
16	35.84′ Rt "D" 354+25.00	154.92
17	15.22′ Rt "D" 354+50.00	153.65
18	34.78′ Rt "D" 354+50.00	154.60
19	49.00′ Rt "D" 354+50.00	153.21
20	14.36′ Rt "D" 354+75.00	152.98
21	33.93′ Rt "D" 354+75.00	154.03
22	38.46′ Rt "D" 354+75.00	153.29
23	13.85′ Rt "D" 355+00.00	152.26
24	33.75′ Rt "D" 355+00.00	153.93
25	13.83′ Rt "D" 355+25.00	151.52
26	33.68′ Rt "D" 355+25.00	152.86
27	14.04′ Rt "D" 355+50.00	150.74
28	33.71′ Rt "D" 355+50.00	152.54
29	14.25′ Rt "D" 355+75.00	150.02
30	33.83′ Rt "D" 355+75.00	151.10
31	14.49′ Rt "D" 356+00.00	149.52
32	34.40′ Rt "D" 356+00.00	150.75
33	14.68′ Rt "D" 356+25.00	149.09
34	34.39′ Rt "D" 356+25.00	150.60

PAVEMENT ELEVATIONS

No.	LOCATION	ELEVATION (FT)
35	15.24′ Rt "D" 356+50.00	148.47
36	33.52′ Rt "D" 356+50.00	149.98
37	15.27′ Rt "D" 356+75.00	147.72
38	31.71′ Rt "D" 356+75.00	149.08
39	14.66′ Rt "D" 357+00.00	146.78
40	28.69′ Rt "D" 357+00.00	147.94
41	13.45′ Rt "D" 357+25.00	145.81
42	24.42′ Rt "D" 357+25.00	146.73
43	11.80′ Rt "D" 357+50.00	144.71
44	19.42′ Rt "D" 357+50.00	145.35
45	10.64′ Rt "D" 357+75.00	143.56
46	15.97′ Rt "D" 357+75.00	144.00
47	9.79′ Rt "D" 358+00.00	142.54
48	14.24′ Rt "D" 358+00.00	142.99
49	9.60′ Rt "D" 358+22.86	141.65
50	13.60′ Rt "D" 358+22.90	141.62



FOR NOTES ABBREVIATIONS AND LEGEND, SEE SHEET L-1

CONSTRUCTION DETAILS

(PAVEMENT ELEVATIONS)

SCALE: 1" = 20′

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM | CHECKED BY: SCOTT KELSEY

REVISED BY | DATE REVISED

LAST REVISION 12-14-18 | DATE PLOTTED => 11/2/2019 | TIME PLOTTED => 2:40:56 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ga003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

NOTE:

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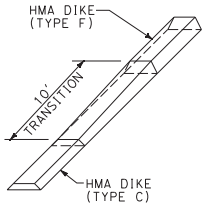
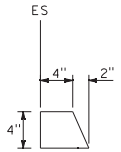


TRANSITION FROM HMA DIKE (TYPE C) TO HMA DIKE (TYPE F)



HMA DIKE (TYPE F Mod)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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TRANSPORTATION AUTHORITY
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SAN CARLOS, CA 94070

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

FOR NOTES ABBREVIATIONS AND LEGEND, SEE SHEET L-1

CONSTRUCTION DETAILS

NO SCALE

C-4

LAST REVISION 12-14-18
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TIME PLOTTED => 2:40:59 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ga004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. THESE PLANS PROVIDE MINIMUM LEVELS OF TEMPORARY WATER POLLUTION CONTROL DURING THE CONSTRUCTION OF PROJECT. ADJUSTMENT/MODIFICATIONS SHALL BE MADE IN REGARD TO ADDRESS ACTUAL SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
3. TEMPORARY BMP LOCATIONS ARE SUGGESTIONS ONLY, AND THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR DEVELOPING A SWPPP THAT COMPLIES WITH THE PERMITS, LICENSES, AGREEMENTS, AND CERTIFICATIONS (PLACS).

LEGEND:

- TEMPORARY DRAINAGE INLET PROTECTION
- DIRECTION OF FLOW
- TEMPORARY SILT FENCE (xx——xx——TSF——xx——)
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY COVER
- TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)
- TEMPORARY FIBER ROLL (TFR)
- TEMPORARY FENCE (TYPE CL-6)
- STAGING AREA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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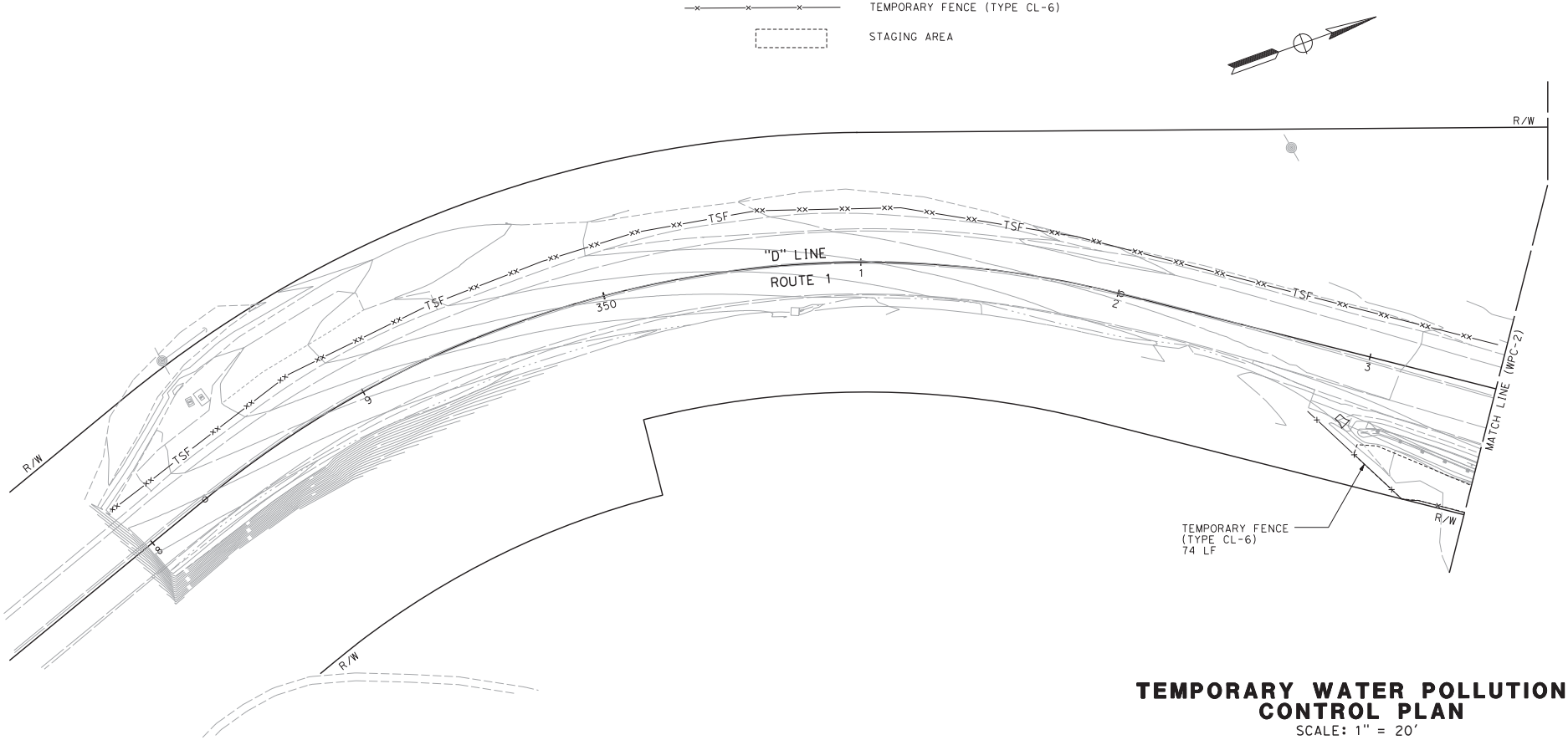

TEMPORARY WATER POLLUTION CONTROL PLAN

SCALE: 1" = 20'

WPC-1

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
JASON HOM	SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
JASON HOM	SCOTT KELSEY		

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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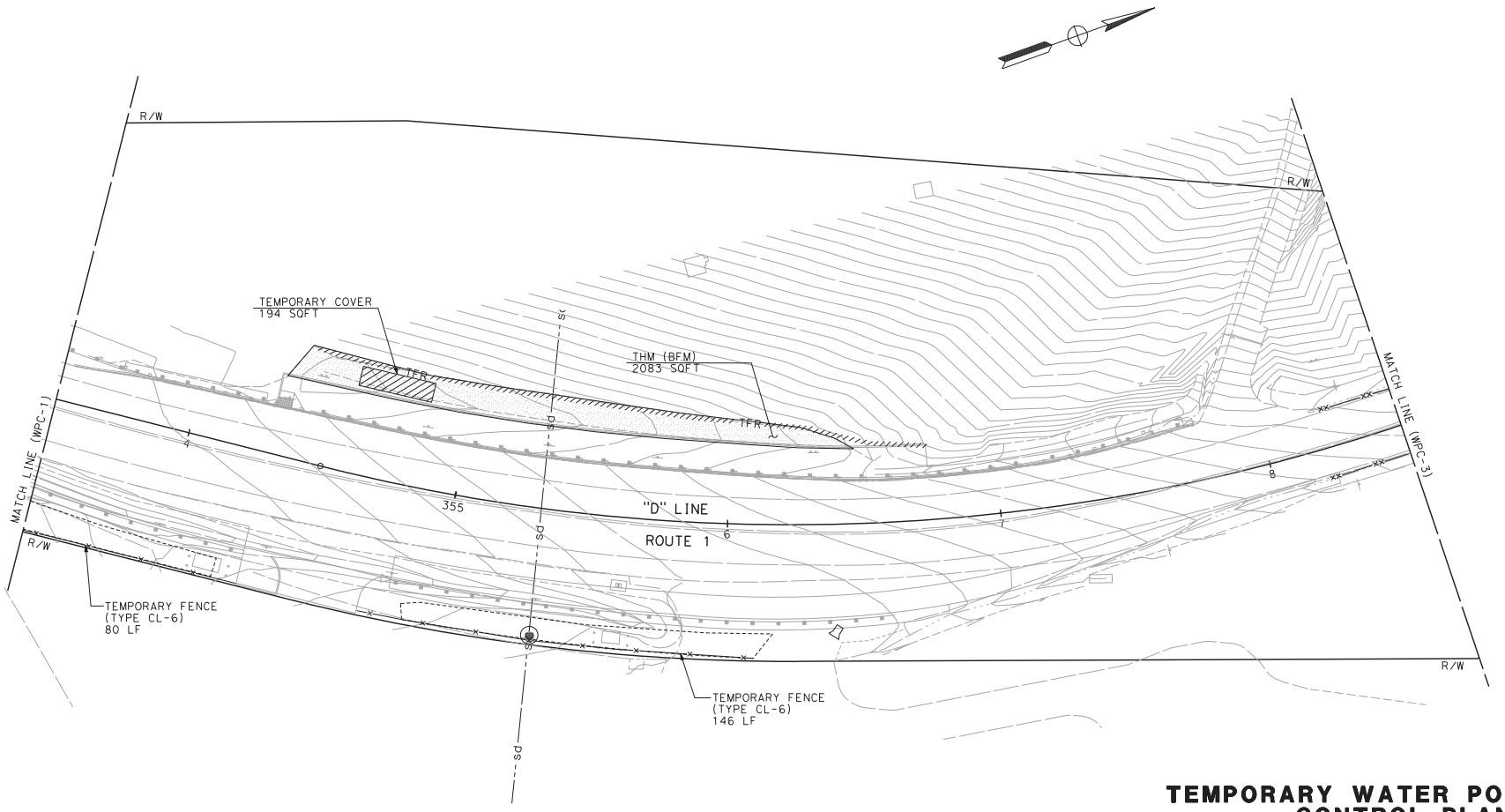

FOR NOTES AND LEGEND, SEE SHEET WPC-1

TEMPORARY WATER POLLUTION CONTROL PLAN

SCALE: 1" = 20'

WPC-2

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

LAST REVISION 12-14-18
DATE PLOTTED => 1/16/2019
TIME PLOTTED => 7:28:19 AM

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

Registered Professional Engineer
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
State of California

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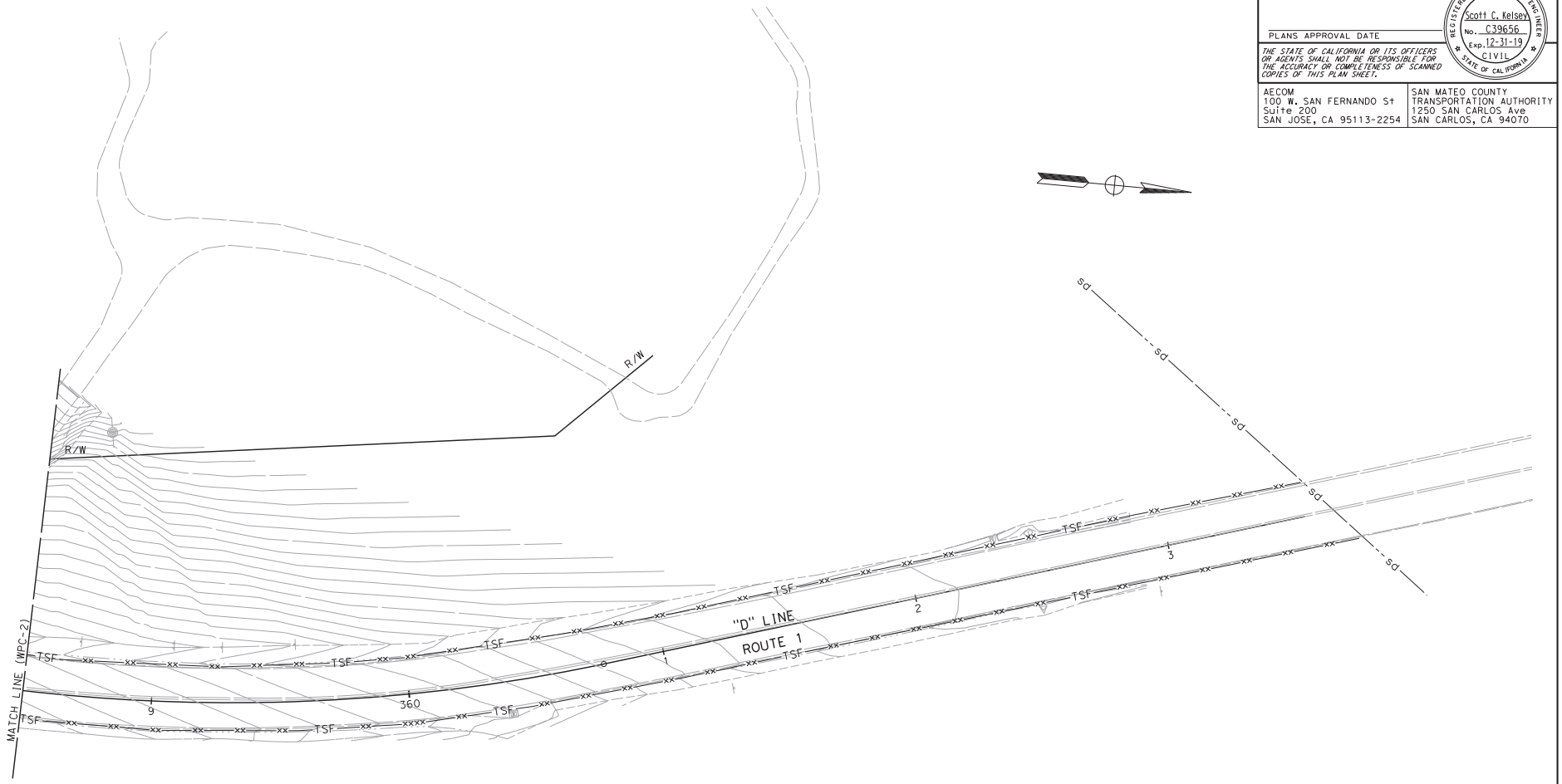

FOR NOTES AND LEGEND, SEE SHEET WPC-1

TEMPORARY WATER POLLUTION CONTROL PLAN

SCALE: 1" = 20'

WPC-3

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

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Caltrans	RAMSEY J. HISSEN	JASON HOM	SCOTT KELSEY		

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TIME PLOTTED => 7:28:21 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_gb003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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STATE OF CALIFORNIA

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TEMPORARY WATER POLLUTION CONTROL

SHEET No.	MOVE-IN/MOVE-OUT (TEMPORARY EROSION CONTROL)	TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	TEMPORARY COVER	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY FIBER ROLL	TEMPORARY SILT FENCE	TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY FENCE (TYPE CL-6)
	EA	SQYD	SQYD	EA	LF	LF	EA	LF
WPC-1	1					570	1	74
WPC-2	1	232	22	1	230	60	1	226
WPC-3						750		
TOTAL	2	232	22	1	230	1380	2	300

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

WPCQ-1

REVISED BY | DATE REVISED
JASON HOM | SCOTT KELSEY
CALCULATED-DESIGNED BY | CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN
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BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_gd001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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STATE OF CALIFORNIA

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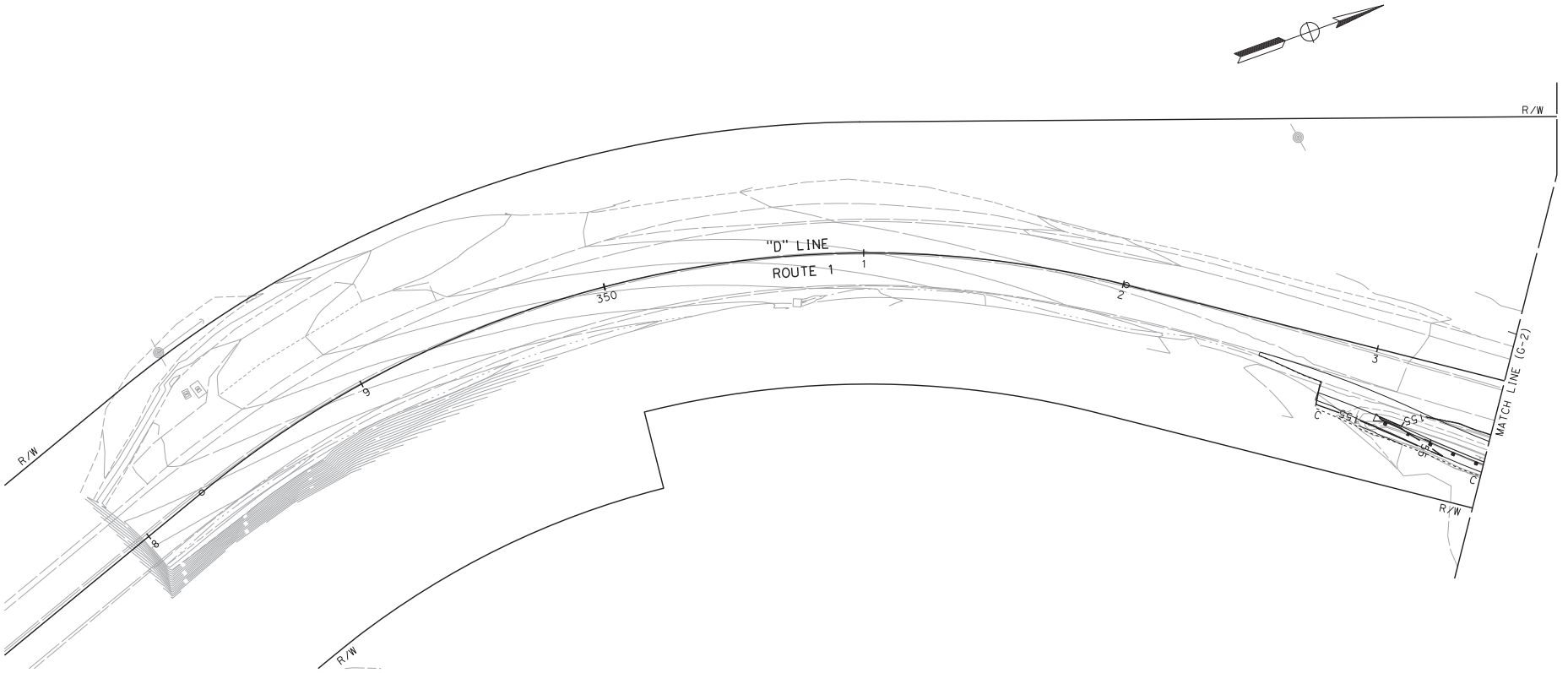
NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CONTOUR GRADING

SCALE: 1" = 20'

APPROVED FOR CONTOUR GRADING WORK ONLY

G-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:41:09 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ha001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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NOTE:

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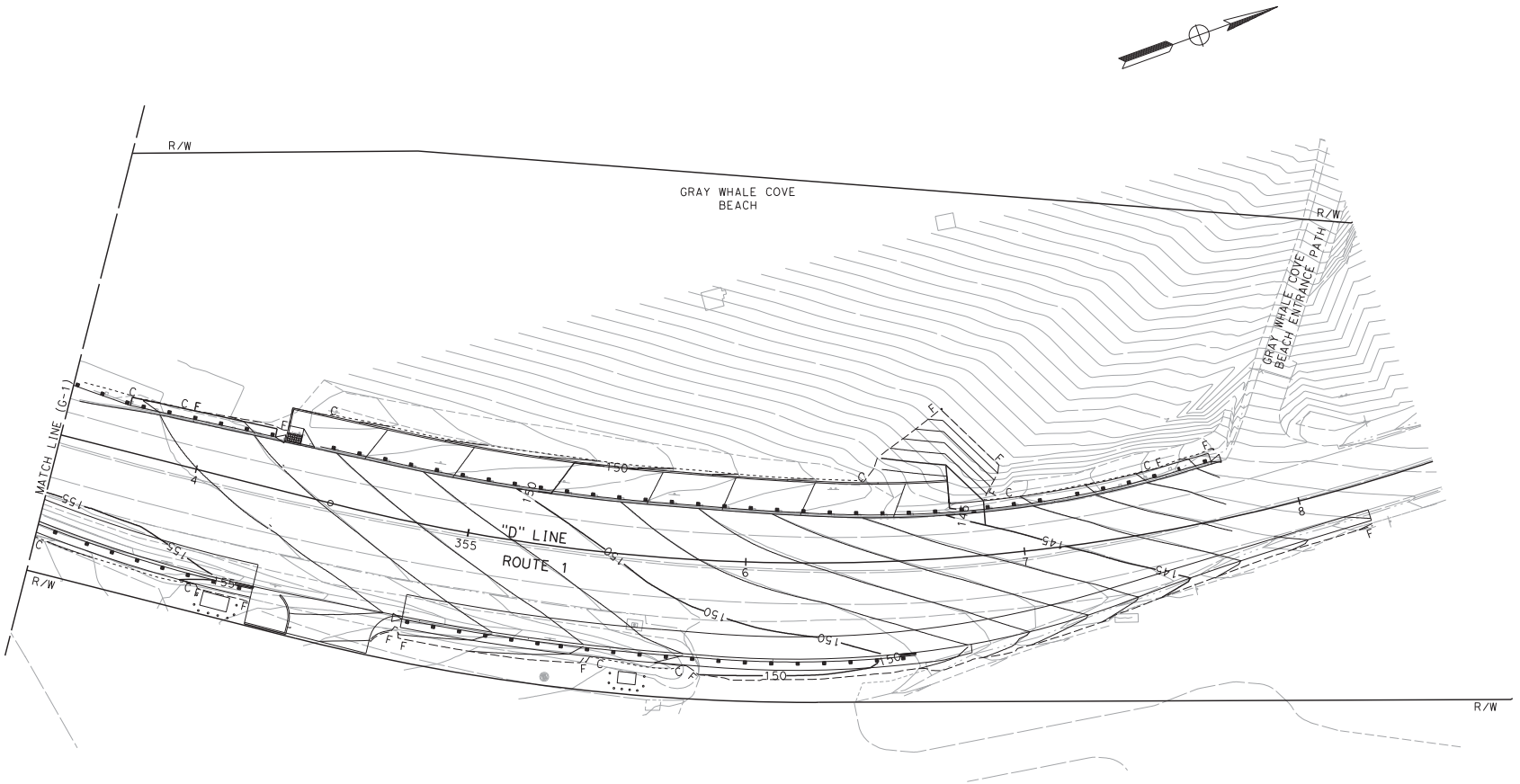

FOR NOTES ABBREVIATIONS AND LEGEND, SEE SHEET L-1

APPROVED FOR CONTOUR GRADING WORK ONLY

CONTOUR GRADING

SCALE: 1" = 20'

G-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	CHECKED BY	SHABNAM YARI / JASON HOM	SCOTT KELSEY

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
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BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ha002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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SAN CARLOS, CA 94070

NOTE:

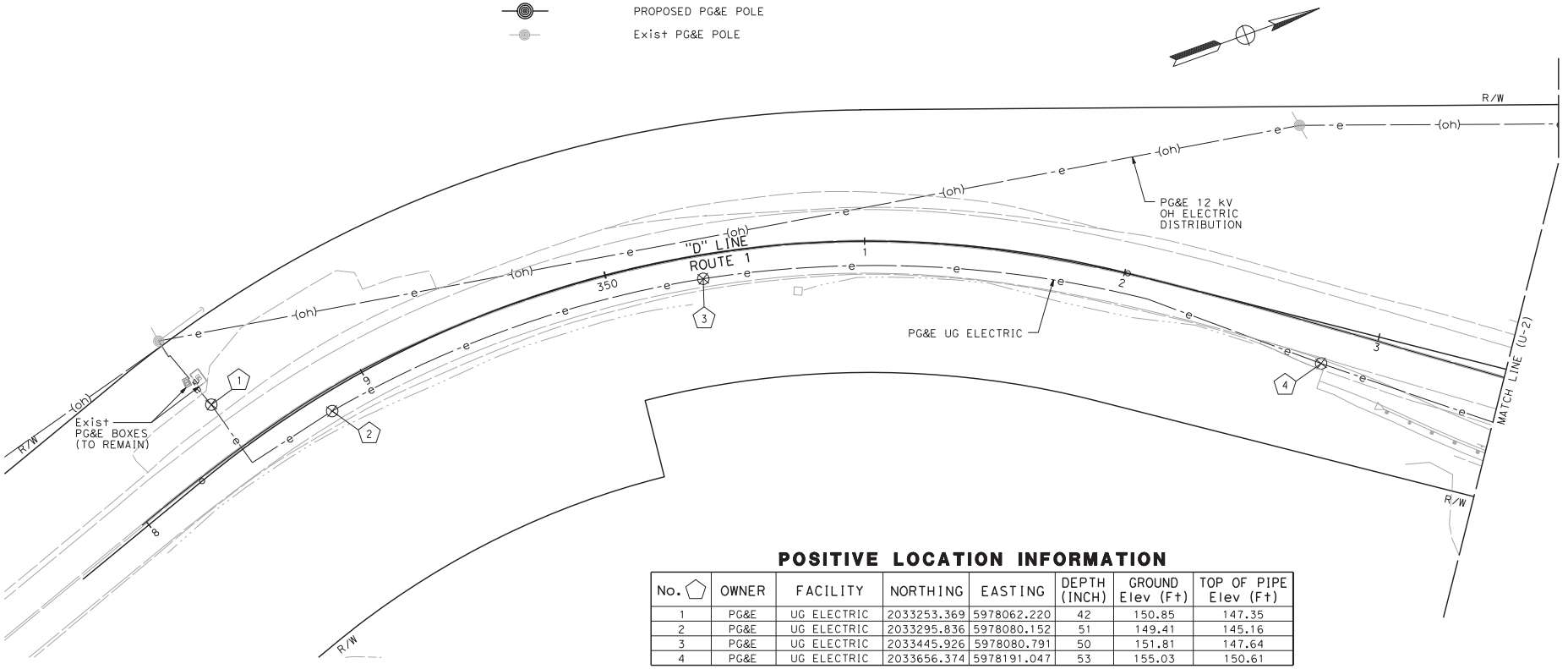
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

- Exist UG ELECTRIC
- Exist ELECTRICAL OVERHEAD LINE
- Exist UG STORM DRAIN
- PROPOSED ELECTRICAL OVERHEAD LINE
- UTILITY RELOCATION NUMBER
- POTHOLE
- POTHOLE NUMBER
- PROPOSED PG&E POLE
- Exist PG&E POLE

ABBREVIATIONS:

kV	KILOVOLTS
PG&E	PACIFIC GAS & ELECTRIC
UG	UNDERGROUND



POSITIVE LOCATION INFORMATION

No.	OWNER	FACILITY	NORTHING	EASTING	DEPTH (INCH)	GROUND Elev (Ft)	TOP OF PIPE Elev (Ft)
1	PG&E	UG ELECTRIC	2033253.369	5978062.220	42	150.85	147.35
2	PG&E	UG ELECTRIC	2033295.836	5978080.152	51	149.41	145.16
3	PG&E	UG ELECTRIC	2033445.926	5978080.791	50	151.81	147.64
4	PG&E	UG ELECTRIC	2033656.374	5978191.047	53	155.03	150.61

UTILITY PLAN

SCALE: 1" = 20'

U-1

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
SHABNAM YARI / JASON HOM	SCOTT KELSEY		

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

LAST REVISION 12-14-18

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BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ka001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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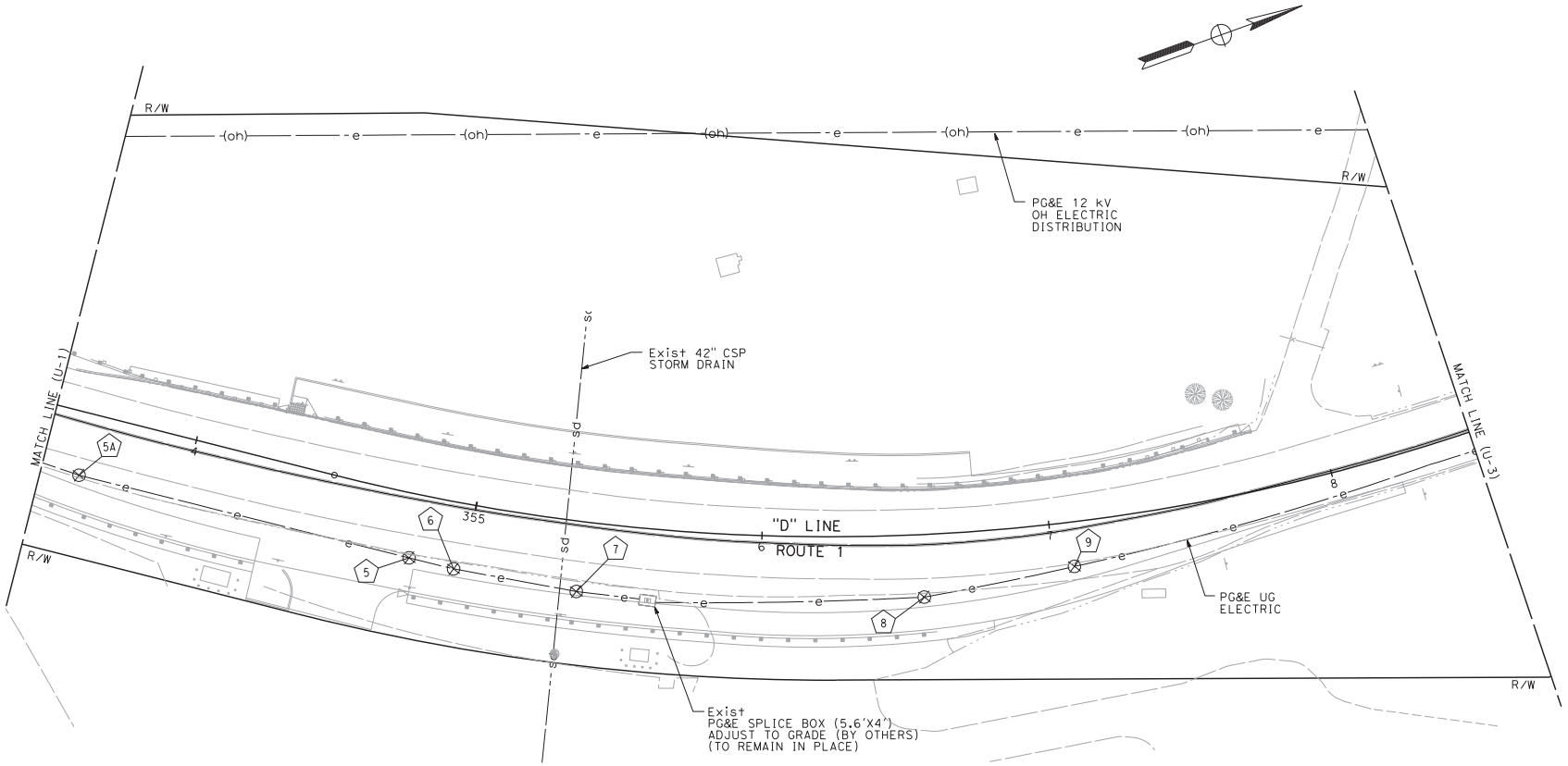
SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

POSITIVE LOCATION INFORMATION

No. ⬠	OWNER	FACILITY	NORTHING	EASTING	DEPTH (INCH)	GROUND Elev (Ft)	TOP OF PIPE Elev (Ft)
5A	PG&E	UG ELECTRIC	2033720.781	5978242.690	52	155.02	150.69
5	PG&E	UG ELECTRIC	2033819.006	5978308.724	48	152.93	148.93
6	PG&E	UG ELECTRIC	2033832.260	5978317.576	84	152.53	145.53
7	PG&E	UG ELECTRIC	2033869.768	5978339.504	84	151.29	144.29
8	PG&E	UG ELECTRIC	2033982.969	5978382.447	67	148.66	143.08
9	PG&E	UG ELECTRIC	2034035.723	5978390.149	48	146.60	142.60



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET U-1

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

UTILITY PLAN

SCALE: 1" = 20'

U-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN | CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM | CHECKED BY: SCOTT KELSEY | REVISED BY | DATE REVISED

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER DATE

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REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
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SAN CARLOS, CA 94070

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
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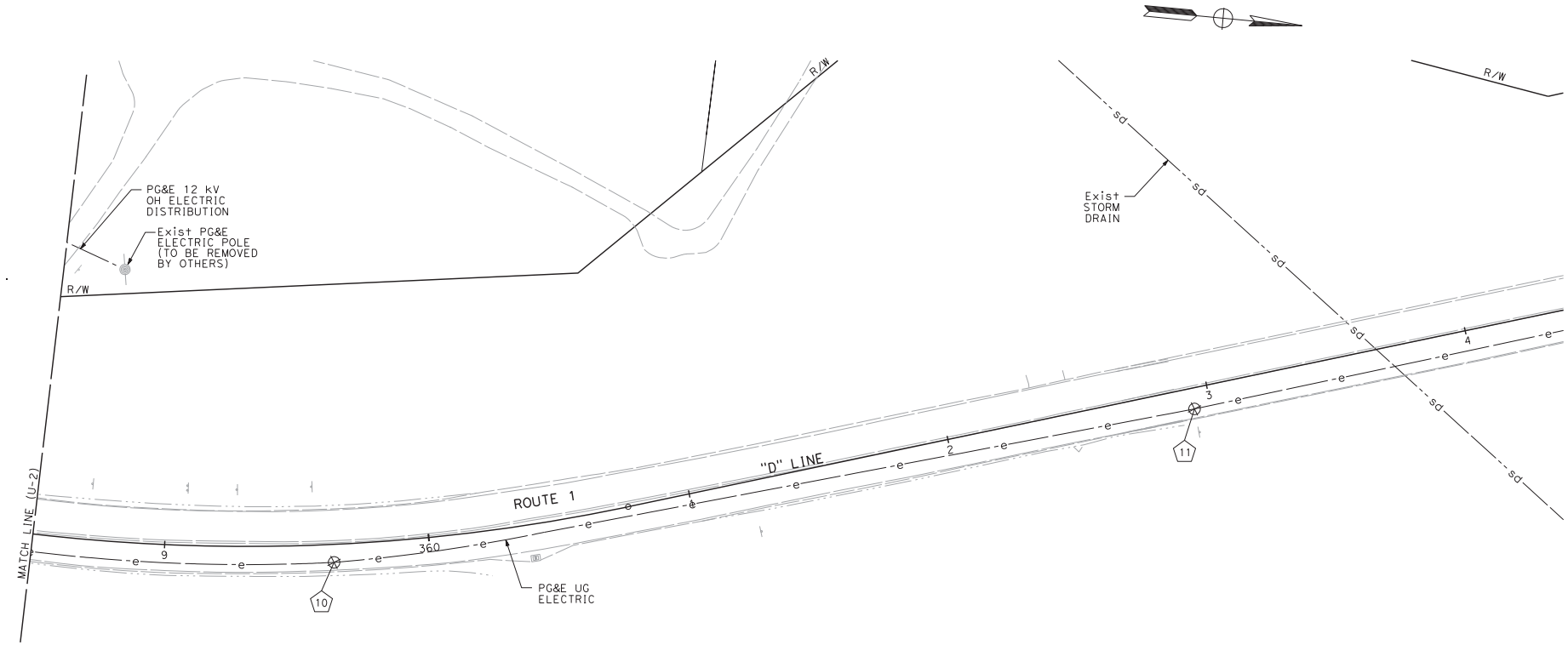
POSITIVE LOCATION INFORMATION

No. ⬠	OWNER	FACILITY	NORTHING	EASTING	DEPTH (INCH)	GROUND Elev (Ft)	TOP OF PIPE Elev (Ft)
10	PG&E	UG ELECTRIC	2034295.195	5978392.875	48	135.84	131.84
11	PG&E	UG ELECTRIC	2034613.844	5978304.646	49	125.96	121.88



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET U-1

THIS PLAN TO BE USED FOR UTILITY INFORMATION ONLY

UTILITY PLAN

SCALE: 1" = 20'

U-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
TIME PLOTTED => 2:41:15 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ka003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
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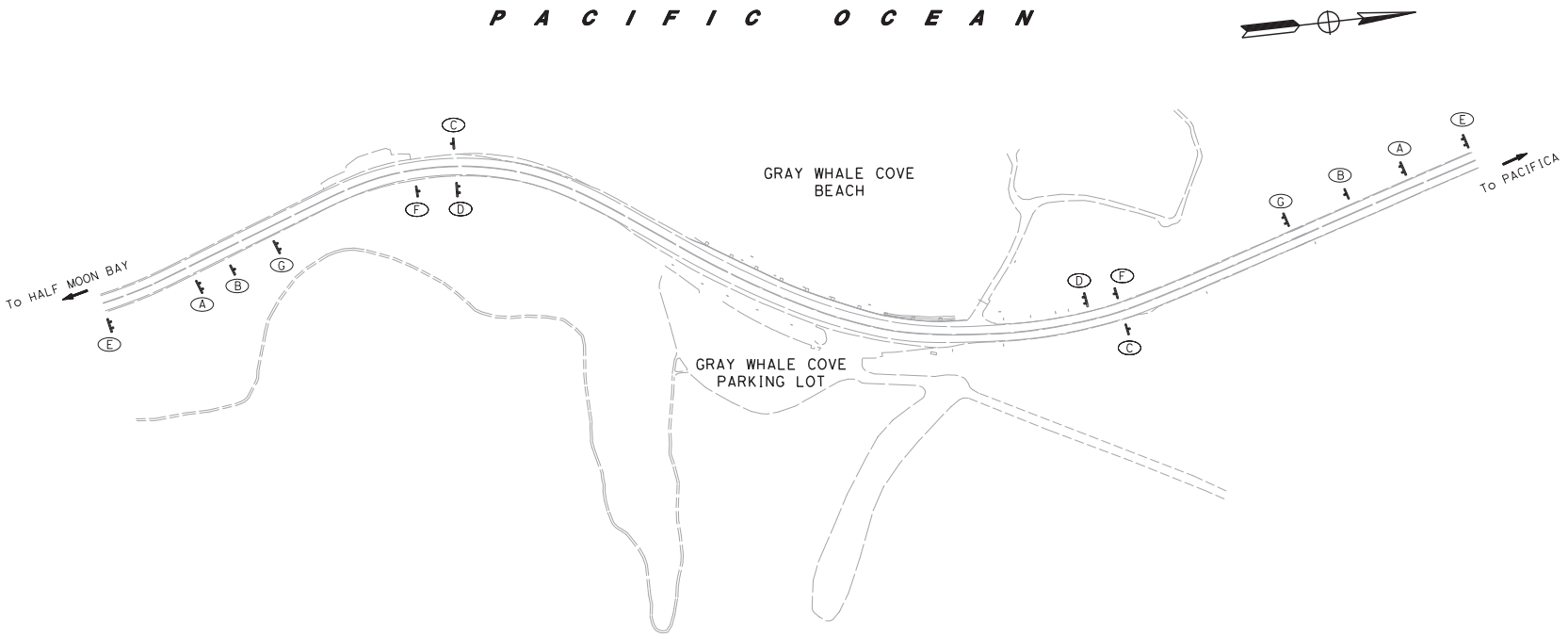
SAN CARLOS, CA 94070

GENERAL NOTES

1. LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATION AND POSITION OF SIGNS TO BE DETERMINED BY THE ENGINEER.
2. KEEP EMERGENCY VEHICLE ACCESS OPEN AT ALL TIMES.
3. TEMPORARY SIGNS INSTALLED ON CITY STREETS MAY BE ATTACHED TO AN EXISTING POLE BY STRAP AND SADDLE BRACKET METHOD, AS AN ALTERNATIVE TO WOOD POSTS.

LEGEND

- ONE POST CONSTRUCTION AREA SIGN LOCATION
- TWO POST CONSTRUCTION AREA SIGN LOCATION
- (X) CONSTRUCTION AREA SIGN NUMBER



STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SHEET No.	SIGN No.	SIGN CODE	PANEL SIZE IN x IN	SIGN MESSAGE OR REMARKS	No. OF POST AND SIZE IN x IN	No. OF SIGNS [N]
CS-1	A	W20-1	60 x 60	ROAD WORK AHEAD, Min 2640 Ft IN ADVANCE OF BEGIN CONSTRUCTION	2 - 4 x 6	2
	B	PCMS	-	WORK ZONE AHEAD, REGARDING CONSTRUCTION WORK AHEAD	-	2
	C	G20-2	48 x 24	END ROAD WORK	1 - 4 x 6	2
	D	C40 (CA)	108 x 42	TRAFFIC FINES DOUBLE IN CONSTRUCTION ZONE	2 - 4 x 6	2
	E	SPECIAL	90 x 60	CONSTRUCTION PROJECT FUNDING SIGN	2 - 4 x 6	2
	F	W20-1	48 x 48	ROAD WORK AHEAD	1 - 4 x 6	2
	G	C40 (CA)	144 x 60	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	2 - 6 x 8	2

[N]-NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

REVISED BY	DATE REVISED
SHABNAM YARI / JASON HOM	SCOTT KELSEY
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 12-14-18 | DATE PLOTTED => 11/2/2019 | TIME PLOTTED => 2:41:17 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ta001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER — DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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LEGEND:

- No. — PAVEMENT DELINEATION DETAIL
- TEMPORARY RAILING (TYPE K)
- CONSTRUCTION THIS STAGE
- CHANGE OF PAVEMENT DELINEATION DETAIL
- TRAFFIC DIRECTION
- CHANNELIZER (SURFACE MOUNTED)
- OBJECT MARKER
- (X) — CONSTRUCTION ITEM No.
- [X] — TRAFFIC ITEM No.

STAGE 1 CONSTRUCTION

(1) CONSTRUCT OUTSIDE PAVEMENT WIDENING AND OTHER ROADWAY ITEMS ALONG ROUTE 1 NB DIRECTION.

(2) CONSTRUCT PATHWAY ALONG ROUTE 1 SB DIRECTION.

STAGE 1 TRAFFIC:

[1] MAINTAIN EXISTING TRAFFIC LANES UNLESS SHOWN OTHERWISE.

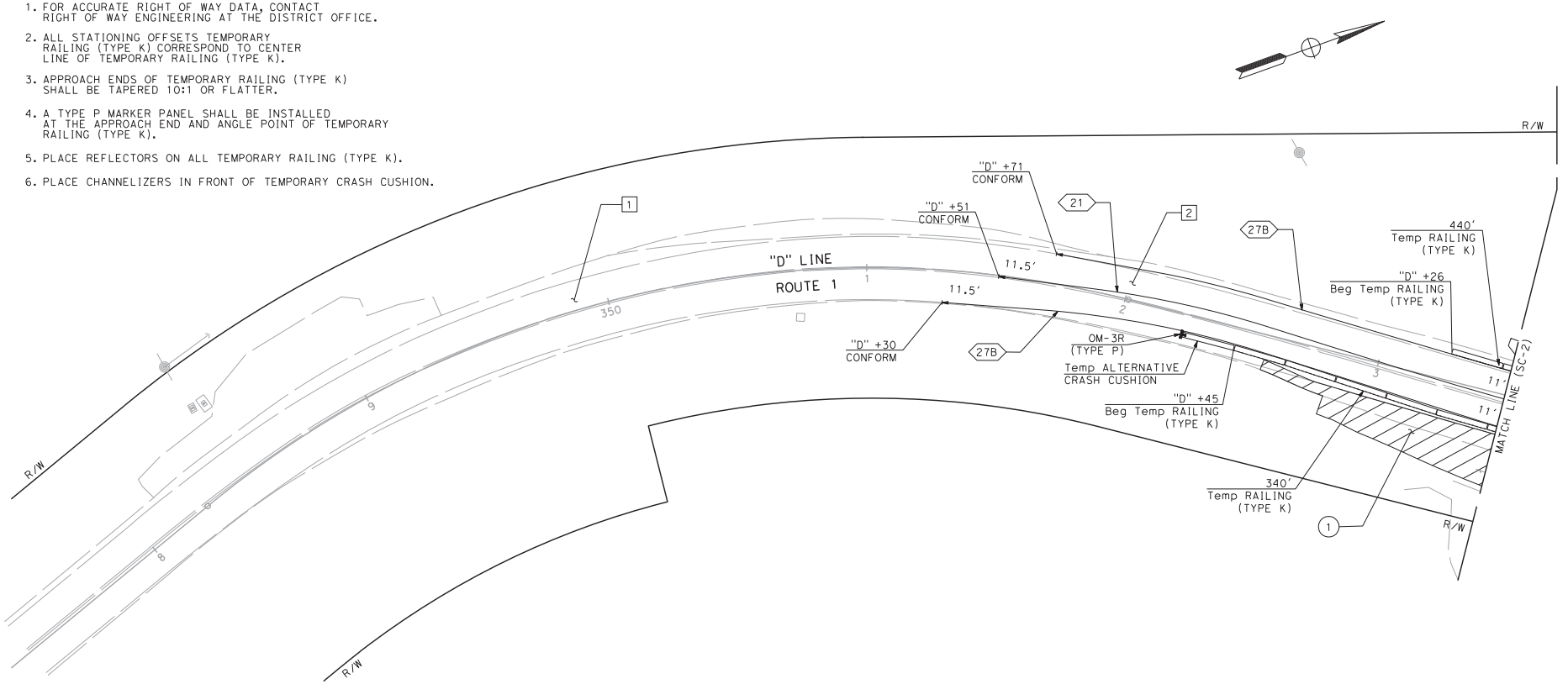
[2] SHIFT TRAFFIC ON EXISTING ROUTE 1 TO ACCOMMODATE CONSTRUCTION.

[3] EXISTING PARKING LOT TO REMAIN OPEN AT ALL TIMES.

[4] MAINTAIN PEDESTRIAN BEACH ACCESS OPEN AT ALL TIMES.

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. ALL STATIONING OFFSETS TEMPORARY RAILING (TYPE K) CORRESPOND TO CENTER LINE OF TEMPORARY RAILING (TYPE K).
3. APPROACH ENDS OF TEMPORARY RAILING (TYPE K) SHALL BE TAPERED 10:1 OR FLATTER.
4. A TYPE P MARKER PANEL SHALL BE INSTALLED AT THE APPROACH END AND ANGLE POINT OF TEMPORARY RAILING (TYPE K).
5. PLACE REFLECTORS ON ALL TEMPORARY RAILING (TYPE K).
6. PLACE CHANNELIZERS IN FRONT OF TEMPORARY CRASH CUSHION.



STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 1)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-1

REVISED BY	DATE REVISED
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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STATE OF CALIFORNIA

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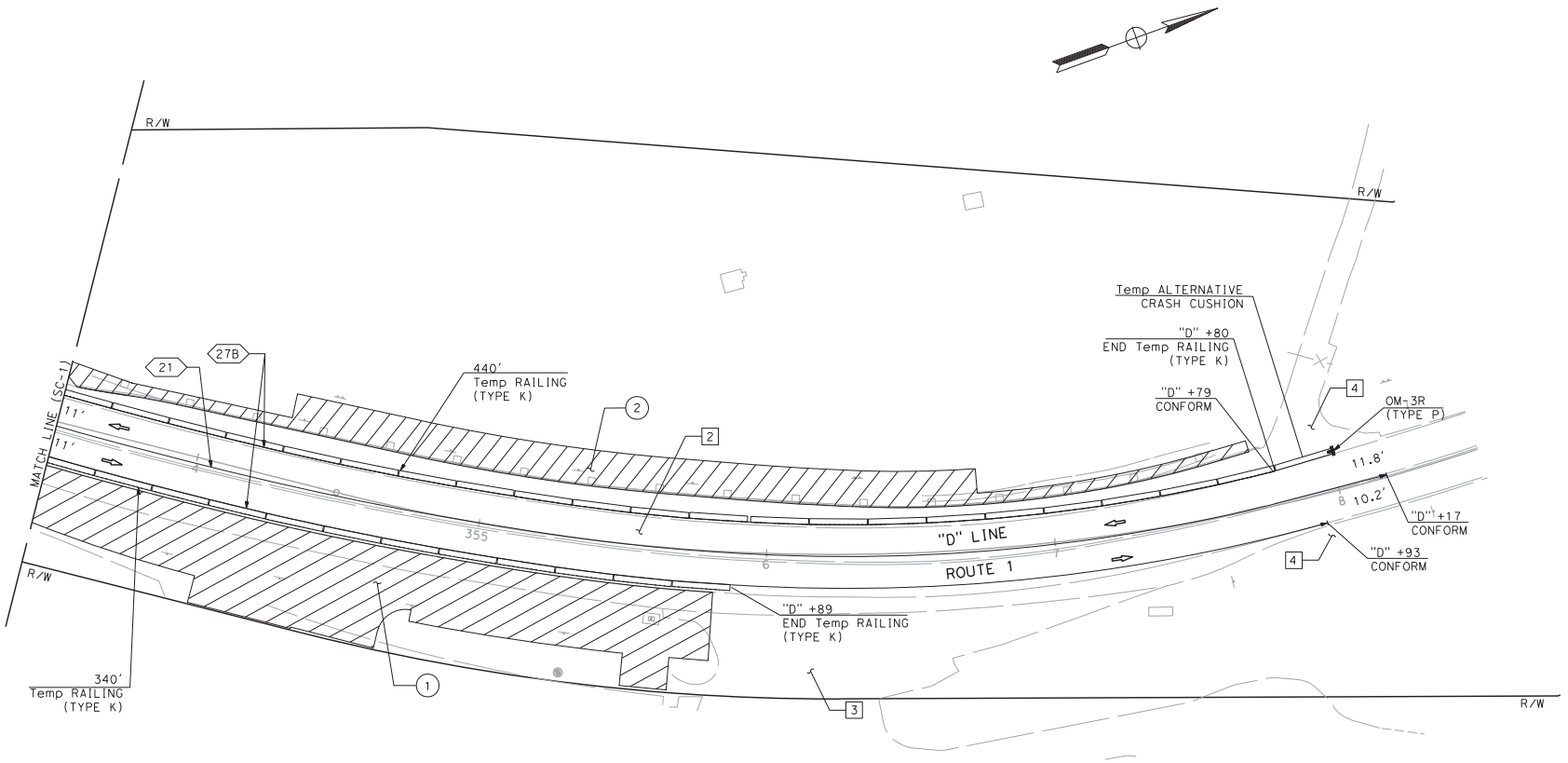

FOR NOTES AND LEGEND,
SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 1)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
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NOTE:

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STAGE 2 CONSTRUCTION

(1) CONSTRUCT OUTSIDE PAVEMENT WIDENING AND OTHER ROADWAY ITEMS ALONG ROUTE 1 NB DIRECTION.

STAGE 2 TRAFFIC:

[1] MAINTAIN EXISTING TRAFFIC LANES UNLESS SHOWN OTHERWISE.

[2] SHIFT TRAFFIC ON EXISTING ROUTE 1 TO ACCOMMODATE CONSTRUCTION.

[3] TRAFFIC TO ACCESS NEW PARKING LOT ENTRANCE TO ENTER AND LEAVE

[4] MAINTAIN PEDESTRIAN BEACH ACCESS OPEN AT ALL TIMES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
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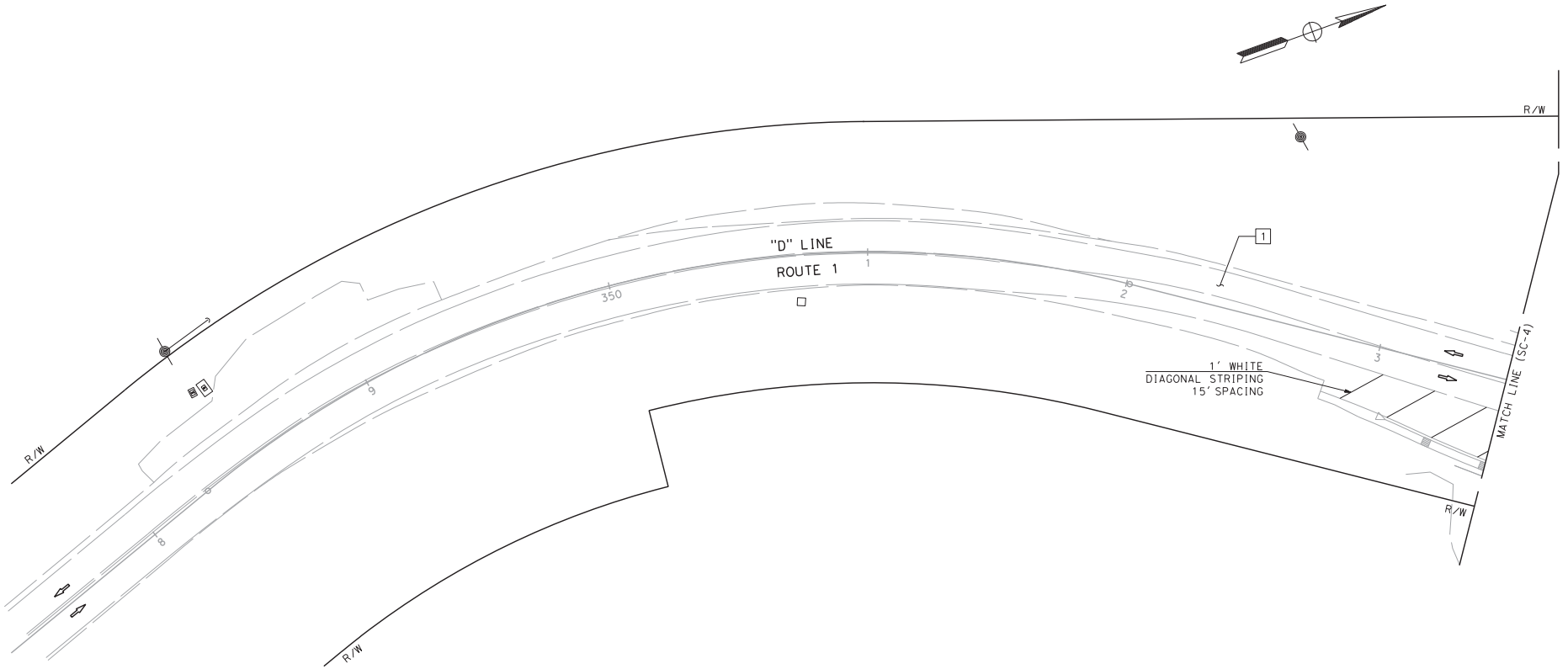

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 2)

SCALE: 1" = 20'

SC-3

FOR NOTES AND LEGEND, SEE SHEET SC-1

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
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CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

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DGN FILE => 0418000207_ma003.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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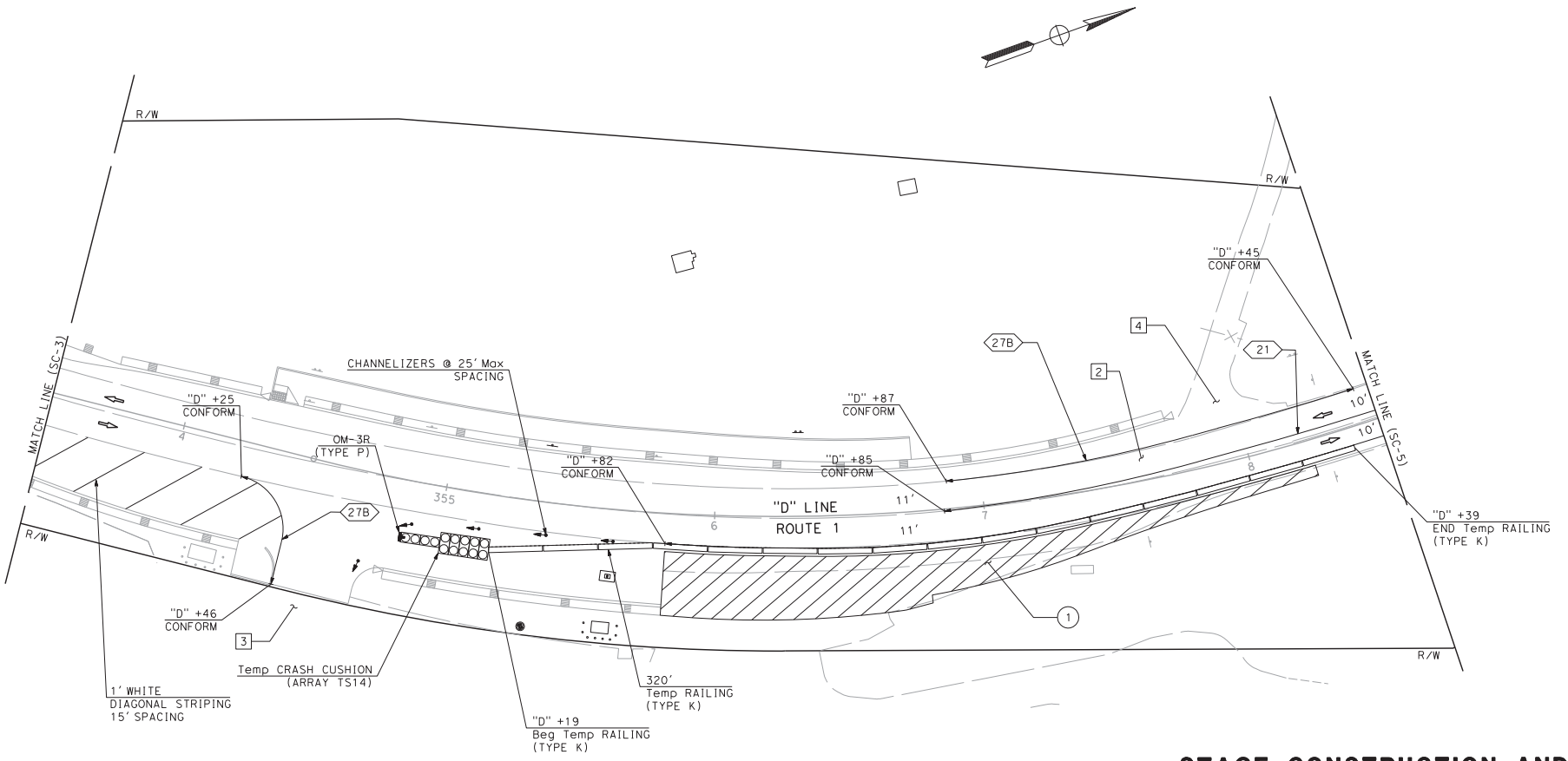

FOR NOTES AND LEGEND,
SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 2)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/17/2019
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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STATE OF CALIFORNIA

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SAN CARLOS, CA 94070

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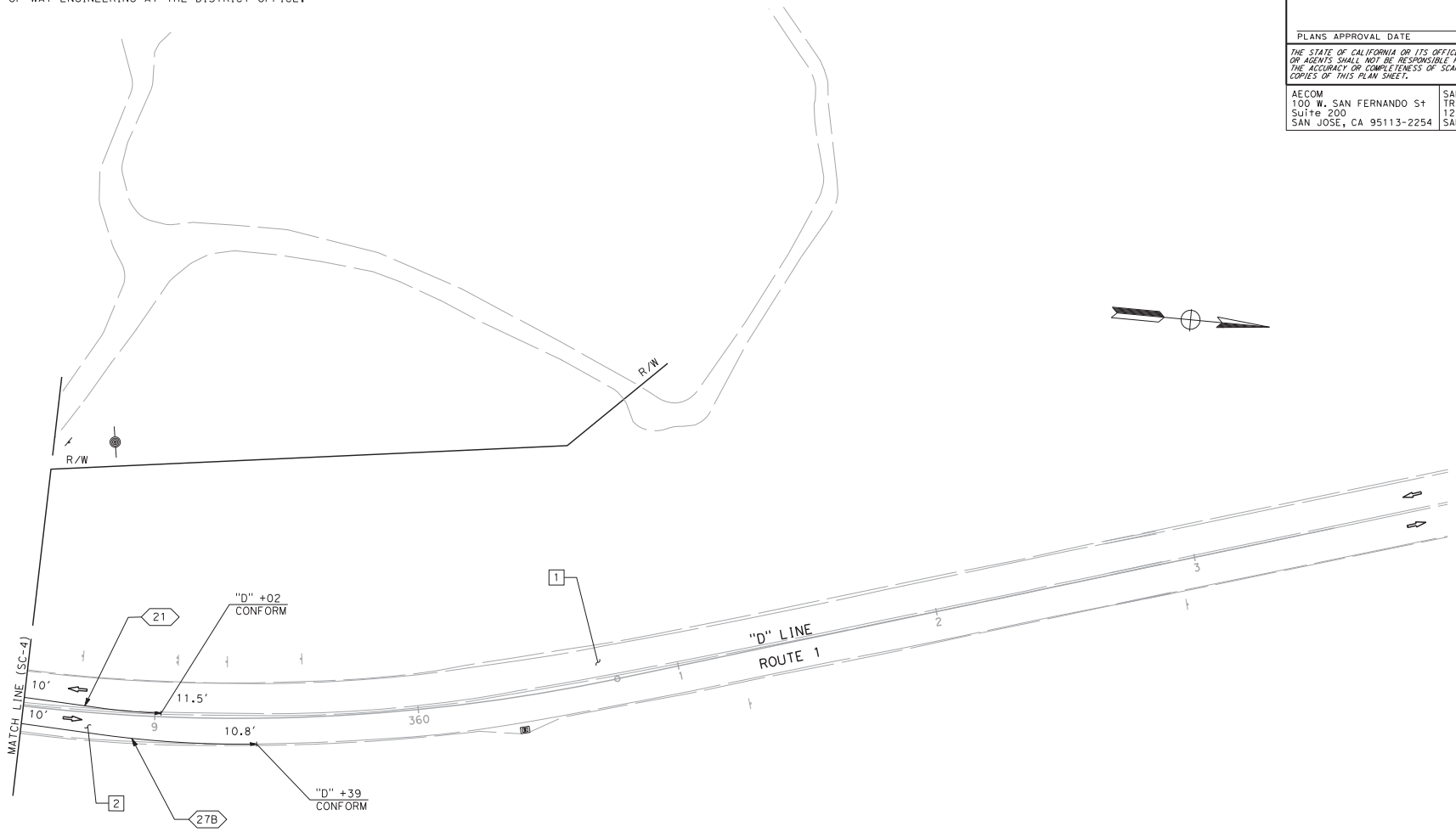

FOR NOTES AND LEGEND,
SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 2)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-5

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
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CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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TIME PLOTTED => 9:41:26 AM

BORDER LAST REVISED 7/2/2010

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DGN FILE => 0418000207_ma005.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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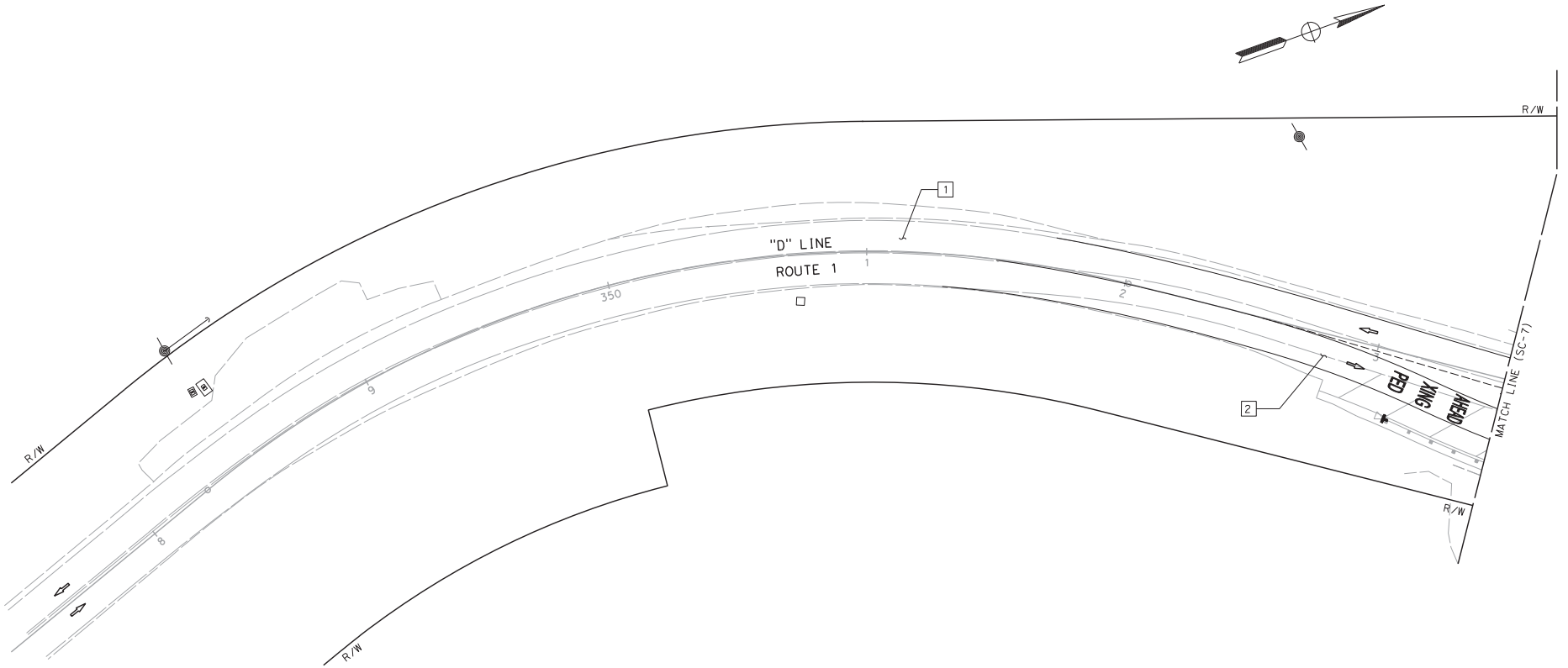
STAGE 3 TRAFFIC:

1. MAINTAIN EXISTING TRAFFIC LANES UNLESS SHOWN OTHERWISE.
2. PLACE FINAL STRIPING ON ROUTE 1
3. TRAFFIC TO ACCESS NEW PARKING LOT ENTRANCE TO ENTER AND LEAVE
4. MAINTAIN PEDESTRIAN BEACH ACCESS OPEN AT ALL TIMES.



FOR NOTES AND LEGEND, SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 3)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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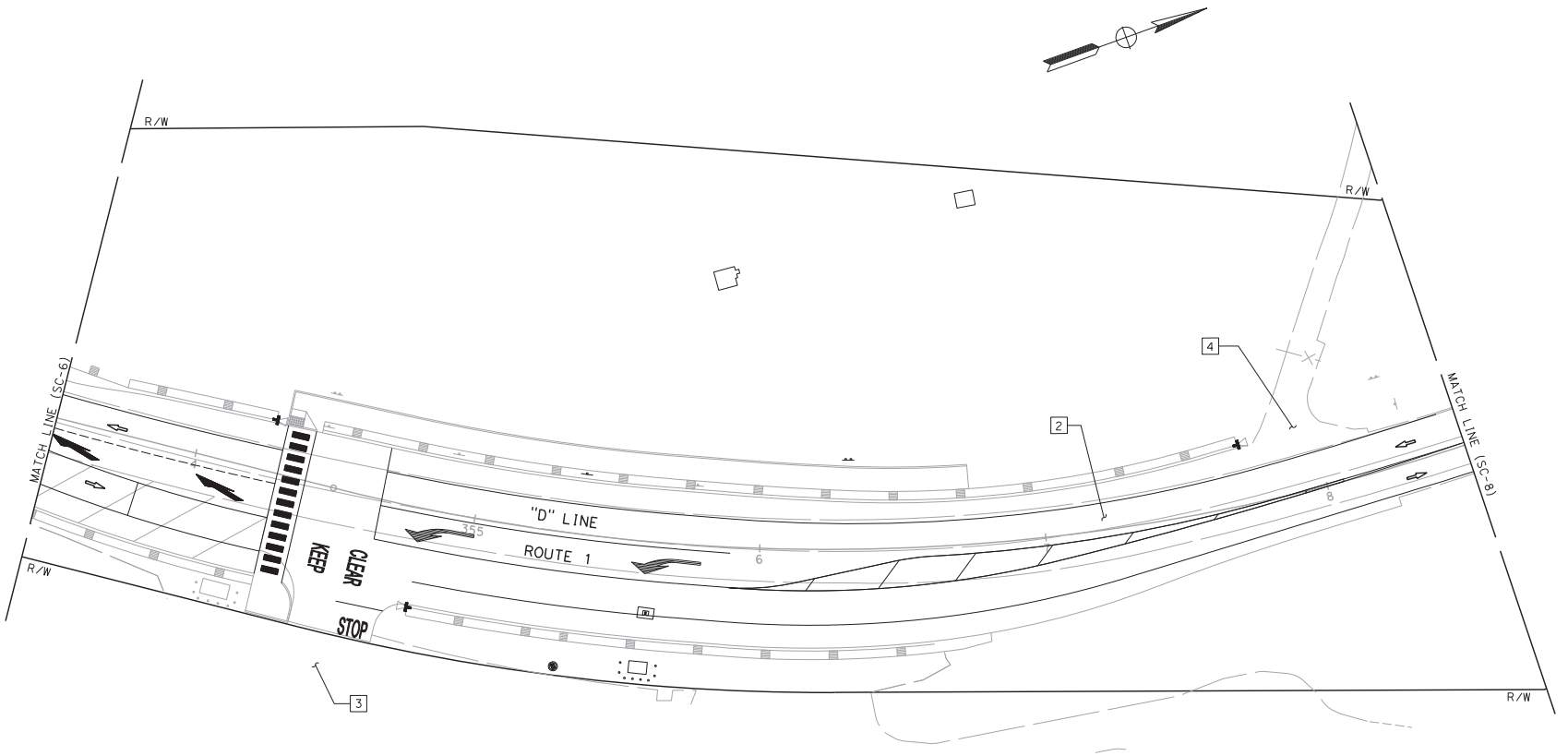

FOR NOTES AND LEGEND,
SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 3)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

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TIME PLOTTED => 9:41:28 AM

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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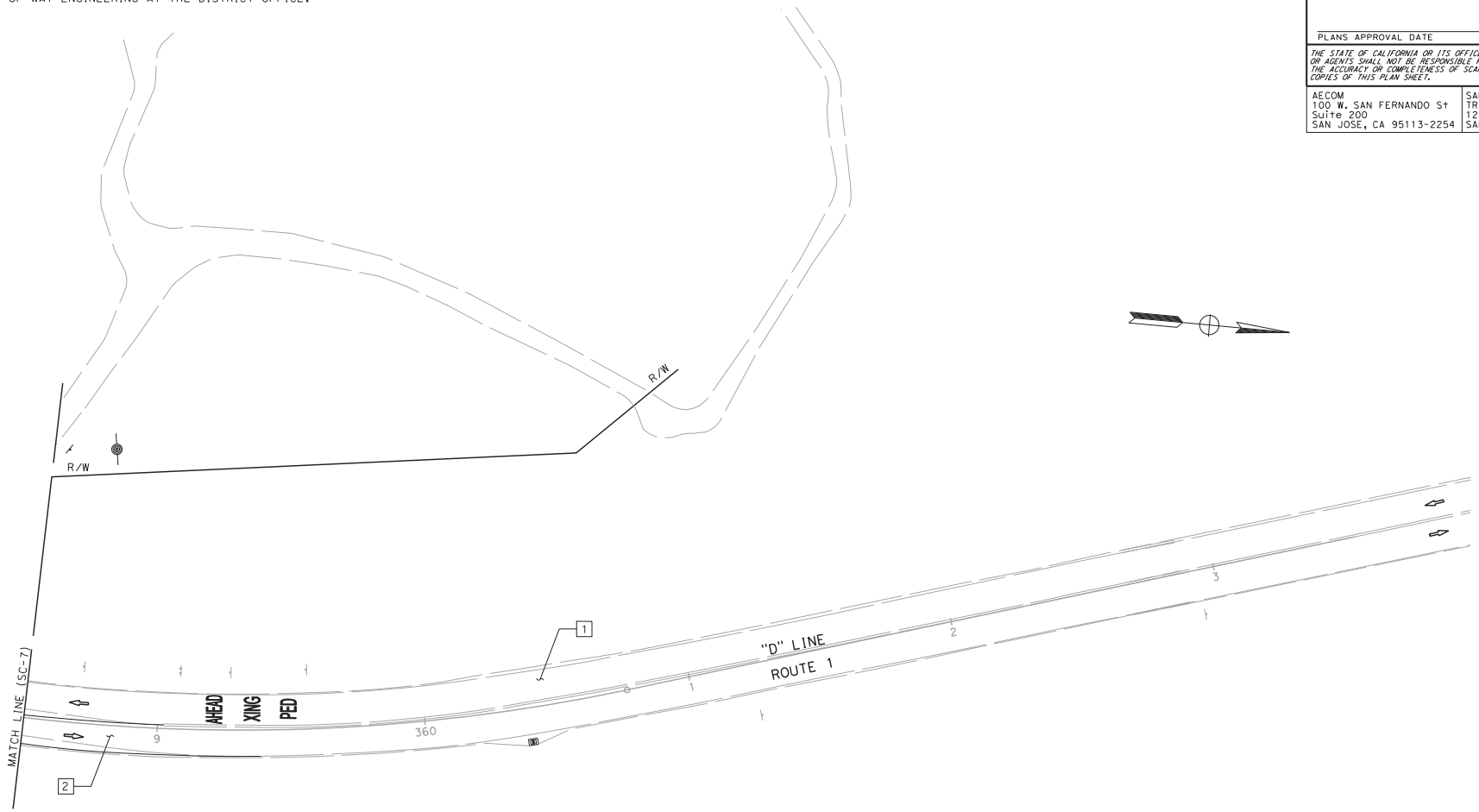

FOR NOTES AND LEGEND,
SEE SHEET SC-1

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN (STAGE 3)

SCALE: 1" = 20'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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TEMPORARY PAVEMENT DELINEATION QUANTITIES

SHEET No.	DETAIL No.	PAINT TRAFFIC STRIPE (1-COAT)	PAINT PAVEMENT MARKING (1-COAT)			REMOVE PAINTED TRAFFIC STRIPE	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE PAVEMENT MARKER
		LF	DESCRIPTION	EA [N]	SQFT	LF	LF	LF	EA
STAGE 1									
SC-1, 2	27B	668					668		
	27B	604					604		
	21	667						667	58
STAGE 2									
SC-3, 4			1' WHITE DIAGONAL STRIPE	8	204				
	27B	48							
SC-4, 5	27B	155				91	64		
	21	217				132		84	8
	27B	362				215	147		
STAGE 3									
SC-6, 7						1,752			
SC-7, 8						734			
TOTAL		2,721		8	204	2,924	1,483	751	66

[N] = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

OBJECT MARKER QUANTITIES

SHEET No.	STATION	LOCATION	OBJECT MARKER OM-3R (TYPE P)
			EA [N]
SC-1	"D" 352+25	Rt	1
SC-2	"D" 358+00	Lt	1
SC-4	"D" 354+87	Rt	1
TOTAL			3

[N] = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

CHANNELIZER (SURFACE MOUNTED)

SHEET No.	EA
SC-4	5
TOTAL	5

TEMPORARY RAILING (TYPE K)

STATION	TEMPORARY RAILING (TYPE K)
	LF
STAGE 1	
"D" 352+45 Rt TO "D" 355+89 Rt	340
"D" 353+26 Lt TO "D" 357+80 Lt	440
STAGE 2	
"D" 355+19 Rt TO "D" 358+39 Rt	320
TOTAL	1,100

TEMPORARY ALTERNATIVE CRASH CUSHION

STATION	TEMPORARY ALTERNATIVE CRASH CUSHION
	EA
STAGE 1	
"D" 352+25 Rt	1
"D" 358+00 Lt	1
TOTAL	2

TEMPORARY CRASH CUSHION MODULE

STATION	ARRAY	EA
STAGE 2		
"D" 354+87 Rt	TS14	14
TOTAL		14

STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN QUANTITIES

SCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN | CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM | CHECKED BY: SCOTT KELSEY | REVISED BY | DATE REVISED

LAST REVISION 12-14-18 | DATE PLOTTED => 11/17/2019 | TIME PLOTTED => 9:41:31 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_mf001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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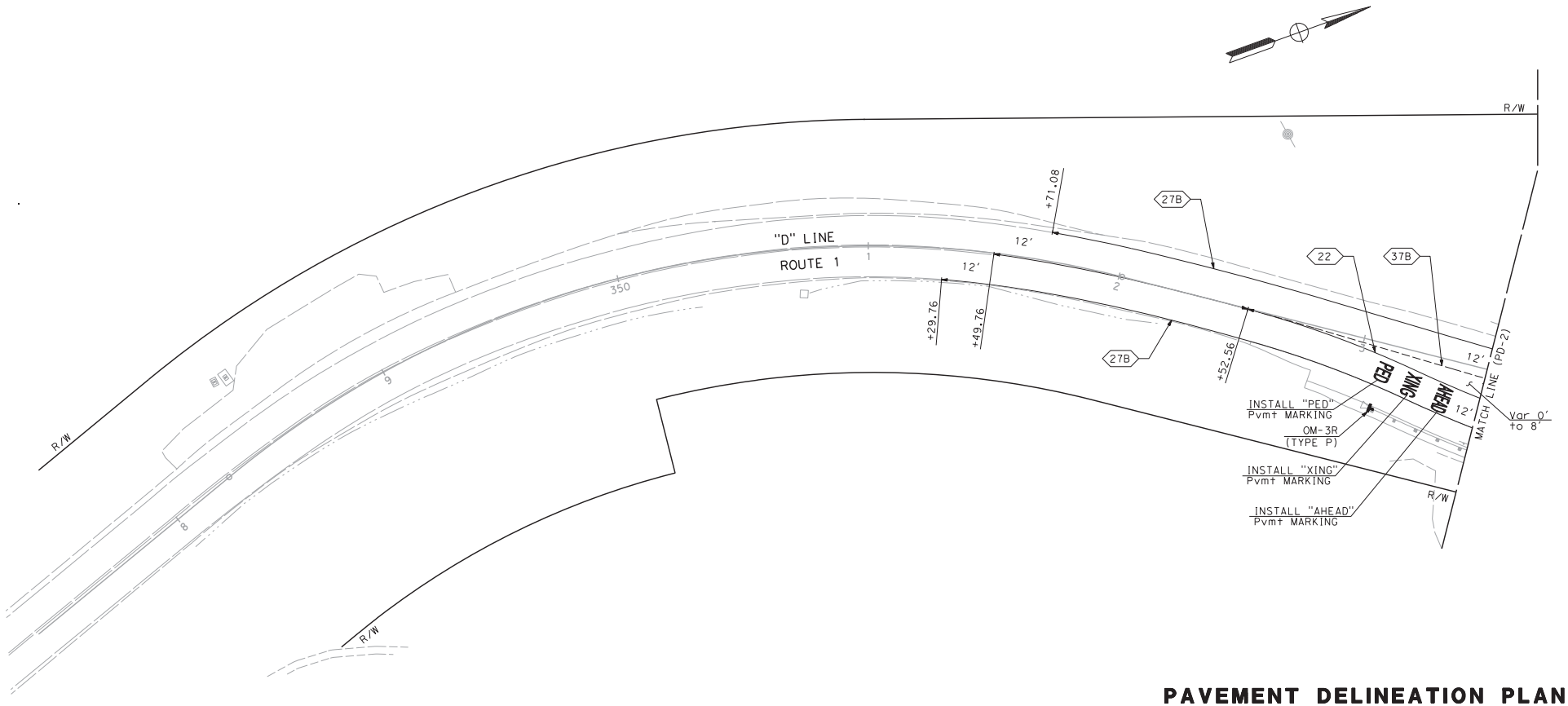
NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

- (No.) STANDARD PAVEMENT DELINEATION DETAIL No.
- BEGIN/END OF TRAFFIC STRIPE DETAIL
- CHANGE OF TRAFFIC STRIPE DETAIL
- TYPE III (R OR L) ARROW
- OBJECT MARKER



PAVEMENT DELINEATION PLAN

SCALE: 1" = 20'

PD-1

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
SHABNAM YARI / JASON HOM	SCOTT KELSEY		

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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BORDER LAST REVISED 7/2/2010

USERNAME => jason.hom
DGN FILE => 0418000207_na001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
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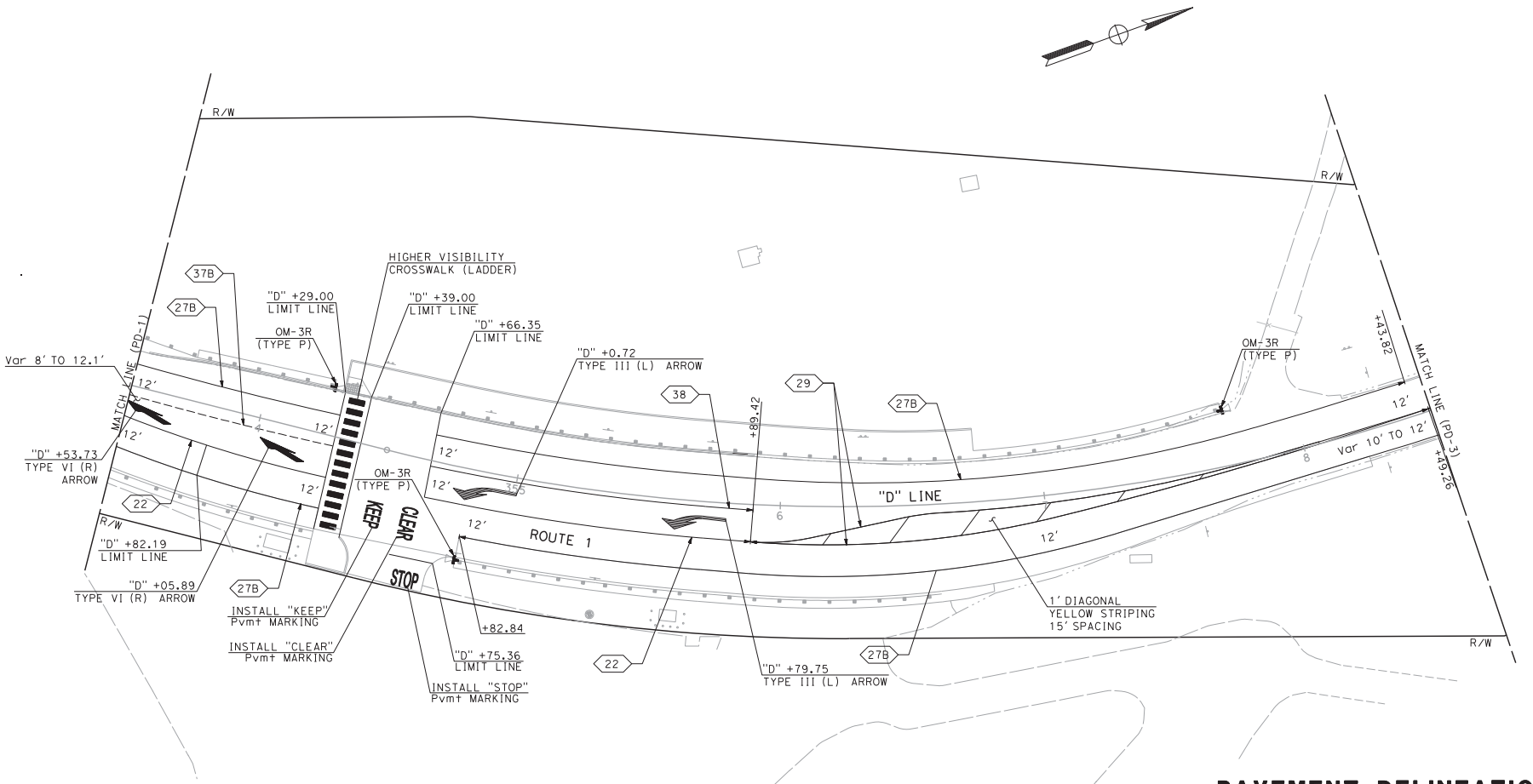

FOR NOTES AND LEGEND,
SEE SHEET PD-1

PAVEMENT DELINEATION PLAN

SCALE: 1" = 20'

PD-2

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY		REVISED BY	DATE REVISED
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LAST REVISION 12-14-18
DATE PLOTTED => 11/7/2019
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
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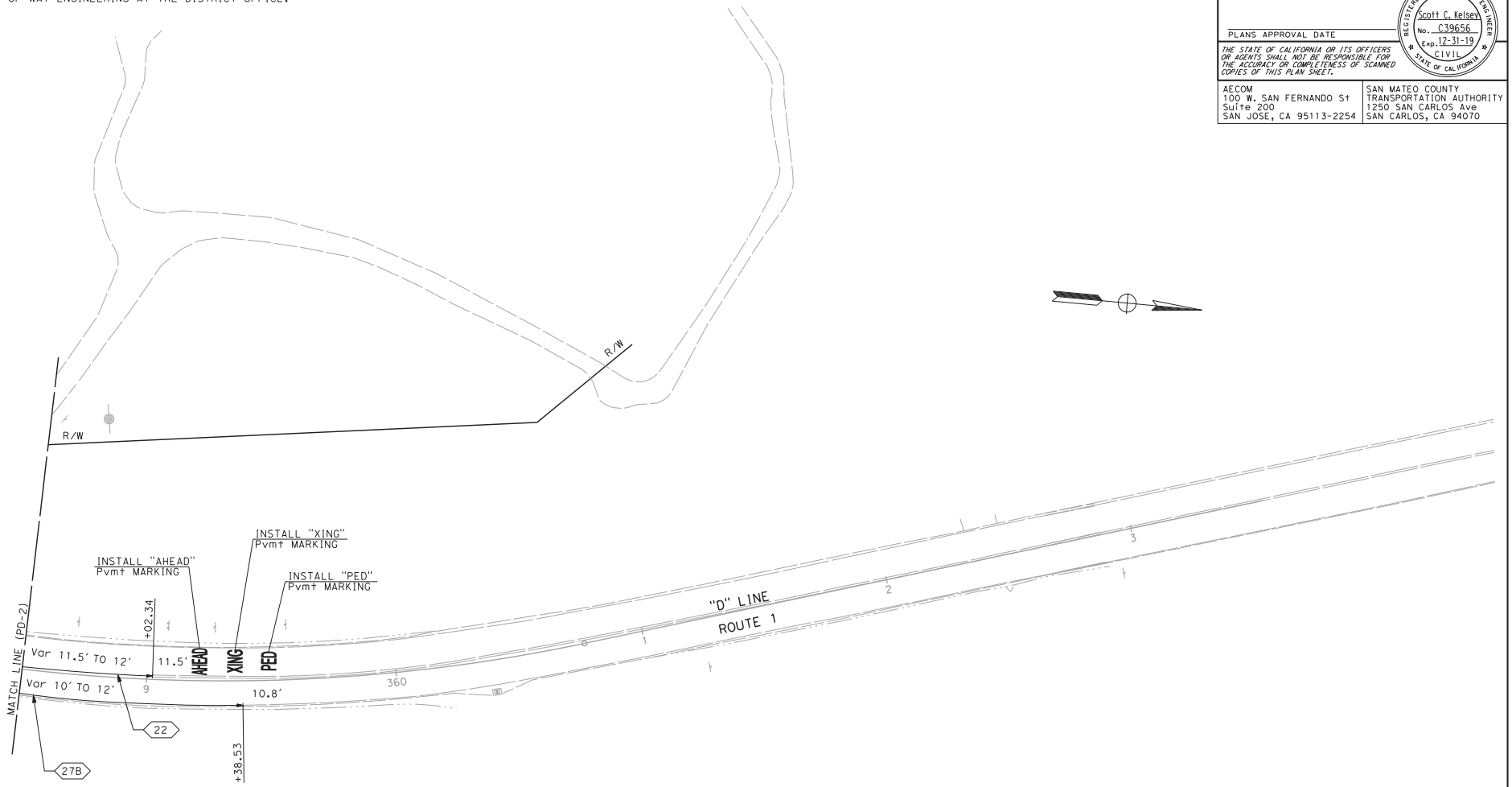

FOR NOTES AND LEGEND,
SEE SHEET PD-1

PAVEMENT DELINEATION PLAN

SCALE: 1" = 20'

PD-3

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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CALCULATED-DESIGNED BY	CHECKED BY
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

PAVEMENT DELINEATION QUANTITIES

SHEET No.	STATION LIMITS				DETAIL No.	LENGTH (N)	PAVEMENT MARKER	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)		THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)		PAINT PAVEMENT MARKING (2 COAT)	
	DIRECTION	LINE	BEGINNING	ENDING			RETRO-REFLECTIVE	6" YELLOW SOLID	6" WHITE SOLID			WHITE	YELLOW
							TYPE "D"	22,29	27B,37B,38				
						FT	EA	LF	LF	EA (N)	SQFT	SQFT	
PD-1 - PD-2	SB	D	351+71.08	354+29.00	27B	260			260				
PD-1 - PD-2	SB	D	351+49.76	352+52.56	22	206	10	206					
PD-1 - PD-2	NB	D	351+29.76	354+29.00	27B	299			299				
PD-1	NB/SB	D	352+52.56	354+29.00	22	356	16	356					
PD-1	NB	D	353+10.01		"PED"					1	18		
PD-1	NB	D	353+21.68		"XING"					1	21		
PD-1	NB	D	353+34.98		"AHEAD"					1	31		
PD-1	NB/SB	D	352+52.56	354+29.00	37B	177	7		177				177
PD-2	SB	D	353+53.73		TYPE VI (R) ARROW					1	42		
PD-2	SB	D	354+05.89		TYPE VI (R) ARROW					1	42		
PD-2	NB	D	353+82.19		LIMIT LINE	12					12		
PD-2	NB/SB	D	354+29.00		CROSSWALK						156		
PD-2	NB/SB	D	354+29.00		LIMIT LINE	53					53		
PD-2	NB/SB	D	354+39.00		LIMIT LINE	55					55		
PD-2	WB	D	354+65.05		"STOP"					1	22		
PD-2	WB	D	354+75.36		LIMIT LINE	17					17		
PD-2	NB	D	354+50.42		"KEEP"					1	24		
PD-2	NB	D	354+63.41		"CLEAR"					1	27		
PD-2	SB	D	354+66.35		LIMIT LINE	33					33		
PD-2	SB	D	355+00.72		TYPE III (L) ARROW					1	42		
PD-2	SB	D	355+79.75		TYPE III (L) ARROW					1	42		
PD-2 - PD-3	SB	D	354+66.35	358+43.82	27B	372			372				
PD-2	SB	D	354+66.35	355+89.42	38	124	6		124				
PD-2	NB/SB	D	354+66.35	355+89.42	22	250	12	250					
PD-2 - PD-3	NB/SB	D	355+89.42	358+49.26	29	1,050	46	1,050					
PD-2 - PD-3	NB	D	354+82.84	359+38.53	27B	469			469				
PD-2 - PD-3	NB/SB	D	355+89.42	358+49.26	DIAGONAL STRIPING	49							49
PD-3	NB/SB	D	358+49.26	359+02.34	22	106	6	106					
PD-3	SB	D	359+21.03		"AHEAD"					1	31		
PD-3	SB	D	359+35.48		"XING"					1	21		
PD-3	SB	D	359+49.22		"PED"					1	18		
SUBTOTAL							103	1,968	1,701	13	707	0	226
TOTAL							103	3,669		13	707	226	

(N)-NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

OBJECT MARKER QUANTITIES

STATION	LOCATION	OBJECT MARKER OM-3R (TYPE P)
		EA
"D" 353+08.84	Rt	1
"D" 354+24.61	Lt	1
"D" 354+82.90	Rt	1
"D" 357+72.14	Lt	1
TOTAL		4

PAVEMENT DELINEATION QUANTITIES
PDQ-1

LAST REVISION 12-14-18
DATE PLOTTED => 11/7/2019
TIME PLOTTED => 1:47:36 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_nc001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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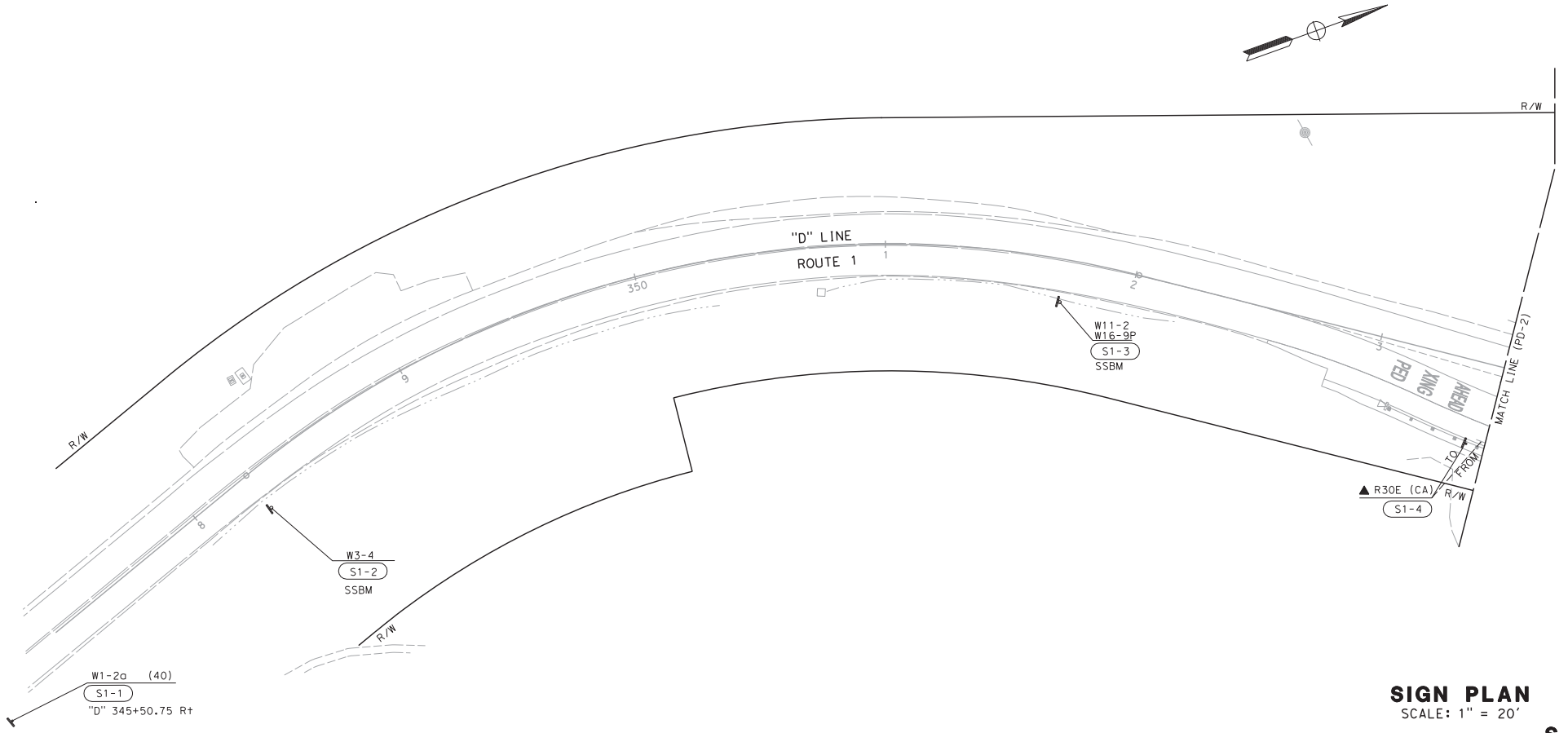
SAN CARLOS, CA 94070

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS SHALL BE DETERMINED BY THE ENGINEER.

LEGEND:

- ⬢ EXISTING SIGN TO REMAIN
- ▲ RELOCATE ROADSIDE SIGN
- ■ REMOVE ROADSIDE SIGN AND POST
- ● REMOVE ROADSIDE SIGN PANEL



SIGN PLAN

SCALE: 1" = 20'

S-1

APPROVED FOR SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 1/3/2019
TIME PLOTTED => 6:34:07 AM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_oa001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE .

PLANS APPROVAL DATE _____

REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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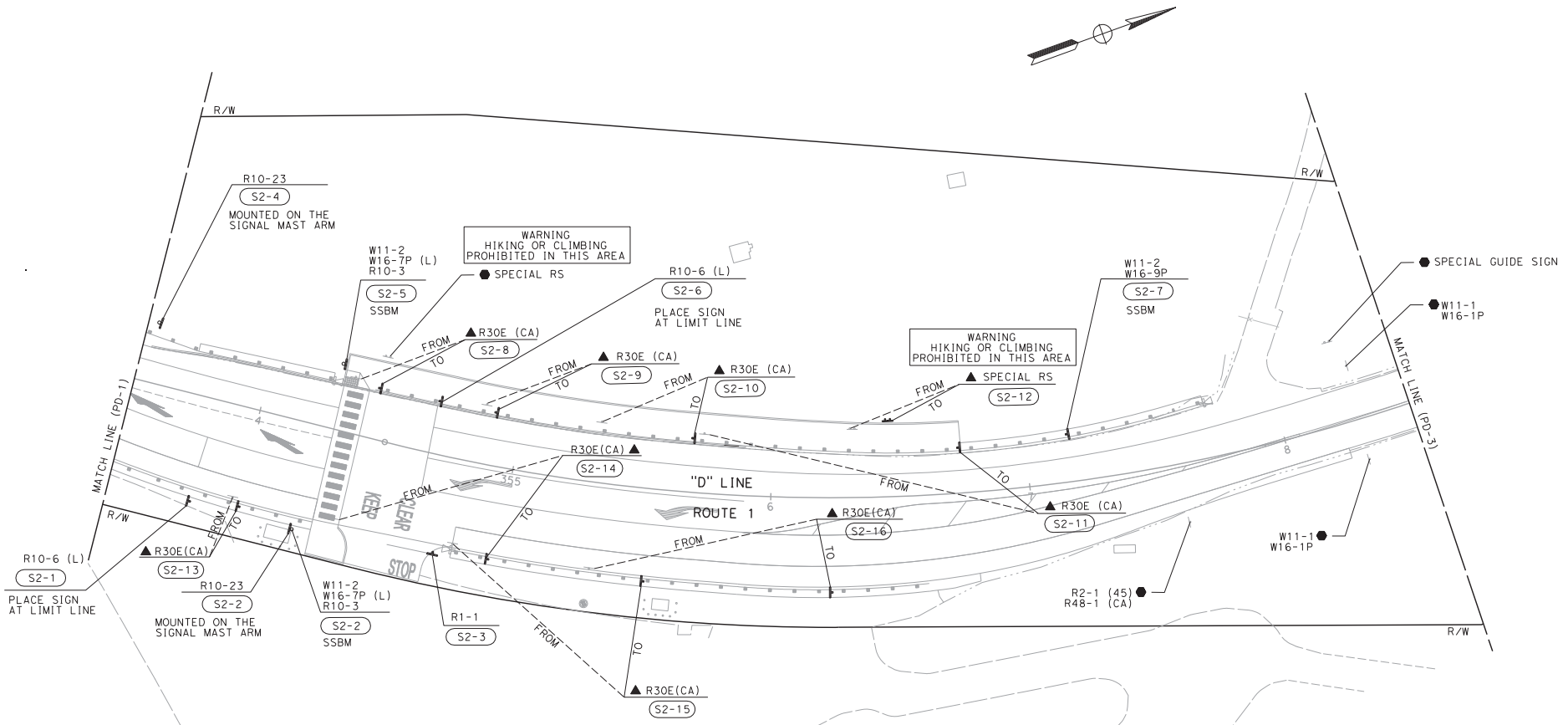

FOR NOTES AND LEGEND, SEE SHEET S-1

SIGN PLAN

SCALE: 1" = 20'

S-2

APPROVED FOR SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
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LAST REVISION 12-14-18
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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Scott C. Kelsey
No. C39656
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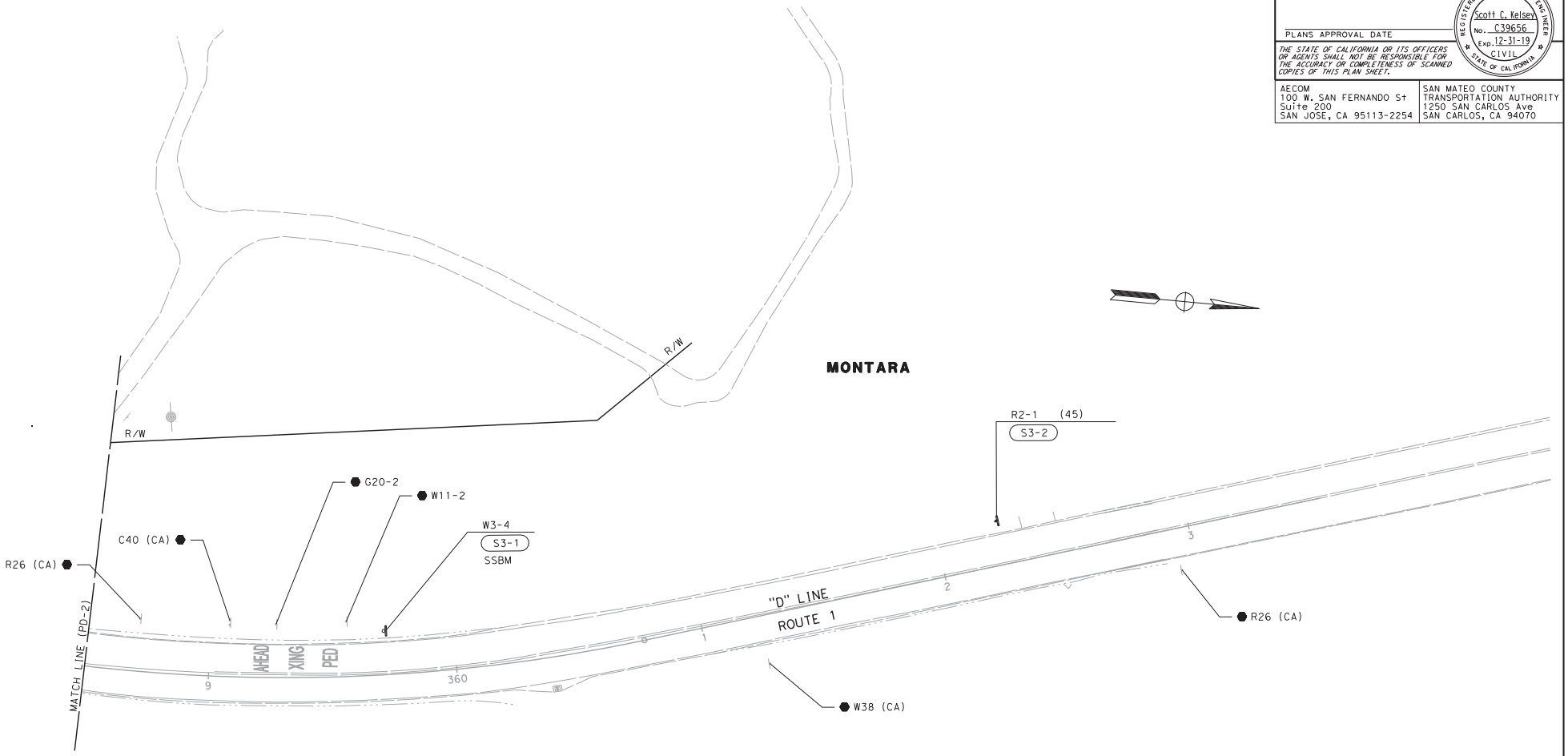
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans



FOR NOTES AND LEGEND, SEE SHEET S-1

APPROVED FOR SIGN WORK ONLY

SIGN PLAN

SCALE: 1" = 20'

S-3

LAST REVISION 12-14-18
DATE PLOTTED => 11/2/2019
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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ROADSIDE SIGN QUANTITIES

SHEET No.	SIGN No.	SIGN CODE	SIGN PANEL SIZE L	x	D	"C"	WOOD POST SIZE AND LENGTH IN FEET (N)	ROADSIDE SIGN	INSTALL SIGN (STRAP AND SADDLE BRACKET METHOD) (SSBM)	RELOCATE ROADSIDE SIGN(WOOD POST)	REMARKS
			IN		IN	FT	4" x 6"	ONE POST EA	EA	EA	
S-1	S1-1	W1-2a (40)	36	x	36	7	15	1			
	S1-2	W3-4	48	x	48	7			1		MOUNT ON FLASHING BEACON STANDARD
	S1-3	W11-2	36	x	36	7			1		MOUNT ON SIGNAL POST
		W16-9P	36	x	24				1		
	S1-4	R30E (CA)								1	
S-2	S2-1	R10-6 (L)	24	x	36	7	15	1			
	S2-2	R10-23	30	x	24						MOUNT ON SIGNAL MAST ARM (N)
		W11-2	36	x	36				1		MOUNT ON SIGNAL POST
		W16-7P (L)	30	x	18				1		MOUNT ON SIGNAL POST
		R10-3	9	x	12				1		MOUNT ON SIGNAL POST
	S2-3	R1-1	30	x	30	7	15	1			
	S2-4	R10-23	30	x	24						MOUNT ON SIGNAL MAST ARM (N)
	S2-5	W11-2	36	x	36	5			1		MOUNT ON SIGNAL POST
		W16-7P (L)	30	x	18				1		MOUNT ON SIGNAL POST
		R10-3	9	x	12				1		MOUNT ON SIGNAL POST
	S2-6	R10-6 (L)	24	x	36	7	15	1			PLACE SIGN AT LIMIT LINE
	S2-7	W11-2	36	x	36	5			1		MOUNT ON FLASHING BEACON STANDARD
		W16-9P	36	x	24				1		
	S2-8	R30E (CA)								1	
	S2-9	R30E (CA)								1	
	S2-10	R30E (CA)								1	
	S2-11	R30E (CA)								1	
	S2-12	SPECIAL WS								1	HIKING OR CLIMBING PROHIBITED
	S2-13	R30E (CA)								1	
	S2-14	R30E (CA)								1	
	S2-15	R30E (CA)								1	
	S2-16	R30E (CA)								1	
S-3	S3-1	W3-4	36	x	36	7			1		MOUNT ON FLASHING BEACON STANDARD
	S3-2	R2-1	24	x	30	7	15	1			
							TOTAL	5	12	10	

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Caltrans	RAMSEY J. HISSEN	SHABNAM YARI / JASON HOM	SCOTT KELSEY		

LAST REVISION 12-14-18
DATE PLOTTED => 11/3/2019
TIME PLOTTED => 6:33:38 AM

SIGN QUANTITIES
SQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
SHABNAM YARI / JASON HOM	SCOTT KELSEY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

MATERIAL SUMMARY SIGN QUANTITIES

SHEET No.	SIGN No.	SIGN CODE	SIGN PANEL SIZE L IN	x	D IN	AREA SQFT	SINGLE FACED	BACKGROUND SHEETING COLOR	BACKGROUND RETROREFLECTIVE ASTM TYPE	LEGEND SHEETING COLOR	LEGEND RETROREFLECTIVE ASTM TYPE	PROTECTIVE FILM PREMIUM	FURNISH SINGLE SHEET ALUMINUM SIGN UNFRAMED 0.063" SQFT
S-1	S1-1	R2-1	24	x	30	5	X	WHITE	IX	BLACK	PLAIN	X	5
	S1-2	W3-4	48	x	48	16	X	ORANGE	XI	BLACK	PLAIN	X	16
	S1-3	W11-2	36	x	36	9	X	YELLOW	XI	BLACK	PLAIN	X	9
		W16-9P	36	x	24	6	X	YELLOW	XI	BLACK	PLAIN	X	6
S-2	S2-1	R10-6 (L)	24	x	36	6	X	WHITE	IX	BLACK	PLAIN	X	6
	S2-2	R10-23	30	x	24	5	X	WHITE	IX	BLACK/RED	PLAIN/XI	X	5
		W11-2	36	x	36	9	X	YELLOW	XI	BLACK	PLAIN	X	9
		W16-7P (L)	30	X	18	4	X	YELLOW	XI	BLACK	PLAIN	X	4
		R10-3	9	X	12	1	X	YELLOW	XI	BLACK	PLAIN	X	1
	S2-3	R1-1	30	x	30	6.25	X	RED	XI	WHITE	XI	X	6.25
	S2-4	R10-23	30	x	24	5	X	WHITE	IX	BLACK/RED	PLAIN/XI	X	5
	S2-5	W11-2	36	x	36	9	X	YELLOW	XI	BLACK	PLAIN	X	9
		W16-7P (L)	30	x	18	4	X	YELLOW	XI	BLACK	PLAIN	X	4
		R10-3	9	x	12	1	X	YELLOW	XI	BLACK	PLAIN	X	1
	S2-6	R10-6 (L)	24	x	36	6	X	WHITE	IX	BLACK	PLAIN	X	6
	S2-7	W11-2	36	x	36	9	X	YELLOW	XI	BLACK	PLAIN	X	9
		W16-9P	36	x	24	6	X	YELLOW	XI	BLACK	PLAIN	X	6
S-3	S3-1	W3-4	36	x	36	9	X	ORANGE	XI	BLACK	PLAIN	X	9
	S3-2	R2-1	24	x	30	5	X	WHITE	IX	BLACK	PLAIN	X	5
												TOTAL	121

SIGN QUANTITIES
SQ-2

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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REGISTERED PROFESSIONAL ENGINEER — Scott C. Kelsey — No. C39656 — Exp. 12-31-19 — CIVIL — STATE OF CALIFORNIA

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SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

MIDWEST GUARDRAIL SYSTEM (WOOD POST)

SHEET No.	STATION	SIDE	GUARD RAILING LAYOUT	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	END ANCHOR ASSEMBLY (TYPE SFT)	REMOVE GUARDRAIL	VEGETATION CONTROL (MINOR CONCRETE)	TREATED WOOD WASTE
			TYPE	LF	EA	EA	LF	SQYD	LB
L-1, 2	"D" 353+07.45 TO "D" 354+30.00	Rt	16A	68.75	1	1		24	
L-1, 2	"D" 353+46.61 TO "D" 354+24.61	Lt	16I	25	1	1		70.78	
L-2	"D" 354+41.09 TO "D" 357+72.14	Lt	16A	268.75	1	1		64.67	
L-2	"D" 354+82.90 TO "D" 356+59.31	Rt	16A	131.25	1	1		90.78	
L-2	"D" 353+57.48 TO "D" 357+60.40	Lt					396		3,621
TOTAL				493.75	4	4	396	250.23	3,621

PLACE HOT MIX ASPHALT DIKE

SHEET No.	STATION	SIDE	TYPE C	TYPE F	TYPE F Mod
			LF	LF	LF
L-1, 2	"D" 352+82.04 TO "D" 353+61.45	Rt	80		
L-2	"D" 353+61.45 TO "D" 354+29.98	Rt		69	
L-2	"D" 353+53.52 TO "D" 353+71.51	Lt		18	
L-2	"D" 353+71.51 TO "D" 354+28.50	Lt	57		
L-2	"D" 354+38.99 TO "D" 356+74.38	Lt			230
L-2	"D" 356+74.38 TO "D" 357+16.82	Lt		42	
L-2	"D" 357+16.82 TO "D" 357+75.89	Lt	58		
L-2	"D" 354+82.89 TO "D" 355+34.34	Rt	54		
L-2	"D" 355+34.34 TO "D" 356+78.18	Rt		131	
TOTAL			249	260	230

ROADWAY QUANTITIES

STATION	DIRECTION	HOT MIX ASPHALT (TYPE A)	CLASS 2 AGGREGATE BASE
		TON	CY
"D" 352+56.89 TO "D" 357+69.54	NB	339.01	554.19
"D" 354+28.58 TO "D" 356+74.30	SB		52.91
TOTAL		339.01	607.10

REMOVE ASPHALT CONCRETE DIKE

SHEET No.	STATION	SIDE	REMOVE ASPHALT CONCRETE DIKE
			LF
L-2	"D" 353+53.52 TO "D" 357+75.89	Lt	417
TOTAL			417

MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)

STATION	DIRECTION	CURB RAMP & SIDEWALK	A1-8 CURB
		CY	CY
"D" 354+28.50 TO "D" 356+74.30	Lt	52.91	
"D" 354+28.50 TO "D" 356+74.30	Lt		7.68
"D" 354+30.23 TO "D" 354+45.55	Rt		0.93
TOTAL		61.52	

EARTHWORK

SHEET No.	STATION	ROADWAY EXCAVATION
		CY
L-1, 2	"D" 352+19.53 TO "D" 356+75.21	905.50
TOTAL		905.50

OBJECT MARKER

DESCRIPTION	OBJECT MARKER OM-3R (TYPE P)
	EA
FROM PAVEMENT DELINEATION PLANS	4
FROM STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN	3
TOTAL	7

GUARD POST

SHEET No.	STATION	DIRECTION	GUARD POST
			EA
L-2, C-1, 2	"D" 354+11.14 TO "D" 355+67.06		16
TOTAL			16

DETECTABLE WARNING SURFACE

SHEET No.	STATION	DETECTABLE WARNING SURFACE
		SQFT
L-2	"D" 354+31.50 Lt	15
TOTAL		15

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN | CALCULATED-DESIGNED BY: SHABNAM YARI / JASON HOM | CHECKED BY: SCOTT KELSEY | REVISED BY | DATE REVISED

LAST REVISION 12-14-18 | DATE PLOTTED => 11/10/2019 | TIME PLOTTED => 21:17:53 PM

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REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Scott C. Kelsey
No. C39656
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

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LEGEND:

EROSION CONTROL (TYPE 1)

FR FIBER ROLLS

EROSION CONTROL TYPE 1

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH
		DESCRIPTION	TYPE		
STEP 1	COMPOST	COMPOST	FINE	538 CY/ACRE	4"
STEP 2	INCORPORATE MATERIALS	COMPOST/FG			12"
STEP 3	ROLLED EROSION CONTROL PRODUCT (NETTING)	NETTING	TYPE A		
STEP 4	HYDROSEED	SEED	MIX 1	42.3 LB/ACRE	
		FIBER	WOOD	500 LB/ACRE	
		FERTILIZER	ORGANIC	500 LB/ACRE	
STEP 5	HYDROMULCH	FIBER	WOOD	1,500 LB/ACRE	
		TACKIFIER	GUAR	125 LB/ACRE	

SEED MIX

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	LIPINUS BICOLOR (ANNUAL LUPINE)	50	5.0
	BROMUS CARINATUS [1] (CALIFORNIA BROME)	60	9.0
	ESCHSCHOLZIA CALIFORNICA (CALIFORNIA POPPY)	60	3.0
	FESTUCA MICROSTACHYS (THREE-WEEK FESCUE)	60	4.0
	FESTUCA RUBRA VAR MOLATE (MOLATE RED FESCUE)	60	8.0
	HORDEUM BRACHYANTHERUM (CALIFORNIA MEADOW BARLEY)	60	11.0
	KOELERIA MACRANTHA (JUNEGRASS)	50	2.0
	SYMPHYOTRICHUM CHILENSE (PACIFIC ASTER)	40	0.2
	ACHILLEA MILLEFOLIUM (YARROW)	60	0.1

FIBER ROLLS

SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
IN EC TYPE 1 AREA FIBER ROLLS MUST BE INSTALLED AFTER RECP	FIBER ROLLS	RICE STRAW FILLED, JUTE COVERED	8" TO 10" Dia	TYPE 2 FIBER ROLLS INSTALLATION

APPROVED FOR EROSION CONTROL WORK ONLY

EROSION CONTROL LEGEND

ECL-1

REVISED BY	DATE REVISED
JASON HOM	SCOTT KELSEY

CALCULATED-DESIGNED BY | CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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RAMSEY J. HISSEN

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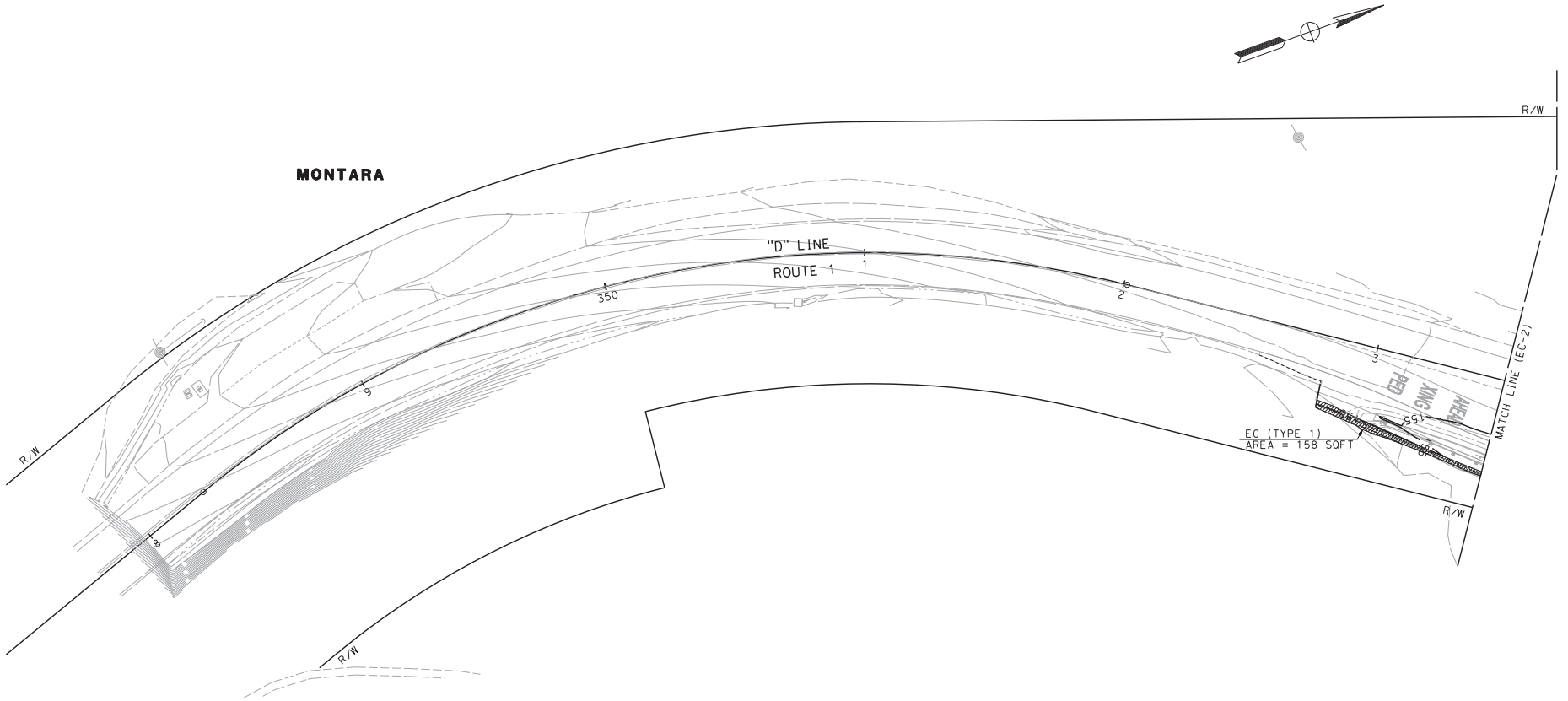

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EROSION CONTROL

SCALE: 1" = 20'

EC-1

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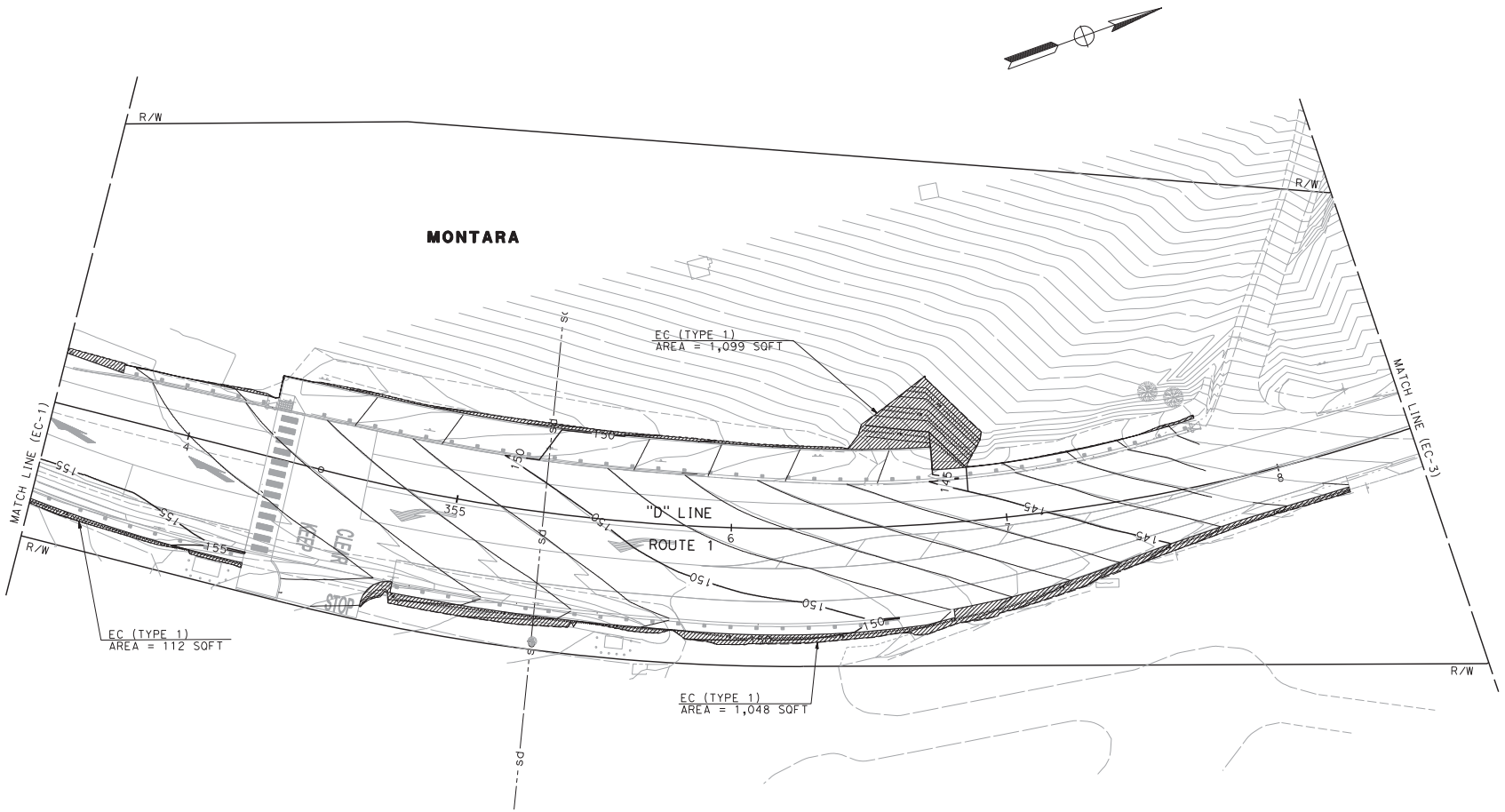

FOR NOTES AND LEGEND, SEE SHEET EC-1

EROSION CONTROL

SCALE: 1" = 20'

EC-2

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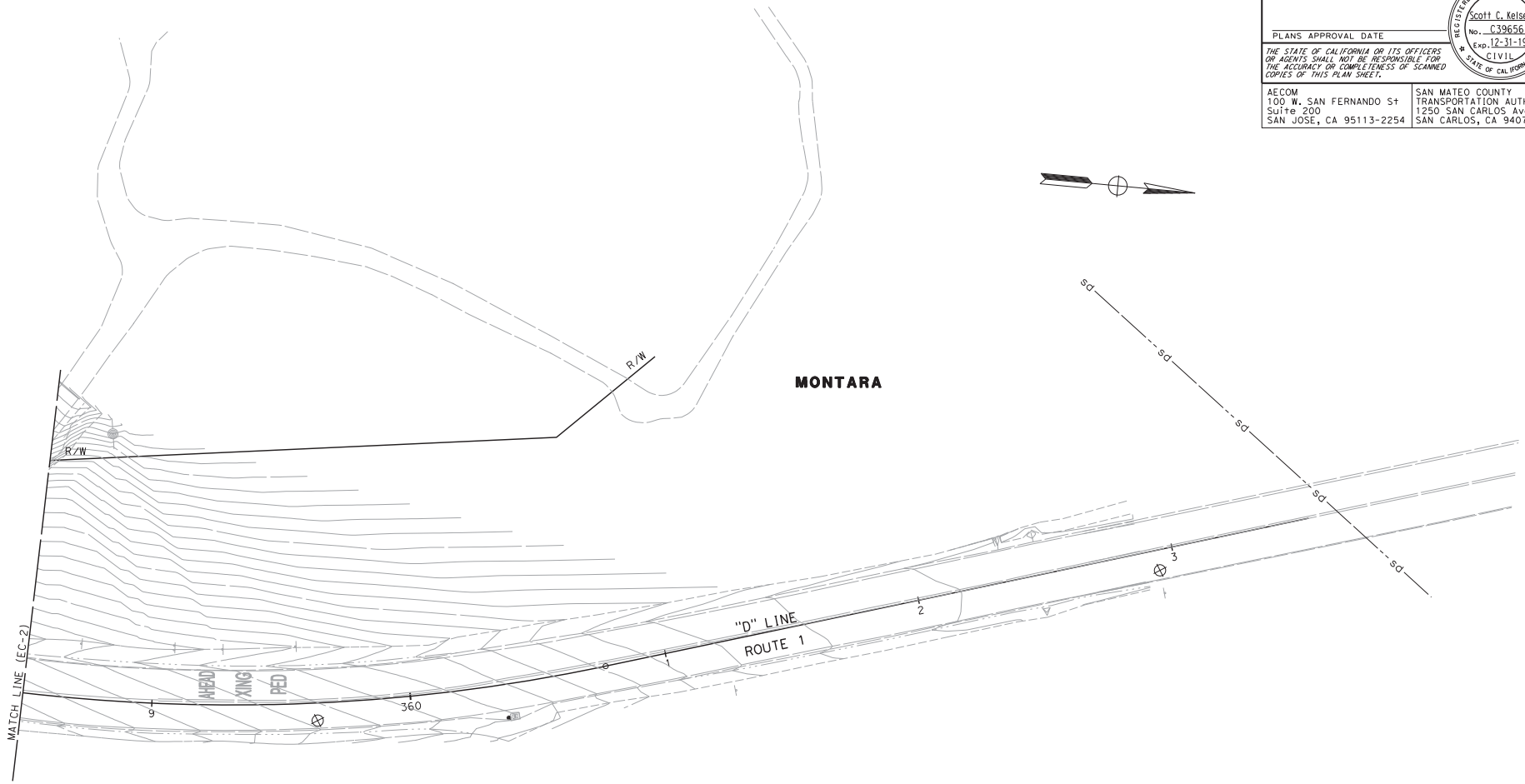

FOR NOTES AND LEGEND, SEE SHEET EC-1

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EROSION CONTROL

SCALE: 1" = 20'

EC-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans	RAMSEY J. HISSEN	JASON HOM	SCOTT KELSEY		

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EROSION CONTROL QUANTITY

SHEET No.	STATION	(N) EROSION CONTROL TYPE	COMPOST	INCORPORATE MATERIALS	ROLLED EROSION CONTROL PRODUCT NETTING	HYDROSEED	HYDROMULCH	FIBER ROLLS	MOVE-IN/MOVE OUT (EROSION CONTROL)	(N) COMPOST
			CY	SQFT	SQFT	SQFT	SQFT	LF	EA	SQFT
EC-1	"D" 352+82 TO 353+50 R†	Type 1	2	158	158	158	158	70		158
EC-2	"D" 353+50 TO 354+30 R†	Type 1	1	112	112	112	112	80		112
EC-2	"D" 354+74 TO 358+22 R†	Type 1	13	1048	1048	1048	1048	370		1048
EC-2	"D" 353+50 TO 357+74 L†	Type 1	13	1099	1099	1099	1099	115	2	1099
		TOTAL	30	2417	2417	2417	2417	635	2	1099

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

EROSION CONTROL QUANTITIES
ECQ-1

REVISED BY	DATE REVISED
JASON HOM	SCOTT KELSEY
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	
RAMSEY J. HISSEN	

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RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0703

PROJECT NUMBER & PHASE 04180002071

NOTES:

1. THE CLEARANCE BETWEEN THE BOTTOM OF THE LOWEST CIRCUIT BREAKER AND THE BOTTOM OF THE SERVICE EQUIPMENT ENCLOSURE FOR A TYPE III-A SERIES MUST BE 24" MINIMUM.
2. WHERE 6 OR MORE 3-INCH CONDUITS ENTER A No. 6 PULL BOX, THE CONDUITS MUST ENTER AT AN ANGLE NOT GREATER THAN 45-DEGREES FROM THE HORIZONTAL.
3. ALL PULL BOXES FOR PEDESTRIAN HYBRID BEACON MUST BE No. 5 UNLESS NOTED OTHERWISE ON PLANS.
4. ALL CONDUITS MUST BE INSTALLED OUTSIDE OF THE TREE DRIP LINE. TRENCHING WITHIN THE DRIP LINE IS PROHIBITED.

LEGEND:

[1] INSTALL DEPARTMENT FURNISHED MODEL 2070 CONTROLLER ASSEMBLY IN DEPARTMENT FURNISHED MODEL 332L CABINET. FOR CONTROLLER CABINET FOUNDATION AND PAD, SEE CONSTRUCTION DETAILS AND RSP ES-3C FOR DETAILS.

[2] FURNISH AND INSTALL TYPE III-AF SERVICE EQUIPMENT ENCLOSURE. SEE CONSTRUCTION DETAILS AND RSP ES-2D FOR FOUNDATION DETAILS.

[3] FURNISH AND INSTALL 3-SECTION PEDESTRIAN HYBRID BEACON 12" SIGNAL HEAD. SEE DETAIL A ON SHEET ED-2 AND RSP ES-4E FOR DETAILS.

[4] FURNISH AND INSTALL 2-SECTION 12" SIGNAL HEAD. SEE DETAIL B ON SHEET ED-2.

[5] FURNISH AND INSTALL TYPE 15-FBS FLASHING BEACON ASSEMBLY WITH TWO YELLOW FLASHING BEACONS AND PROPOSED SIGNAGE AS SHOWN IN SIGN PLANS. SIGN IS PART OF SIGN WORK. SEE RSP ES-7J FOR DETAILS. FLASHING MUST BE ACTIVATED WITH THE ACTIVATION OF APS.

[6] FURNISH AND INSTALL RADAR SPEED FEEDBACK SIGN ASSEMBLY WITH SOLAR POWER SYSTEM ASSEMBLY ON NEW TYPE 15-FBS. SEE DETAIL C ON SHEET ED-2 FOR DETAILS. SIGN IS PART OF SIGN WORK.

[7] CONTRACTOR TO INSTALL 3"C, 3#2 (120/240 V, 100A SERVICE)

[8] CONTRACTOR TO INSTALL PULL BOX No. 6. PULL BOX COVER MUST BE MARKED AS "CALTRANS/PG&E". THIS IS A PG&E TERMINATION POINT.

[9] CONTRACTOR TO INSTALL 3"C, PT. CONDUIT DEPTH AND TYPE MUST BE PER PG&E REQUIREMENTS. PG&E TO PULL SERVICE CONDUCTORS. COORDINATE WITH PG&E FOR REQUIREMENTS AND SERVICE CONNECTION.

[10] INSTALL SLIP BASE PLATE. SEE RSP ES-6F FOR DETAILS.

[11] FURNISH AND INSTALL BATTERY BACKUP SYSTEM INCLUDING CABINET, BATTERIES, AND DEPARTMENT FURNISHED ELECTRONICS ASSEMBLY.

ELECTRICAL INDEX:

ABBREVIATIONS:

SMCTA	SAN MATEO COUNTY TRANSPORTATION AUTHORITY
ADA	AMERICANS WITH DISABILITIES ACT
AT&T	AMERICAN TELEPHONE AND TELEGRAPH
PG&E	PACIFIC GAS AND ELECTRIC

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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PLANS APPROVAL DATE _____

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REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
ALEX HA / KRUNAL PATEL	BESHOY DEMYAN

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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NOTES, ELECTRICAL INDEX, LEGEND AND ABBREVIATIONS

E-1

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NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. SEE SHEET E-4 FOR CONDUCTOR, POLE AND EQUIPMENT SCHEDULE.

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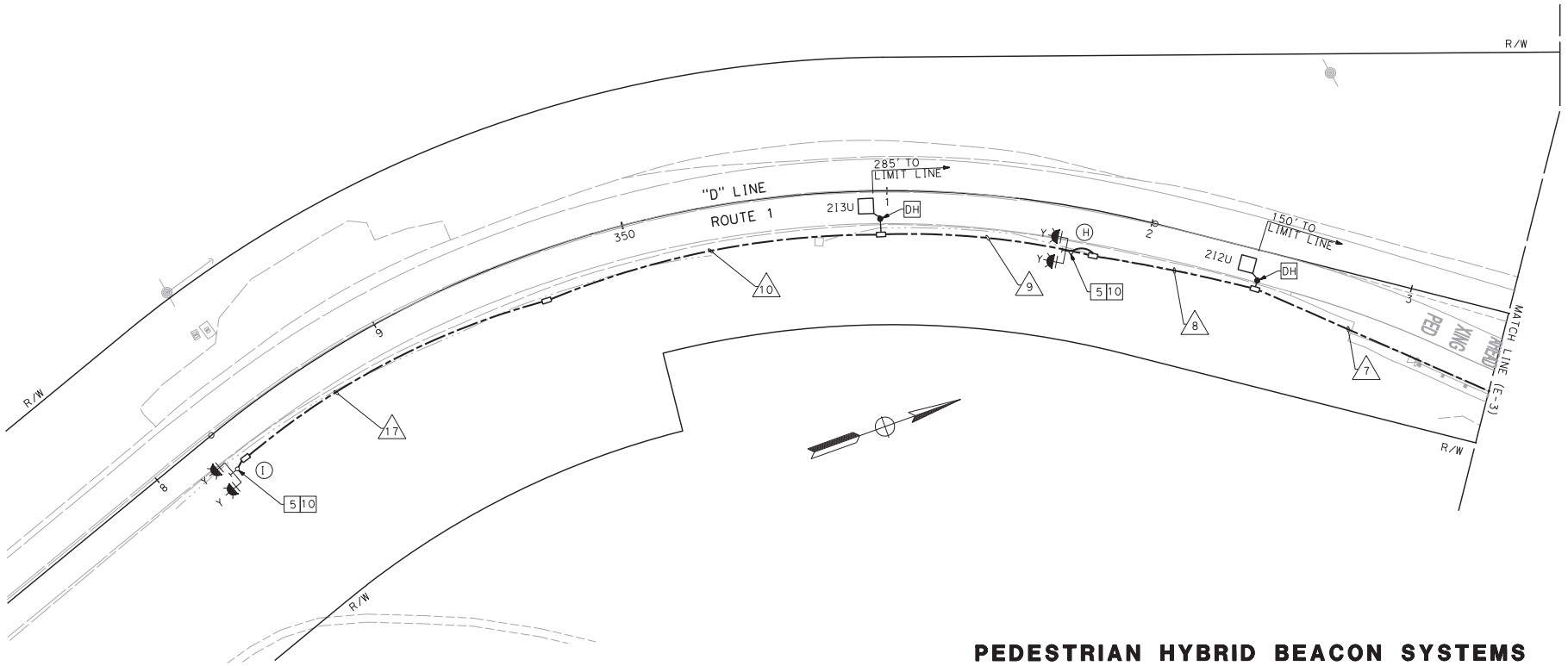

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

PEDESTRIAN HYBRID BEACON SYSTEMS

SCALE: 1" = 20'

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E-2

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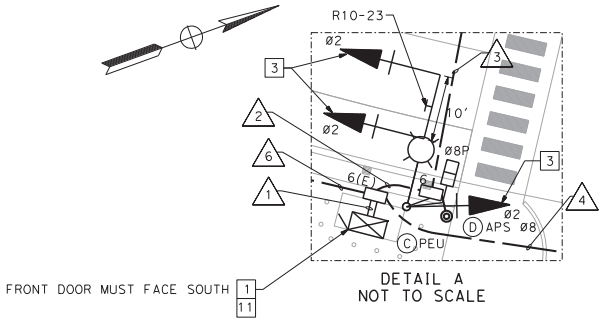
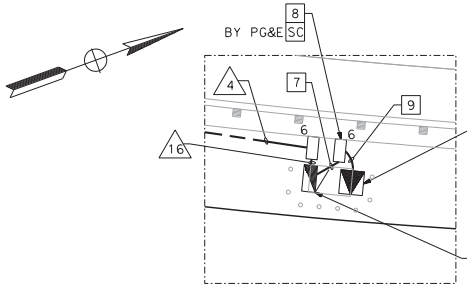
SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070



DETAIL A
NOT TO SCALE

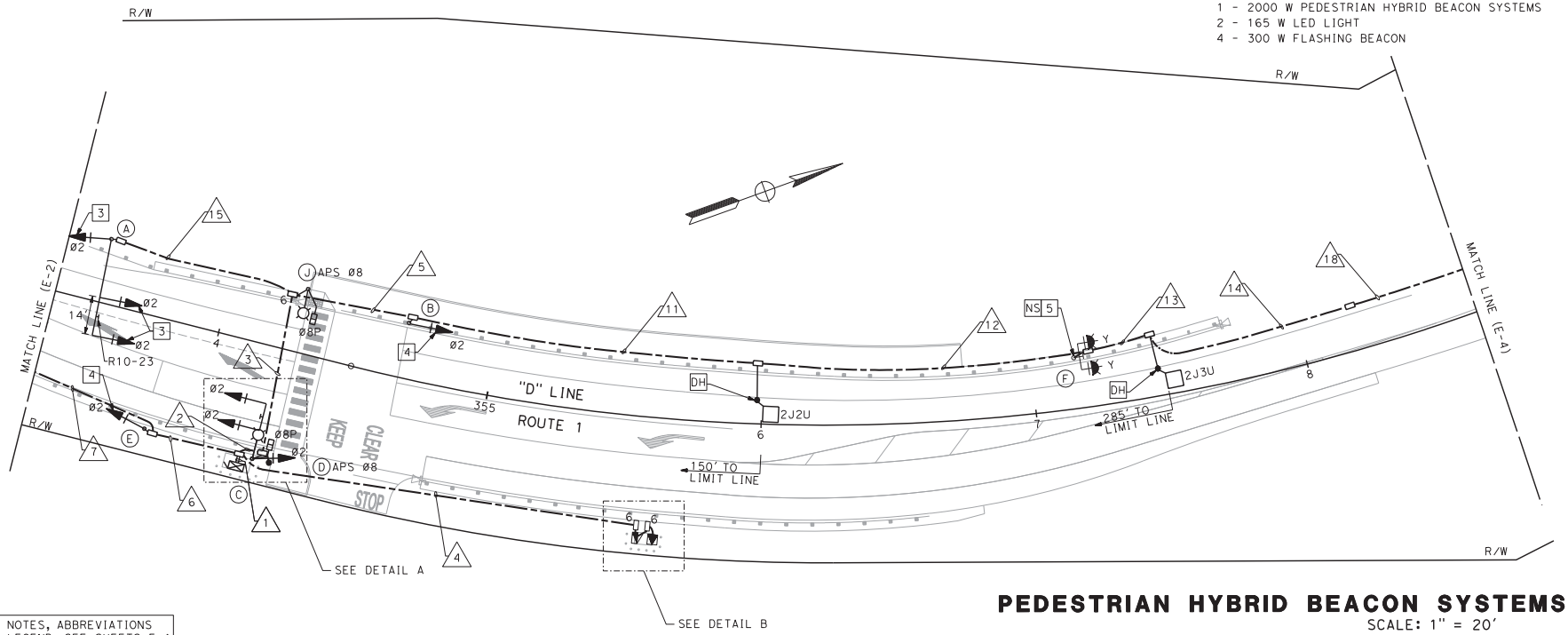


DETAIL B
NOT TO SCALE

PROPOSED TRANSFORMER SYSTEM No. 41-001-37907 — BY PG&E
PG&E SERVICE (120/240 V)
FOR FOUNDATION PAD DETAILS, SEE CIVIL PLANS

TYPE III-AF SERVICE EQUIPMENT ENCLOSURES No. 37907 — 2

CTID 04410010037907, TOU
SEE TYPICAL SERVICE WIRING DIAGRAM ON SHEET ED-1
PROVIDE ITEMS No. (1) THRU (14), (21)
FRONT DOOR SHALL FACE NORTH
PROPOSED LOAD:
1 - 2000 W PEDESTRIAN HYBRID BEACON SYSTEMS
2 - 165 W LED LIGHT
4 - 300 W FLASHING BEACON



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

PEDESTRIAN HYBRID BEACON SYSTEMS

SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN

CALCULATED-DESIGNED BY: ALEX HA / KRUNAL PATEL — CHECKED BY: BESHOY DEMYAN

REVISED BY — DATE REVISED

LAST REVISION: DATE PLOTTED => 12-14-18 — TIME PLOTTED => 11/2/2019 2:41:57 PM

BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ua003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

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SAN MATEO COUNTY
TRANSPORTATION AUTHORITY
1250 SAN CARLOS Ave
SAN CARLOS, CA 94070

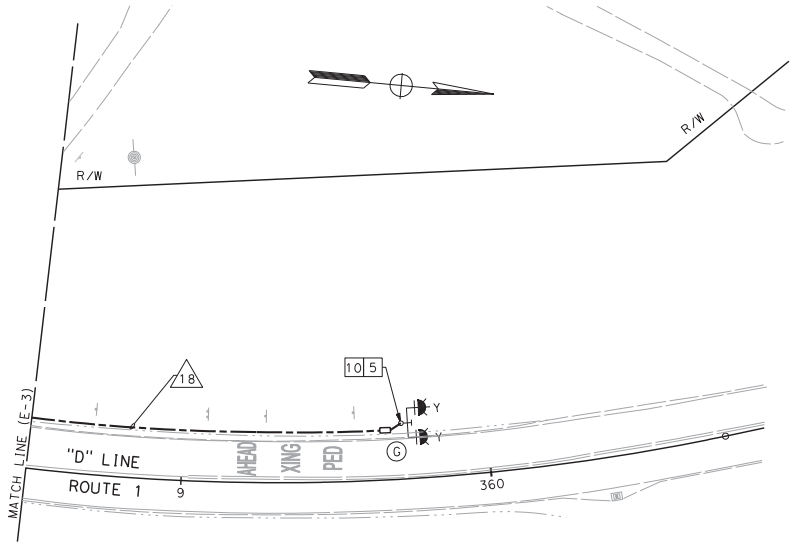
NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD TYPE	STANDARD Sig. M.A.	STANDARD Lum M.A.	VEHICLE SIGNAL MOUNTING Mast Arm	VEHICLE SIGNAL MOUNTING Pole	PED SIGNAL Ø	PED SIGNAL MTG	APS Ø	APS ARROW	TYPE (ROADWAY)	SPECIAL REQUIREMENT
(A)	23-4-100	35′	-	MAS-3A MAS-3A	SV-1-T	-	-	-	-	-	INSTALL R10-23 ON SMA.
(B)	1-B	-	-	-	TV-1-T	-	-	-	-	-	INSTALL R10-6(L)
(C)	19-4-100	20′	15′	MAS-3A MAS-3A	SV-1-T	8	SP-1-T	-	-	1	INSTALL R10-23 ON SMA. INSTALL PEU. INSTALL W11-2 & W16-7P(L) ON POLE.
(D)	PBA POST (5′-7" APS)	-	-	-	-	-	-	8	→	-	INSTALL R62E(CA) ON APS
(E)	1-B	-	-	-	TV-1-T	-	-	-	-	-	INSTALL 10-6(L)
(F)	15-FBS	-	-	-	-	-	-	-	-	-	NO SLIP BASE. INSTALL W11-2 & W16-9P. INSTALL FLASHING BEACON ASSEMBLY.
(G)	15-FBS	-	-	-	-	-	-	-	-	-	INSTALL W3-4. INSTALL FLASHING BEACON ASSEMBLY.
(H)	15-FBS	-	-	-	-	-	-	-	-	-	INSTALL W11-2 & W16-9P. INSTALL FLASHING BEACON ASSEMBLY.
(I)	15-FBS	-	-	-	-	-	-	-	-	-	INSTALL W3-4. INSTALL FLASHING BEACON ASSEMBLY.
(J)	15TS	-	15′	-	-	8	SP-1-T	8	←	1	INSTALL W11-2 & W16-7P(L) ON POLE. INSTALL R62E(CA) ON APS.

.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

CONDUCTOR SCHEDULE

CONDUCTOR DESIGNATION	NUMBER OF CONDUCTORS RUN NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
No. 14 CONDUCTORS																		
PED HYBRID BEACON	22	20	11		2	2									9			
Ø8P	4	4	2															
APS Ø8	2	2	1															
APS NEUTRAL	2	2	1															
FLASHING BEACON	4	2	2		2	2	2	2	2	2	2	2	2				2	2
PHOTO ELECTRIC UNIT (PEU)		3		3												3		
SPARES	3	3	3		3	3	3	3	3	3	3	3	3	3	3		3	3
TOTAL No. 14	37	36	17	3	7	7	5	5	5	5	5	5	5	5	12	3	5	5
No. 8 CONDUCTORS																		
LIGHTING (240 V)		2	2	2												2		
SIGNAL NEUTRAL	2	2	2		1	1	1	1	1	1	1	1	1	1	1		1	1
GROUND	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL No. 8	3	5	5	3	2	2	2	2	2	2	2	2	2	2	2	3	2	2
No. 6 CONDUCTORS																		
SIGNAL CONTROLLER	2			2												2		
DLC																		
2J2U	1		1		1						1							
2J3U	1		1		1						1	1	1					
2I2U	1					1	1											
2I3U	1					1	1	1	1									
TOTAL DLC	4		2		2	2	2	1	1		2	1	1					
CONDUIT SIZE	2-3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
FILL %	10%	14%	12%	6%	6%	6%	6%	5%	5%	4%	6%	5%	5%	4%	6%	5%	4%	4%

PEDESTRIAN HYBRID BEACON SYSTEMS

SCALE: 1" = 20′

APPROVED FOR ELECTRICAL WORK ONLY

E-4

DESIGNED BY	CALCULATED-DESIGNED BY	DRAWN BY	CHECKED BY	CONSULTANT FUNCTIONAL SUPERVISOR	REVISED BY	DATE REVISED
ALEX HA / KRUNAL PATEL		BESHOY DEMYAN		RAMSEY J. HISSEN		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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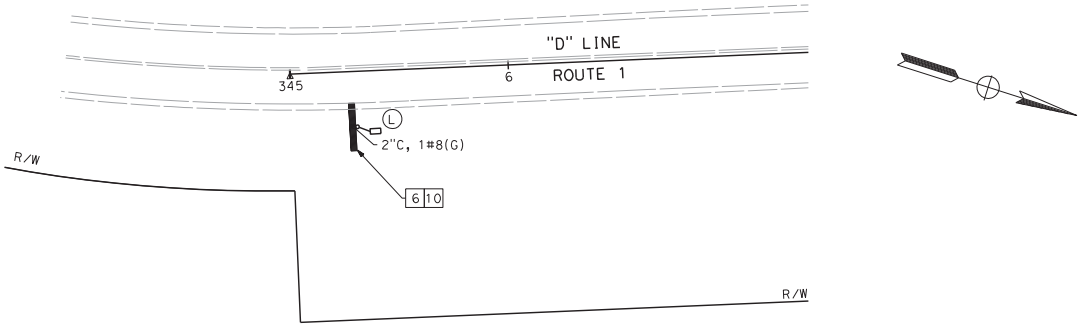
BORDER LAST REVISED 7/2/2010 | USERNAME => jason.hom | DGN FILE => 0418000207_ua004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0703 | PROJECT NUMBER & PHASE 04180002071

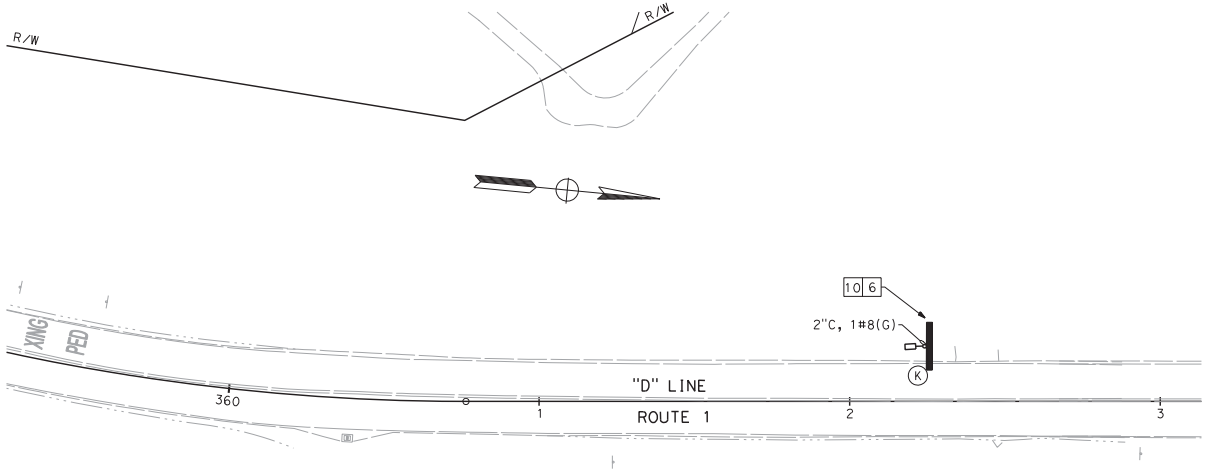
NOTE:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD			VEHICLE SIGNAL MOUNTING		PED SIGNAL		APS		TYPE	SPECIAL REQUIREMENT
	TYPE	Sig. M.A.	Lum M.A.	Mast Arm	Pole	Ø	MTG	Ø	ARROW	(ROADWAY)	
(K)	15-FBS	-	-	-	-	-	-	-	-	-	INSTALL R2-1(45). INSTALL RADAR FEEDBACK SIGN ASSEMBLY.
(L)	15-FBS	-	-	-	-	-	-	-	-	-	INSTALL W1-2a(40). INSTALL RADAR FEEDBACK SIGN ASSEMBLY.





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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PLANS APPROVAL DATE _____

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RADAR SPEED FEEDBACK SIGN SYSTEMS

SCALE: 1" = 20'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

APPROVED FOR ELECTRICAL WORK ONLY

E-5

REVISED BY	DATE REVISED
ALEX HA / KRUNAL PATEL	BESHOY DEMYAN
CALCULATED-DESIGNED BY	CHECKED BY
CONSULTANT FUNCTIONAL SUPERVISOR	RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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04	SM	1	37.8/38.0	.	.

REGISTERED CIVIL ENGINEER _____ DATE _____

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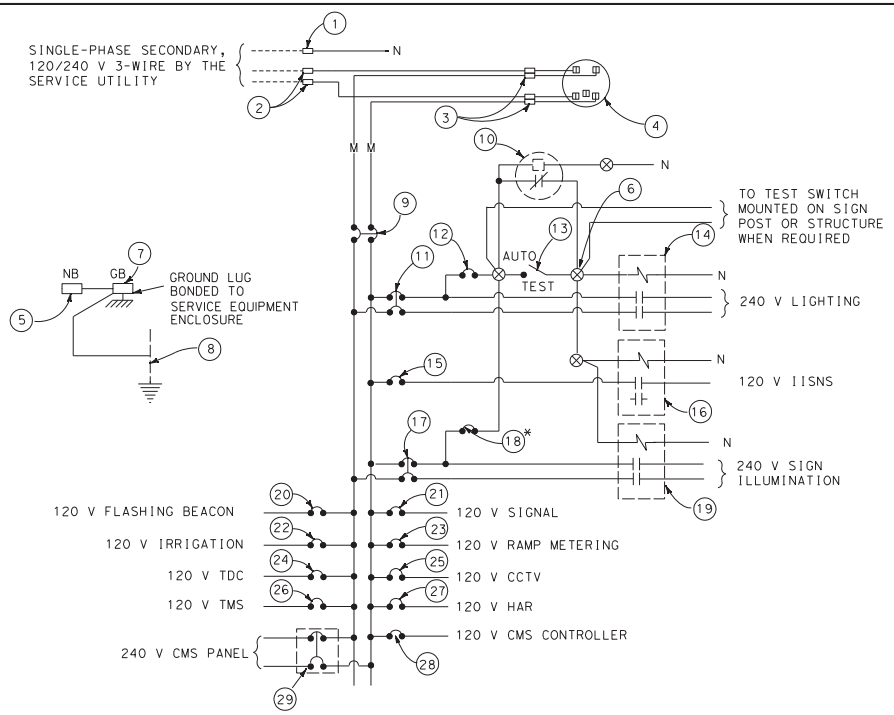

120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND

ITEM No.	COMPONENT	NAMEPLATE DESCRIPTION
(1)	NEUTRAL LUG	
(2)	LANDING LUG	
(3)	TEST BYPASS FACILITY	
(4)	METER SOCKET AND SUPPORT	
(5)	NEUTRAL BUS	
(6)	TERMINAL BLOCK	
(7)	GROUND BUS	
(8)	GROUNDING ELECTRODE	
(9)	100 A, 240 V, 2P, CB	MAIN BREAKER
(10)	PHOTOELECTRIC UNIT (NOTE 7)	
(11)	30 A, 240 V, 2P, CB	LIGHTING
(12)	15 A, 120 V, 1P, CB	LIGHTING CONTROL
(13)	15 A, 1P, TEST SWITCH	TEST SWITCH
(14)	30 A, 2PNO, CONTACTOR	
(15)	15 A, 120 V, 1P, CB	IISNS
(16)	30 A, 2PNO, CONTACTOR	

ITEM No.	COMPONENT	NAMEPLATE DESCRIPTION
(17)	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
(18)*	15 A, 120 V, 1P, CB	SIGN ILLUMINATION CONTROL
(19)	30 A, 2PNO, CONTACTOR	
(20)	15 A, 120 V, 1P, CB	FLASHING BEACON
(21)	50 A, 120 V, 1P, CB	SIGNALS
(22)	20 A, 120 V, 1P, CB	IRRIGATION
(23)	30 A, 120 V, 1P, CB	RAMP METERING
(24)	15 A, 120 V, 1P, CB	TELEPHONE DEMARCATION CABINET
(25)	30 A, 120 V, 1P, CB	CCTV
(26)	30 A, 120 V, 1P, CB	TMS
(27)	30 A, 120 V, 1P, CB	HAR
(28)	30 A, 120 V, 1P, CB	CMS CONTROLLER
(29)	30 A, 240 V, 2P, CB	CMS PANEL

* PROVIDE ITEM (12) WHEN BOTH CIRCUITS OF SIGN ILLUMINATION AND LIGHTING ARE USED. ITEM (18) IS NOT REQUIRED.

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

LEGEND:

(SEE RSP ES-1A & RSP ES-1C)

NOTES: (FOR SERVICE EQUIPMENT)

1. VOLTAGE RATINGS OF SERVICE EQUIPMENT MUST CONFORM TO THE SERVICE VOLTAGES INDICATED ON THE PLANS.
2. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL SERVICE EQUIPMENT ITEMS MUST BE PROVIDED FOR EACH SERVICE EQUIPMENT ENCLOSURE AS SHOWN.
3. ITEM NO. (1) AND (5) MUST BE ISOLATED FROM THE CABINET.
4. METER SOCKETS MUST BE 5 CLIP TYPE.
5. SERVICE UTILITY WILL INSTALL THE TIME-OF-USE METER IF APPLICABLE.
6. UNLESS OTHERWISE NOTED, THE MAXIMUM NUMBER OF SINGLE-POLE CB SPACES IN THE ENCLOSURE IS FOURTEEN.
7. PHOTOELECTRIC CONTROL MUST BE TYPE II.

ELECTRICAL SYSTEM DETAILS

NO SCALE

ED-1

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | CONSULTANT FUNCTIONAL SUPERVISOR: RAMSEY J. HISSEN | CALCULATED-DESIGNED BY: ALEX HA / KRUNAL PATEL | CHECKED BY: BESHOY DEMYAN | REVISED BY | DATE REVISED

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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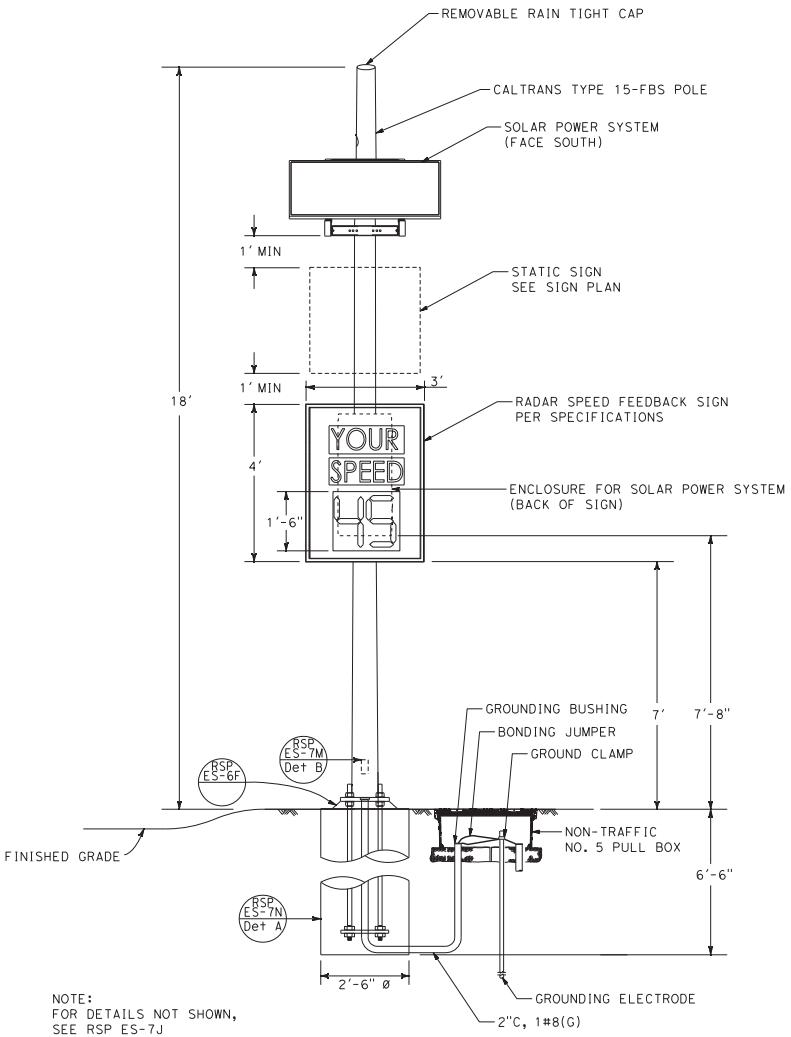
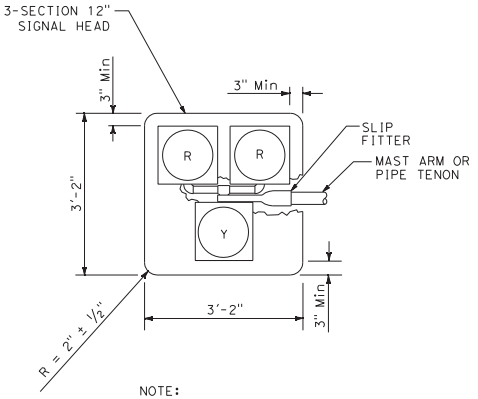


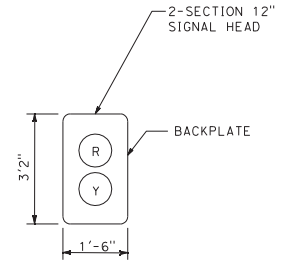
NOTE:
FOR DETAILS NOT SHOWN,
SEE RSP ES-7J

RADAR SPEED FEEDBACK SIGN
DETAIL C



NOTE:
FOR DETAILS NOT SHOWN,
SEE RSP ES-4E

PEDESTRIAN HYBRID BEACON
DETAIL A
R: RED, Y: YELLOW



PEDESTRIAN HYBRID BEACON
DETAIL B
R: RED, Y: YELLOW

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

ELECTRICAL SYSTEM DETAILS

NO SCALE

ED-2

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Caltrans	RAMSEY J. HISSEN	ALEX HA / KRUNAL PATEL	BESHOY DEMYAN		

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SM	1	37.8/38.0	.	.

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NOTE:

1. ELECTRICAL SYSTEM QUANTITY TABLES SUMMARIZE SIGNIFICANT COMPONENTS ONLY. SEE ELECTRICAL SYSTEMS PLANS AND SPECIFICATIONS TO DETERMINE ALL MATERIALS NEEDED FOR EACH SYSTEM.
2. COMPONENTS ITEMS LISTED ON QUANTITY TABLES ARE NOT SEPARATE PAY ITEM, FOR INFORMATION ONLY.

PEDESTRIAN HYBRID BEACON SYSTEMS

SHEET No.	CONDUIT [N]		CONDUCTORS [N]			PULL BOXES [N]			DETECTOR LOOPS [N]	DLC [N]	CONTROLLER CABINET FOUNDATION PAD [N]	TYPE III-AF SERVICE CABINET [N]	POLE TYPE [N]						PEU [N]	LED LUMINAIRES (ROADWAY 1) [N]	YELLOW FLASHING BEACON ASSEMBLY [N]	SLIP BASE PLATE [N]
	3"	2"	#14	#8	#6	#5	#6	#6(E)	TYPE A				23-4-100	1-B	19-4-100	APS POST	15-FBS	15TS				
	LF	LF	LF	LF	LF	EA	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
E-2	500	20	3000	1000		5			2	400							2				2	2
E-3	900	90	7500	2500	450	7	4	1	2	1050	1	1	1	2	1	1	1	1	1	2	1	
E-4	100	10	500	200		1											1				1	1

[N] = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

RADAR SPEED FEEDBACK SIGN SYSTEMS

SHEET No.	CONDUIT [N]	CONDUCTORS [N]	PULL BOXES [N]	POLE TYPE [N]	RADAR SPEED FEEDBACK ASSEMBLY [N]	SOLAR POWER SYSTEM ASSEMBLY [N]	SLIP BASE PLATE [N]
	2"	#8	#5	15-FBS			
	LF	LF	EA	EA	EA	EA	EA
E-5	20	60	2	2	2	2	2

[N] = NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEETS E-1

ELECTRICAL SYSTEM QUANTITIES

EQ-1

APPROVED FOR ELECTRICAL WORK ONLY

REVISED BY	DATE REVISED

ALEX HA / KRUNAL PATEL — BESHOY DEMYAN — CALCULATED-DESIGNED BY — CHECKED BY

CONSULTANT FUNCTIONAL SUPERVISOR — RAMSEY J. HISSEN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans

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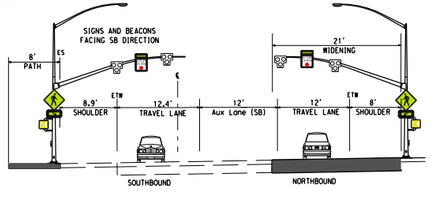
GRAY WHALE COVE PEDESTRIAN ACCESS IMPROVEMENT PROJECT (PM 37.8/38.0)
McNEE RANCH STATE PARK, HIGHWAY 1 ENVIRONMENTAL PHASE

LEGEND:

- PROPOSED WIDENING
- EXISTING ROADWAY
- PROPOSED STRIPING
- PROPOSED SIGNAGE
- EXISTING STORM DRAIN
- EXISTING PG&E UG ELECTRIC
- EXISTING PG&E OH ELECTRIC
- PROPOSED PG&E UG ELECTRIC
- MANDATORY DESIGN EXCEPTION
- CONTRACTOR'S LAYDOWN AREA

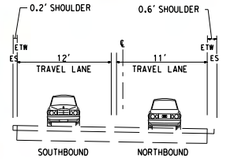
PROPOSED DESIGN EXCEPTIONS

	DESIGN STANDARD	CONDITION
M1	Mandatory 405.2(d) Non Standard Deceleration Length Standard: 50 mph Design Speed = 435 feet	Existing: No Crosswalk Proposed: 201 ft Standard: 435 ft
M2	Mandatory 203.2 Non Standard Curve Radius Standard: 50 mph Design Speed = 850 feet	Existing: 400 ft Proposed: 400 ft Standard: 850 ft Existing: 700 ft Proposed: 700ft Standard: 850 ft
M3	Mandatory 302.1 Non Standard Shoulder Width Standard: 8 foot Shoulder	Existing NB: Varies from 0.6 to 6.5 ft Proposed NB: Varies from 0.6 to 8 ft Standard NB: 8ft Existing SB: Varies from 6.5 to 7.9 ft Proposed SB: Varies from 6.5 to 7.9 ft Standard SB: 8ft
M4	Mandatory 201.1 Non Standard Stopping Sight Distance Standard: 50 mph Design Speed = 430 feet	Existing: 345 ft Proposed: 345 ft Standard: 430 ft Proposed: 261 ft Standard: 430 ft
M5	Mandatory 202.2 Non Standard Superelevation Rate Standard: 12%	Existing: 6.7%, 700 ft Proposed: 6.7%, 700 ft Standard: 12%



SECTION A-A
NO SCALE

Push button activated hybrid beacon provides signalized crosswalk at mid-block location.



SECTION B-B
NO SCALE

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

DESIGNATED PEDESTRIAN CROSSING
PEDESTRIAN HYBRID BEACON (PHB)

FIGURE 1

AECOM
January 7, 2019

County of San Mateo - Planning and Building Department

ATTACHMENT B

AECOM
300 Lakeside Drive, Suirte 400
Oakland
CA, 94612

Project name:
Gray Whale Cove Pedestrian Access Improvement Project

From: Jeff Zimmerman

To:
Scott Kelsey, Senior Transportation Manager

Date:
December 21, 2018

Memo

Subject: **Construction Emissions Estimates and CEQA Air Quality Impact Review, Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County**

This memo provides an estimate of air quality construction emissions and review of California Environmental Quality Act (CEQA) significance criteria for the Gray Whale Cove Pedestrian Access Improvement Project. This is supplemental information not applicable to Federal air quality conformity requirements, and therefore is separately documented.

San Mateo County in cooperation with the California Department of Transportation (Caltrans) proposes a pedestrian access improvement project on State Route 1 in San Mateo County at Gray Whale Cove State Beach. The project will add a pedestrian crosswalk across State Route 1, install pedestrian hybrid beacons and utility/service cabinets, widen pavement for a left turn lane and acceleration lane, relocate and improve the parking lot entrance, and install overhead lighting, overhead signs and roadside signs. The project is located within existing Caltrans right-of-way. Areas outside of the Caltrans right-of-way are owned and managed by the California Department of Parks and Recreation. Figure 1 shows the project location and layout.

The location of the project on State Route 1 is rural, with steep slopes and no developed land uses at or near the project location other than the two-lane highway, the Gray Whale Cove parking areas, hiking trails, and pedestrian dirt pathways alongside the highway and leading to the beach.

CONSTRUCTION EMISSIONS

Construction of the project would result in the temporary generation of reactive organic gases (ROG), nitrogen oxides (NO_X), PM_{10}, and $PM_{2.5}$ emissions associated primarily from off-road construction equipment, on-road motor vehicles, soil grading, and material transport. ROG and NO_X emissions are primarily associated with mobile equipment exhaust. Fugitive dust emissions are primarily associated with site preparation (area disturbed) and transportation (trucks delivering or removing materials and worker trips). Construction at State Route 1 at the Gray Whale Cove parking area will involve a limited number of workers over a 3 to 4-month time period and is not considered a complex construction project.

Construction emissions were estimated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Roadway Construction Emissions Model (Version 8.1.0) with conservative assumptions regarding the duration and scope of construction (SMAQMD 2018). The Roadway Construction Emissions Model Version 8.1.0 uses equipment data and emission factors from OFFROAD2011 and EMFAC2014.The total criteria pollutant construction emissions for the project are presented in Table 1 and are low because of the relatively low intensity of construction activity for this project (limited equipment and workforce). Estimated construction emissions would not exceed BAAQMD's applicable mass emission thresholds of significance that are listed in the table.

Table 1. Construction-Related Criteria Pollutant Emissions

Emissions Sources	ROG	NO_X	PM_{10} (exhaust + dust)	$PM_{2.5}$ (exhaust + dust	CO2e
Total Emissions (tons/total construction period)	Less than 0.01	0.06	0.28	0.06	23.6
Maximum Daily Emissions (lbs./day) [a]	0.09	2.80	10.10	2.13	1,297
Thresholds of Significance[b] (lbs/day)	54	54	82	54	No construction threshold
Exceeds Thresholds?	No	No	No	No	No/Not Applicable

Notes:
(a) Average Maximum Daily Emissions were calculated based on 22 working days per month over a 4 month construction period and are based on the total construction emissions.
(b) Thresholds from Table 2-1 of the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017a).
ROG = reactive organic gases; NOX = oxides of nitrogen; PM10 = particulate matter with aerodynamic diameter less than 10 microns; PM2.5 = particulate matter with aerodynamic diameter less than 2.5 microns; lbs/day = pounds per day

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) SIGNIFICANCE REVIEW.
The project would not result in a significant air quality impact based on the following discussion.

CEQA Air Quality Impact Criteria	Discussion
a) Conflict with or obstruct implementation of an applicable air quality plan? b) Violate air quality standard or contribute substantially to an existing or projected air quality violation? c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	This project provides for installation of a crosswalk, turning lanes, and safety beacons and will not change or affect traffic patterns or volumes on State Route 1. There will be no change in air quality emissions related to highway traffic. Construction emissions will be temporary, for approximately 3 months. Standard specifications will require the contractor to control dust emissions through periodic watering of the site, and maintain equipment.
d) Expose sensitive receptors to substantial pollutant concentrations? e) Create objectionable odors affecting a substantial number of people?	No sources of substantial emissions or odors are anticipated from construction. Beach and park users would only temporarily pass near the project construction site when they park and leave their vehicles, with no extended exposure.
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? g) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	The project would enhance pedestrian access across State Highway 1, and would not create or increase any post construction greenhouse gas emissions. There would be temporary greenhouse gas emissions during construction, but of limited duration and amount (as listed in Table 1). The construction emissions would not be significant.

In order to reduce duplication and wasteful paper consumption, please refer to Attachment A of this report for the 100% project plans.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for ->

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.09	0.91	2.80	10.10	0.10	10.00	2.13	0.05	2.08	0.01	1,284.85	0.01	0.04	1,296.75
Grading/Excavation	0.09	0.91	2.80	10.10	0.10	10.00	2.13	0.05	2.08	0.01	1,284.85	0.01	0.04	1,296.75
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	10.00	0.00	10.00	2.08	0.00	2.08	0.00	0.00	0.00	0.00	0.00
Paving	0.07	0.81	1.89	0.08	0.08	0.00	0.03	0.03	0.00	0.01	925.12	0.01	0.03	933.36
Maximum (pounds/day)	0.09	0.91	2.80	10.10	0.10	10.00	2.13	0.05	2.08	0.01	1,284.85	0.01	0.04	1,296.75
Total (tons/construction project)	0.00	0.02	0.06	0.28	0.00	0.28	0.06	0.00	0.06	0.00	25.78	0.00	0.00	26.02

Notes:

Project Start Year ->	2020
Project Length (months) ->	3
Total Project Area (acres) ->	1
Maximum Area Disturbed/Day (acres) ->	1
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	20	0	100	0	250	200
Grading/Excavation	20	0	100	0	250	200
Drainage/Utilities/Sub-Grade	10	0	0	0	0	0
Paving	0	40	0	200	250	0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for ->

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.00	0.00	0.01	0.03	0.00	0.03	0.01	0.00	0.01	0.00	4.24	0.00	0.00	3.88
Grading/Excavation	0.00	0.01	0.04	0.13	0.00	0.13	0.03	0.00	0.03	0.00	16.96	0.00	0.00	15.53
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.12	0.00	0.12	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.58	0.00	0.00	4.19
Maximum (tons/phase)	0.00	0.01	0.04	0.13	0.00	0.13	0.03	0.00	0.03	0.00	16.96	0.00	0.00	15.53
Total (tons/construction project)	0.00	0.02	0.06	0.28	0.00	0.28	0.06	0.00	0.06	0.00	25.78	0.00	0.00	23.60

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Air Quality Conformity Analysis

Gray Whale Cove Pedestrian Access Improvement Project

On State Route 1 in San Mateo County at Gray Whale Cove State Beach

04-SM-1-37.8/38.0

EA: 1Q130

December 2018

Prepared By: _____ Date: 12-20-2018

Jeff Zimmerman
AECOM, Oakland CA

Caltrans

Table of Contents

List of Tables

List of Figures

Section 1. Introduction and Project Description

This Air Quality Conformity Analysis contains the information that is required to make a project-level air quality conformity determination for the Gray Whale Cove Pedestrian Access Improvement. This analysis has been prepared to be consistent with information published by FHWA related to Project-Level Conformity Analysis, the Standard Environmental Reference (SER) Air Quality Conformity Findings Checklist (included as Appendix A), applicable U.S. EPA project-level analysis guidance, the Transportation Conformity Regulations at 40 CFR 93 Subpart A, and Section 176(c) of the Federal Clean Air Act (42 USC 7506(c)).

This analysis only addresses the conformity requirements of the Federal Clean Air Act. It does not address general air quality analysis or studies conducted for the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA), and only addresses pollutants for which the project area is designated nonattainment, or attainment with an approved Maintenance SIP, by the U.S. EPA.

This report is intended to provide all information needed by FHWA to make a project-level conformity determination for a project that falls under 23 USC 327 NEPA Assignment to Caltrans; or to support a full project-level conformity determination by Caltrans under 23 CFR 326 NEPA Assignment for projects that require a project-level conformity determination (including regionally significant projects as defined in 40 CFR 93.101), and are categorically excluded from NEPA analysis under 23 CFR 771.117(c)(22) or 23 CFR 771.117(c)(23).

1.1. Project Description

San Mateo County in cooperation with the California Department of Transportation (Caltrans) proposes a pedestrian access improvement Project (Project) on State Route 1 in San Mateo County at Gray Whale Cove State Beach. The Project will add a pedestrian crosswalk across State Route 1, install pedestrian hybrid beacons, widen pavement for left turn lane and acceleration lane, relocate and improve the parking lot entrance, and install overhead lighting, overhead signs and roadside signs. The Project is located within existing Caltrans right-of-way. Areas outside of the Caltrans right-of-way are owned and managed by the California Department of Parks and Recreation. Figure 1 shows the Project location and layout.

1.1.1 Purpose of the Project

The purpose of the proposed Project is to:

- Enhance pedestrian access across State Route 1 between Gray Whale Cove State Beach and the parking area.

- Improve vehicle access and vehicle turning movements entering and exiting State Route 1 at the Gray Whale Cove State Beach parking area.

1.1.2 Need

Within the Project limits, there is no designated highway crossing location available to users. A high volume of visitors frequent the area, especially on weekends. The existing parking lot at Gray Whale Cove State Beach is located on the opposite side of the highway from the coast, requiring pedestrians and bicyclists to cross State Route 1 and walk along the roadway shoulder to access points of attraction including the State Beach, hiking and biking trails. The presence of motorists traveling at high speeds through the Gray Whale Cove Beach area, and a lack of pedestrian facilities make crossing State Route 1 to access the State Beach challenging, especially during peak hours of traffic. The parking area is located between two curves. The limited available sight distance reduces the visibility for drivers approaching the curve. The Project is needed to:

- Provide a designated pedestrian crossing with a pedestrian and vehicular traffic control device.
- Promote drivers' awareness of a transition from open highway conditions to an area of increased pedestrian activity.
- Improve visibility of pedestrians and bicyclists crossing State Route 1.
- Minimize traffic backups on State Route 1 caused by traffic movements into and out of the parking lot area.

1.1.3 Project Description

This section describes the proposed action to meet the purpose and need of the Project. As described in this section, the project will add turning lanes at the entrance to the Gray Whale Cove State Beach parking lot on State Route 1, but will not add any new through traffic lanes, change capacity of the highway, or change the highway alignment other than to incorporate the turning lanes.

Turn Lanes and Pavement Widening at the Parking Lot Entrance

The existing parking area is accessed towards the north end. This current access will be moved about 200 feet south, placing the entrance just to the south of the center of the crescent shaped parking area. Additional pavement will be added to widen the northbound shoulder and create a new southbound acceleration lane, a southbound left turn lane, and a paved apron at the parking lot entrance. These features will provide more separation between vehicles turning into and out of the parking lot from through traffic on State Route 1:

- Northbound shoulder will be widened, providing increased buffer space between the traveled lanes and the parking lot entrance for vehicles entering or exiting the lot.
- Southbound pocket lanes will be added in the center of the highway. This includes a southbound left turn pocket and southbound acceleration lane. It will allow vehicles entering the lot to queue separately from the southbound traffic until they are able to cross opposing traffic and enter the parking lot. Likewise, vehicles leaving the lot will have a separate lane within which to accelerate and merge into southbound traffic when exiting the parking lot.

State Route 1 will be widened up to 21 feet on the east side, and the lanes and shoulders restriped. An 8 foot wide pedestrian pathway will be installed adjacent to the west side of the highway (on the southbound side) to provide a connection between the proposed crosswalk and the existing access to the beach. The existing shoulder on the west side will be maintained. Pavement widening will be added within the Project limits on the east side where feasible. This includes widening the northbound shoulder up to 8 feet in the area of the crosswalk and parking lot entrance. The northbound and southbound shoulders will remain available for bicycle use.

The total amount of additional paved or surfaced area is approximately 0.31 acre (13,576 square feet).

Pedestrian Crosswalk, Hybrid Beacon, and Safety Lighting

A pedestrian crosswalk will be installed (striped) on the south side of the relocated parking lot entrance, providing a designated crossing of State Route 1. Both a pedestrian hybrid beacon and overhead lighting will be placed at the crosswalk. Figure 1 shows a typical cross section at the proposed crosswalk, showing the pedestrian footpath, vehicle travel lanes, shoulders, and center median turn lane.

The pedestrian hybrid beacon is a traffic control device designed to help pedestrians cross higher-speed roadways at locations that are busy or not at typical intersections. The beacon head consists of two red lenses above a single yellow lens. The lenses remain "dark" until a pedestrian desiring to cross the highway pushes the call button to activate the beacon. The signal then initiates a yellow to red lighting sequence, consisting of steady and flashing lights that direct motorists to slow and come to a stop. The pedestrian signal then flashes a WALK display to the pedestrian. The light is timed to allow the pedestrians to cross, and then the hybrid beacon again goes dark.

An overhead light will extend above the pedestrian hybrid beacon, providing lighting focused on the crosswalk. The beacons and overhead lighting will be placed over both the northbound and southbound traffic lanes. The lighting will be directed towards the highway pavement area and is

not expected to affect areas off State Route 1. Placement of lighting and other features will be reviewed by the County for consistency with their Local Coastal Program.

Because State Route 1 curves north of the proposed crosswalk, and slightly impairs sight distance, an additional beacon will be installed over the southbound lane to warn motorists of the upcoming crosswalk. It will be located approximately 490 feet north of the crosswalk and consist of a set of flashing beacon lights (temporarily activated by the same call button noted above) and a pedestrian crossing sign. Similarly, an additional beacon will be installed over the northbound lane about 250 before the crosswalk, which also would only activate when the call button is pushed.

The Project's crosswalk and shoulder width will be available for bicyclists at the location of the proposed Project.

Signs, Warnings, and Pavement Striping

Various new traffic and warning signs will be installed along the shoulder of State Route 1. These are shown in Figure 1 and include yellow warning signs informing motorists to prepare to stop, green and white signs indicating the pedestrian crosswalks and to yield, electronic signs indicating motorists speeds, and a stop sign at the exit of the parking lot. For example, "Be Prepared to Stop" signs with flashing beacons would be installed in the north and southbound directions to alert motorists as they approach the crosswalk area. The shoulders and highway lanes will be restriped for the proposed improvements.

Public Access Features

The Project is designed to enhance public access to the Gray Whale Cove State Beach. This is a popular public coastal access location and has been in use for many years. This Project will formalize an already used but unmarked and uncontrolled pedestrian crossing of State Route 1 from the parking lot on the east side of State Route 1 to the beach on the west side.

Utility Connections

Utility connections will be necessary, which will be underground. There is an existing underground utility splice box near the entrance to the parking lot that will provide power. Three new above ground utility cabinets will be installed along the east side of State Route 1, in the shoulder area. These utility cabinets will house a new transformer, electrical service cabinet including an electric meter, and a signal equipment cabinet. The transformer cabinet will be surrounded by steel bollards (short posts about 2 to 3 feet high) to protect the equipment from a vehicle collision. The proposed utility cabinets are necessary to service the proposed pedestrian signal, lights, and warning beacons. Trenching will be necessary in the Caltrans shoulder

between the utility connection and service cabinets. The proposed utility connections can be completed within the existing State right-of-way.

Vegetation Removal

Most existing vegetation can be avoided except for the west side of State Route 1. It is anticipated that 5 trees will need to be removed and an additional 3 trees pruned or removed to provide sight distance and improved visibility for southbound vehicles approaching the crosswalk.

Grading, Earthwork, Drainage, and Parking

New grading will be minimal. However, widening of State Route 1 as well as installation of the pedestrian pathway and paved apron at the parking lot entrance will require excavation for installation of subsurface gravel and new pavement section.
Installation of the proposed overhead signals, relocated PG&E power pole, and light standards will require foundations, extending 7 to 14 feet in depth.

The existing parking lot may require minor incidental regrading or gravel resurfacing, but no new pavement would be added other than at the relocated entrance within Caltrans right-of-way. The size of the parking lot would remain approximately the same, which serves up to about 90 cars in the primary parking lot adjacent to State Route 1, and approximately an additional 25 cars in the adjacent overflow parking area to the north. Parking is informal (no designated spaces or striping). The necessary utility service cabinets and protective bollards may affect a small portion of the existing parking area (the equivalent of one or two spaces) in the primary lot, but at most times drivers will be able to accommodate the change by parking efficiently.

Additional gravel and grading of the parking lot may also be needed to correct or conform the surface elevation of the lot to match the driveway entrance, and to potentially smooth the surface elevation where minor compaction or erosion has resulted in poor drainage (puddles). Most of the grading would be within the Caltrans right-of-way, but incidental grading may extend into the portion of the parking lot area within State Parks.

Construction Staging

Equipment and materials will have to be temporarily staged during construction. It is anticipated that staging areas will be needed at the Gray Whale Cove State Beach parking lot within Caltrans right-of-way and are approximately defined on Figure 1. The total area is estimated to be 2,200 square feet and will be temporarily fenced off for use by the contractor. This will temporarily reduce the available parking area during construction. Work on or adjacent to the State Route 1 will involve periods of time when flagmen will have to close one of the travel lanes. This work will be coordinated with Caltrans and State Parks to be performed outside of the peak summer

months, will avoid weekends and holidays, and signs will be posted, and information made available informing the public about the Project and the construction schedule.

Project Schedule

The proposed schedule identifies environmental clearance in 2018, and construction to be accomplished within a three-month timeframe during the 2019 construction season (approximately September to November).

1.2. Air Quality Regulatory Framework

Table 1 shows that the proposed project is located in an area that is nonattainment for ozone and PM2.5. This report focuses on these criteria pollutant(s). The conformity process does not address pollutants for which the area is attainment/unclassified, mobile source air toxics, other toxic air contaminants or hazardous air pollutants, or greenhouse gases.

The project is in San Mateo County within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The project is within a relatively rural area of the San Mateo Coast, and prevailing winds from the ocean to the west generally maintain relatively good air quality conditions.

Air quality basins are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance for each criteria pollutant based on whether the federal and state air quality standards have been achieved. With respect to National Ambient Air Quality Standards (NAAQS), the SFBAAB is designated as a nonattainment area for ozone and PM2.5.

Table 1. Project Area Attainment Status

Criteria Pollutant	Federal Attainment Status
Ozone (O_3)	Nonattainment; 8-hour (Marginal)
Nitrogen Dioxide (NO_2)	Attainment
Carbon Monoxide (CO)	Maintenance[1]
Particulate Matter (PM10)	Attainment
Particulate Matter (PM2.5)	Nonattainment (Moderate)

[1] Transportation conformity requirements for CO ceased to apply after June 1, 2018 and CO hot spot analysis are no longer required for projects in the San Francisco-Oakland-San Jose CO maintenance areas.

1.3. Public Review Comments Related to Air Quality Conformity

Circulation for public comment was not required because the NEPA determination for this project is a Categorical Exclusion.

Section 2. Regional Conformity

The Gray Whale Cove Pedestrian Access Improvement Project is included in the San Francisco Bay Area Metropolitan Transportation Commission (MTC)'s 2019 Regional Transportation Plan (RTP) (ID #17-06-0020) and the Transportation Improvement Program (TIP) (ID # SM-170001) as "Highway 1 Congestion & Safety Improvements" which included a listing for a series of improvements on Highway 1, including a proposed "pedestrian crossing at Gray Whale Cove." The RTP and Air Quality Conformity Analysis was approved by MTC on September 26, 2018. The listing identifies the project's air quality status as "Exempt (40 CFR 93.127) – Intersection Channelization Projects" (exempt from regional air quality conformity) (see Appendix B).

The project's design concept and scope have not changed significantly from what was analyzed in the regional emission analysis. This analysis found that the plan, which takes into account regionally significant projects and financial constraint, will conform to the state implementation plan(s) (SIP(s)) for attaining and/or maintaining the National Ambient Air Quality Standards (NAAQS) as provided in Section 176(c) of the Clean Air Act. The 2019 TIP is included in Caltrans' 2019 Federal-Statewide Transportation Improvement Program (FSTIP) by reference. The 2019 FSTIP was approved by the State on November 2, 2018. FHWA and FTA approved the 2019 FSTIP on December 17, 2018.

Section 3. Localized Impact (Hot-Spot) Conformity

3.1. Carbon Monoxide Hot-Spot Analysis

Transportation conformity requirements for carbon monoxide (CO) no longer apply, as of June 1, 2018. Please refer to the attached letter from the US Environmental Protection Agency (EPA) dated March 21, 2018.

3.2. PM2.5/PM10 Hot-Spot Analysis

The proposed project is not considered a project of air quality concern for PM2.5 (POAQC) because it does not meet the definition of a POAQC as defined in U.S. EPA's Transportation Conformity Guidance:

- It is not a new or expanded highway project.

- It does not affect any existing or proposed intersections.
- It will not involve bus or rail terminals.
- The project is not in a location identified in possible violation of a PM2.5 implementation plan.

Based on the above, a PM hot-spot analysis is not required. The project has undergone Interagency Consultation (IAC) regarding the POAQC determination. It was determined that the project is not a POAQC on September 27, 2018. There are no meeting notes (this determination is listed in MTC's Fund Management System (FMS), and a copy is included in Appendix B).

3.3. Construction-Related Hot-Spot Emissions

40 CFR 93.123(c)(5) states that: "CO, PM10, and PM2.5 hot-spot analyses are not required to consider construction-related activities which cause temporary increases in emissions. Each site which is affected by construction-related activities shall be considered separately, using established 'Guideline' methods. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site."

Because construction of the project is expected to last less than five years, construction-related emissions related to it are not considered in the project-level or regional conformity analysis.

In order to reduce duplication and wasteful paper consumption, please refer to Attachment A of this report for the 100% project plans.

Appendix A. Transportation Air Quality Conformity Findings Checklist

Transportation Air Quality Conformity Findings Checklist

Project Name:	Gray Whale Cove Pedestrian Access Improvement Project		
Dist-Co-Rte-PM:.	04-SM-1-37.8/38.0	**EA:**	1Q130
Federal-Aid No.:			
Document Type:	☒ **23 USC 326 CE** ☐ **23 USC 327 CE** ☐ **EA** ☐ **EIS**		

Step 1. Is the project located in a nonattainment or maintenance area for ozone, nitrogen dioxide, carbon monoxide (CO), PM2.5, or PM10 per EPA's Green Book listing of non-attainment areas?

☐ If no, go to Step 17. **Transportation conformity does not apply to the project.**

☒ If yes, go to Step 2.

Step 2. Is the project exempt from conformity per 40 CFR 93.126 or 40 CFR 93.128

☐ If yes, go to Step 17. **The project is exempt from all project-level conformity requirements (40 CFR 93.126 or 128)** (check one box below and identify the project type, if applicable).

- ☐ 40 CFR 93.126 Project type: _____
- ☐ 40 CFR 93.128

☒ If no, **go** to Step 3.

Step 3. Is the project exempt from regional conformity per 40 CFR 93.127

☒ If yes, go to Step 8. **The project is exempt from regional conformity requirements (40 CFR 93.127)** (identify the project type). Project type: Intersection Channelization Project

☐ If no, go to Step 4.

Step 4. Is the project located in a region with a currently conforming RTP and TIP?

☐ If yes, t**he project is included in a currently conforming RTP and TIP per 40 CFR 93.115. The project's design and scope have not changed significantly from what was assumed in RTP conformity analysis (40 CFR 93.115[b])** Go to Step 8.

☐ If no and the project is located in an isolated rural area, go to Step 5.

☐ If no and the project is not located in an isolated rural area, STOP and do not proceed until a conforming RTP and TIP are adopted.

Step 5. For isolated rural areas, is the project regionally significant per 40 CFR 93.101, based on review by Interagency Consultation?

☐ If yes, go to Step 6.

☐ If no, go to Step 8. **The project, located in an isolated rural area, is not regionally significant and does not require a regional emissions analysis (40 CFR 93.101 and 93.109[l]).**

Step 6. Is the project included in another regional conformity analysis that meets the isolated rural area analysis requirements per 40 CFR 93.109, including Interagency Consultation and public involvement?

☐ If yes, go to Step 8. **The project, located in an isolated rural area, has met its regional analysis requirements through inclusion in a previously-approved regional conformity analysis that meets current requirements (40 CFR 93.109[l]).**

☐ If no, go to Step 7.

Step 7. The project, located in an isolated rural area, requires a separate regional emissions analysis.

☐ **Regional emissions analysis for regionally significant project, located in an isolated rural area, is complete. Regional conformity analysis was conducted that includes the project and reasonably foreseeable regionally significant projects for at least 20 years. Interagency Consultation and public participation were conducted. Based on the analysis, the interim or emission budget conformity tests applicable to the area are met (40 CFR 93.109[l] and 95.105).**[1] Go to Step 8.

Step 8. Is the project located in a CO nonattainment or maintenance area?

☒ If no, go to Step 9. **CO conformity analysis is not required.**

☐ If yes, **hot-spot analysis requirements for CO per the** CO Protocol (or per EPA's modeling guidance, CAL3QHCR can be used with EMFAC emission factors[2]) **have been met. Project will not cause or contribute to a new localized CO violation (40 CFR 93.116 and 93.123)[3].** Go to Step 9.

Step 9. Is the project located in a PM10 and/or a PM2.5 nonattainment or maintenance area?

☐ If no, go to Step 13. **PM2.5/PM10 conformity analysis is not required.**

☒ If yes, go to Step 10.

---

[1] The analysis must support this conclusion before going to the next step.

[2] Use of the CO Protocol is strongly recommended due to its use of screening methods to minimize the need for modeling. When modeling is needed, the Protocol simplifies the modeling approach. Use of CAL3QHCR must follow U.S. EPA's latest CO hot spot guidance, using EMFAC instead of MOVES; see: http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#co-hotspot.

[3] As of October 1, 2007, there are no CO nonattainment areas in California. Therefore, the requirements to not worsen existing violations and to reduce/eliminate existing violations do not apply.

Step 10. Is the project considered to be a Project of Air Quality Concern (POAQC), as described in EPA's Transportation Conformity Guidance for PM 10 and PM 2.5?

☒ If no, **the project is not a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Analysis Guidance. Interagency Consultation concurred with this determination on September 27, 2018**. Go to Step 12.

☐ If yes, go to Step 11.

Step 11. The project is a POAQC.

☐ **The project is a project of concern for PM10 and/or PM2.5 hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot-Spot Guidance. Interagency Consultation concurred with this determination on _____. Detailed PM hot-spot analysis, consistent with 40 CFR 93.116 and 93.123 and EPA's Hot-Spot Guidance, shows that the project would not cause or contribute to, or worsen, any new localized violation of PM10 and/or PM2.5 standards.** Go to Step 12.

Step 12. Does the approved PM SIP include any PM10 and/or PM2.5 control measures that apply to the project, and has a written commitment been made as part of the air quality analysis to implement the identified SIP control measures? [Control measures can be found in the applicable Federal Register notice at: https://www.epa.gov/state-and-local-transportation/conformity-adequacy-review-region-9#ca]

☐ If yes, **a written commitment is made to implement the identified SIP control measures for PM10 and/or PM2.5 through construction or operation of this project (40 CFR 93.117).** Go to Step 14.

☒ If no, go to Step 13.

Step 13a. Have project-level mitigation or control measures for CO, PM10, and/or PM2.5, included as part of the project's design concept and scope, been identified as a condition of the RTP or TIP conformity determination? AND/OR

Step 13b. Are project-level mitigation or control measures for CO, PM10, and/or PM2.5 included in the project's NEPA document?

AND

Step 13c (applies only if Step 13a and/or 13b are answered "yes")**.** Has a written commitment been made as part of the air quality analysis to implement the identified measures?

☐ If yes to 13a and/or 13b and 13c, **a written commitment is made to implement the identified mitigation or control measures for CO, PM10, and/or PM2.5 through construction or operation of this project. These mitigation or control measures are identified in the project's NEPA document and/or as conditions of the RTP or TIP conformity determination[1] (40 CFR 93.125(a)).** Go to Step 14.

☒ If no, go to Step 14

Step 14. Does the project qualify for a 771.117(c)(22), (c)(23), (c)(26), (c)(27), or (c)(28)[4] Categorical Exclusion pursuant to 23 USC 326 and is an Air Quality Conformity Analysis required to document any analysis required by Steps 1 through 13 of this form?[5]

☐ If yes, then Caltrans prepares the Air Quality Conformity Analysis and makes the conformity determination. No FHWA involvement is required. See the AQCA Annotated Outline. Go to Step 17.

☒ If no, go to Step 15.

Step 15. Does the project qualify for any Categorical Exclusion pursuant to 23 USC 326 (including 771.117(c)(22), (c)(23), (c)(26), (c)(27), or (c)(28) when NO Air Quality Conformity Analysis is required)?

☒ If yes, then no FHWA involvement is required and Caltrans makes the conformity determination through its signature on the CE form. **An Air Quality Conformity Analysis (AQCA) is not needed.** Go to Step 17.

☐ If no, go to Step 16.

Step 16. Does the project require preparation of a Categorical Exclusion, EA, or EIS pursuant to 23 USC 327?

☐ If yes, then Caltrans submits a conformity determination to FHWA for FHWA's conformity determination. **An AQCA is needed.** See the AQCA Annotated Outline.

Date of FHWA air quality conformity determination: _____

Go to Step 17.

Step 17. STOP as all air quality conformity requirements have been met.

Signature:

Printed Name: Jeff Zimmerman, AECOM **Date:** 12-20-2018

Title: Senior Project Manager

[4] Please note that certain activities covered by these categorical exclusions may require that Caltrans prepare an Air Quality Conformity Analysis rather than documenting the conformity determination with the Senior Environmental Planner's signature on the Categorical Exclusion form.

[5] Please note that for ALL projects the project file must include evidence that one of the three following situation applies: 1) Conformity does not apply to the project area; or 2) The project is exempt from all conformity analysis requirements; or 3) The project is subject to project-level conformity analysis (and possibly regional conformity analysis) and meets the criteria for a conformity determination. The project file must include all supporting documentation and this checklist.

Appendix B. MTC Air Quality Conformity Task Force Determination, TIP, and RTP

FMS Log in Version 4.1.4

Project Manager Report Manager Help Privacy Policy

VIEW PROJECT: **Hwy 1 Congestion & Safety improvements**

Project Search | Project Detail | Funding | Air Quality | Project Documents | Contacts | Delivery Milestones | Location | Screening Criteria | Com

Alternate ID Information

TIP ID	SM-170001	**FMS ID**	6307.00
CTIPS ID	20600006077	**RTP ID**	17-06-0020
Version	2	**TIP Revision No**	2019-00
Revision Type	Amendment	**RTP Page No**	
RTP Cycle	PLANBAYAREA2040	**RTP Project Cost**	$29
RTP Title	Hwy 1 operational and safety improvements in County Midcoast (acceleration/deceleration lanes; turn lanes; bike lanes; pedestrian crossings; and trails)		
Regional Approval Date	09/26/2018	**State Approval Date**	11/02/2018
Federal Approval Date	12/17/2018	**Final Approval Date**	12/17/2018

Status Information

Created	03/03/2018	**Last updated**	08/08/2018	**Status**	ACTIVE
Current version	No	**Locked**	No		
Completed	No	**Modified**		**Review Level**	PR

General Information

Project Name	Hwy 1 Congestion & Safety improvements		
Sponsor	San Mateo Co	**Implementing Agency**	San Mateo Co
Project Type	ENHANCEMENTS	**Purpose**	SYSTMGMT
Mode	BIKE/PED:60% | AUTO:40%		
Submode	AUTO:40% | BICYCLE:30% | PEDESTRIAN:30%		
Primary Mode	BIKE/PED:60%		
Primary Submode	AUTO:40%		
Transportation System	STATE HWY		
Description	In San Mateo County along 7 miles of Highway 1 between Pacifica in the north and Half Moon Bay in the south; Install raised medians, left turn lanes, acceleration lanes, and pedestrian crossings.		
Expanded Description	In San Mateo County along 7 miles of Highway 1 between Pacifica in the north and Half Moon Bay in the south; Install raised medians, left turn lanes, acceleration lanes, and pedestrian crossings. Implementation has been divided into phases. The first phase includes a left turn lane, acceleration lane and pedestrian crossing at Gray Whale Cove State Beach. Future phases include a left turn lane at Cypress Avenue in Moss Beach, a pedestrian crossing at Sixteenth Street, a pedestrian crossing and raised median at Virginia Avenue in Moss Beach, and a pedestrian crossing and raised median at Second Street. The proposed enhancements include features that reduce vehicular speed, manage turning movements, and enhance pedestrian and bicycle access.		
Reason for Revision	2019 TIP Update - Update funding plan		
Reason Type	4C		
Description of Change	2019 TIP Update - Update funding plan		
Transportation problem to be addressed	Currently there are limited designated crossings across Highway 1 in this area. These enhancements will provide improved access to the coastal areas and communities along either side of Highway 1, alleviating traffic congestion and improving pedestrian and bicycle crossings for residents and visitors.		

Primary Location Information

Location	San Mateo County Midcoast			
Area				
County	San Mateo			
Urbanized Area				
State Hwy	1			
Post Mile	**From**	30	**To**	38.31

FMS Log in Version 4.1.4

Project Manager Report Manager Help Privacy Policy

VIEW PROJECT: **Hwy 1 Congestion & Safety improvements**

Project Search | Project Detail | Funding | Air Quality | Project Documents | Contacts | Delivery Milestones | Location | Screening Criteria | Com

TIP ID	SM-170001	Status	ACTIVE	County	San Mateo	Project name	Hwy 1 Congestion & Safety improvements
FMS ID	6307.00	Version	2	Implementing Agency	San Mateo Co	Sponsor	San Mateo Co

Regional Conformity

Air Quality Code	Air Quality Description
5.01	EXEMPT (40 CFR 93.127) - Intersection channelization projects

☐ AQCTF Regional Conformity Review

Air Basin	Air District
San Francisco Bay Area	Bay Area AQMD

TCM	TCM Number	VOC	NOX	CO	PM10	PM2.5	CO2

Conformity Analysis Year	Regionally Significant
2020	

** Based on RTP ID of the project

Project Conformity

Overview: The San Francisco Bay Area has been designated as non-attainment for the 24-hour PM2.5 standard. Beginning December 14, 2010, certain projects are required to complete a PM2.5 hot-spot analysis as part of the project-level conformity determination process. Project sponsors must engage in interagency consultation on the PM2.5 hot-spot analysis through MTC's Air Quality Conformity Task Force. The Conformity Task Force will (1) determine if a project meets the definition of a project of air quality concern and if the project requires undergoing a project-level PM2.5 hot-spot analysis, and (2) review the methods, assumptions and analysis of the PM2.5 hot-spot analysis. The EPA and either FHWA or FTA must concur with the recommendations from the Conformity Task Force. Upon completion of the interagency consultation, project sponsors must seek approval from FHWA or FTA on the PM2.5 hot-spot analysis.

Project Conformity Analysis Summary

Next Step	Responsible Party
Project Conformity Analysis has been completed	

Milestone	Status	Comments
Step 1 - Project Identification		
Sponsor Input	Completed	
System Determination	Completed	Project exempt from regional air quality conformity 40 CFR 93.127:{Intersection channelization projects.}. However, this project may still require project level conformity and is therefore subject to interagency consultation. Please complete Step 2
Task Force Determination	Completed	Project is NOT a POAQC per the exemption code listed above Date of Consultation: 9/27/2018 Date of Action: 9/27/2018
Step 2 - Interagency Consultation	N/A	
Sponsor Input		
Task Force Determination		
Step 3 - PM 2.5 Hot Spot Analysis	N/A	
Sponsor Input		
Task Force Review		

FMS Log in Version 4.1.4

Project Manager Report Manager Help Privacy Policy

VIEW PROJECT: **Hwy 1 Congestion & Safety improvements**

Project Search | Project Detail | Funding | Air Quality | Project Documents | Contacts | Delivery Milestones | Location | Screening Criteria | Com

TIP ID	SM-170001	**Status**	ACTIVE	**County**	San Mateo	**Project name**	Hwy 1 Congestion & Safety improvements
FMS ID	6307.00	**Version**	2	**Implementing Agency**	San Mateo Co	**Sponsor**	San Mateo Co

RTP Information

RTP Details

RTP ID	17-06-0020
RTP Cycle	PLANBAYAREA2040
RTP Title	
RTP Project Cost	

Appendix C. US EPA – Conformity Requirements End for Carbon Monoxide Conformity

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 21 2018

Muhaned Aljabiry, Chief
Office of Federal Transportation Management Program
California Department of Transportation
1120 N Street, Rm 4400, MS-82
Sacramento, CA 95814

Dear Mr. Aljabiry:

The U.S. Environmental Protection Agency (EPA) is providing this letter to document that the transportation conformity requirements under Clean Air Action (CAA) section 176(c) for the Carbon Monoxide (CO) maintenance areas included in the table below will end on June 1, 2018. This date marks 20 years from the redesignation of the areas to attainment for the CO National Ambient Air Quality Standard (NAAQS)[1].

California Carbon Monoxide Maintenance Areas

Bakersfield	Chico
Fresno	Modesto
Lake Tahoe North Shore	Lake Tahoe South Shore
Sacramento	San Diego
San Francisco-Oakland-San Jose	Stockton

Under 40 CFR 93.102(b)(4) of the EPA's regulations, transportation conformity applies to maintenance areas through the 20-year maintenance planning period, unless the maintenance plan specifies that the transportation conformity requirements apply for a longer time period. Pursuant to CAA's section 176(c)(5) and as explained in the preamble of the 1993 final rule, conformity applies to areas that are designated nonattainment or are subject to a maintenance plan approved under CAA section 175A. The section 175A maintenance planning period is 20 years, unless the applicable implementation plan specifies a longer maintenance period[2]. The EPA further clarified this conformity provision in its January 24, 2008 final rule[3].

The approved maintenance plan for these areas did not extend the maintenance plan period beyond 20 years from redesignation. Consequently, transportation conformity requirements for CO will cease to apply after June 1, 2018 (i.e., 20 years after the effective date of the EPA's approval of the first 10-year maintenance plan and redesignation of the areas to attainment for the CO NAAQS). As a result, these areas' Metropolitan Planning Organizations may reference this letter to indicate that as of June 1, 2018,

1 *See* 63 FR 15305 (March 31, 1998) (approval of redesignation request and first 10-year maintenance plan) and 70 FR 71776 (November 30, 2005) (approval of second 10-year maintenance plan)
2 *See* 58 FR 62188, 62206 (November 24, 1993)
3 *See* 73 FR 4420, at 4434-5 (January 24, 2008)

transportation conformity requirements no longer apply for the CO NAAQS for Federal Highway Administration / Federal Transit Association projects as defined in 40 CFR 93.101. Even though the conformity obligation for CO has ended, the terms of the maintenance plans remain in effect and all measures and requirements contained in the plans apply until the state submits, and the EPA approves, a revision to the state plan[4]. Such a State Implementation Plan revision would have to comply with the anti-backsliding requirements of CAA section 110(l), and if applicable, CAA section 193, if the intent of the revision is to remove a control measure or to reduce its stringency.

If you have any questions about the transportation conformity requirements, please contact me at (415) 972-3183 or Karina O'Connor of my staff at (775) 434-8176.

Sincerely,

Elizabeth J. Adams

Elizabeth L. Adams
Acting Director, Air Division

cc: Rodeny Langstaff, Caltrans
Nesamani Kalandiyur, California Air Resources Board
Tasha Clemons, Federal Highway Administration
Stew Sonnenberg, Federal Highway Administration
Christina Leach, Federal Highway Administration
Ted Matley, Federal Transit Administration
Ahron Hakimi, Kern Council of Governments
Jon Clark, Butte County Association of Governments
Steve Heminger, Metropolitan Transportation Commission
James Corless, Sacramento Area Council of Governments
Kim Kawanda, San Diego Association of Governments
Tony Boren, Fresno Council of Governments
Rosa De Leon Park, Stanislaus Council of Governments
Andrew Chesley, San Joaquin Council of Governments
Joanne Marchetta, Tahoe Regional Planning Association

4 See *General Motors Corp. v. United States*, 496 U.S. 530 (1990)

AECOM
300 Lakeside Drive, Suirte 400
Oakland
CA, 94612

Project name:
Gray Whale Cove Pedestrian Access Improvement Project

From: Jeff Zimmerman

To:
Scott Kelsey, Senior Transportation Manager

Date:
December 21, 2018

Memo

Subject: **Noise Impact Review, Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County**

This memo summarizes a review of the Gray Whale Cove Pedestrian Access Improvement Project for noise impacts.

San Mateo County in cooperation with the California Department of Transportation (Caltrans) proposes a pedestrian access improvement project on State Route 1 in San Mateo County at Gray Whale Cove State Beach. The project will add a pedestrian crosswalk across State Route 1, install pedestrian hybrid beacons and utility/service cabinets, widen pavement for a left turn lane and acceleration lane, relocate and improve the parking lot entrance, and install overhead lighting, overhead signs and roadside signs. The project is located within existing Caltrans right-of-way. Areas outside of the Caltrans right-of-way are owned and managed by the California Department of Parks and Recreation. Figure 1 shows the project location and layout.

The location of the project on State Route 1 is rural, with steep slopes and no developed land uses at or near the project location other than the two-lane highway, the Gray Whale Cove parking areas, hiking trails, and pedestrian dirt pathways alongside the highway and leading to the beach.

Type of Project
The project is not a “Type I,” as defined in 23 CFR 772 and the Caltrans Traffic Noise Protocol. The proposed installation of a crosswalk, associated signals and signage, and left turn lane at the parking lot entrance would not change the traffic flow or volume on State Route 1. No new through lanes are proposed. There would be no substantial changes in vertical or horizontal alignment of the traffic lanes, only restriping for the left turn lane and acceleration lane. No changes in traffic noise levels would occur.

Noise Sensitive Receptors
There is no seating or viewing areas at the project site where people spend extended time, and no such facilities are proposed with the project. However, the parking lot is open for public use from 8 am to sunset and provides access to the adjacent State Parks recreational areas. For example, a trail to the west connects to the Gray Whale Cove State Beach. On the eastern side of the parking lot is a trailhead for the Gray Whale Cove trail that leads south. At the northern end of the parking area an unpaved road extends to former State Park housing (now abandoned); this northern unpaved road is a segment of a planned Green Valley trail, also labeled “North Trail.” Where these trails join the parking lot they are considered the nearest “sensitive receptors” with respect to construction noise. There are no residences or other noise sensitive receptors within this rural area of State Route 1.

Project Construction
Project construction would introduce temporary noise for site preparation and installation of the signals, lights, and pavement for the turn lanes and parking entrance. It is anticipated that construction would occur over approximately 3 months, or slightly longer depending on the contractors schedule and weather. Construction would in stages, with some possible overlap. For purposes of evaluating construction noise, these stages consist of:

- Site preparation activities such as equipment staging, delivery of materials, excavation of trenches, and installation and connections for subsurface utilities and power.
- Installation of utility and service cabinets (including concrete pads and safety bollards), installation of signals and lights (including foundations) and paving of the shoulders and turn lanes.
- Tree removal or pruning (affecting 5 to 8 trees, for sight distance in the southbound direction).
- Paving of the relocated parking lot entrance, minor grading potentially needed for parking lot drainage, and installation of metal beam guardrails.

Construction Noise

Representative construction equipment and vehicles may involve trucks (flatbed, concrete and pavement delivery, pickups, and dump trucks), excavators, backhoes, compressors, pumps, trailers, compactors, and a crane (to install lights and beacons). Table 1 summarizes the calculated worst-case noise levels during construction with respect to the trailhead locations at the perimeter of the parking area.

Table 1 – Worst-Case Construction Noise Levels at Nearest Sensitive Receptors[1]

Construction Phase	Approximate Distance to Nearest Receptor (trailheads) (feet)	Construction Noise Levels	
		dB L_{eq}	dBA L_{max}
Site Preparation, Trenching, Utilities	100-150	77.5	75.6
Install Equipment, Lighting, Signals	100-150	78.0	77.2
Tree Removal/Pruning	200+	67.9	71.9
Paving, Striping, Barrier, De-Mobilization	100-150	77.2	77.2

Source: Roadway Construction Noise Model (RCNM), Federal Highway Administration (FHWA) 2006

Table 1 shows that worst-case maximum levels might rise up to 78 dBA during short periods of time at the nearest sensitive receptor locations. As individuals leave the parking area and use the trails, construction noise levels will decline with distance from the construction noise source, and therefore the worst-case levels will only be experienced when visitors are leaving or arriving at the trailhead or parking lot. Noise levels will also vary as a function of the construction activity, as activities move from one location to another within the construction area. Because this project is limited to installation of signals, lighting, trenching for electrical connections, installation of equipment boxes, and limited grading and paving, this project would not require extended noise-intensive construction (such as concrete removal, demolition, or pile driving). There would be no construction activities near the beach, which is the destination for most people visiting Gray Whale Cove. Because construction noise would be temporary and intermittent, would not involve equipment that generates highly intensive noise levels, and would avoid the peak visitor season (summer months), project construction activities are not considered a significant impact that would affect continued visitor use or enjoyment of the Gray Whale Cove State Beach facilities.

Construction noise control measures would be required of the contractor. These would include:

- All construction equipment should conform to Section 14-8.02, Noise Control, of the latest Standard Specifications.
- Construction equipment will be limited to the Caltrans right-of-way, away from the trail heads on the eastern side of the parking area.
- Equip all internal combustion engine equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.

[1] The nearest trailheads where each trail joins the parking area were used as worst-case sensitive receptor locations. These locations are within 100 to 200 feet of the proposed construction activities (the distance to the equipment staging area is about 100 feet from the trailheads, while the tree removal/trimming work would be about 200 feet of more).

- Unnecessary idling of internal combustion will be avoided or minimized.
- Pile driving activities are not planned or anticipated.

References Cited:

Federal Highway Administration (FHWA). 2006 (January). Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. Washington, DC.

In order to reduce duplication and wasteful paper consumption, please refer to Attachment A of this report for the 100% project plans.

1. GWC Site Prep Phase.txt - Notepad

File Edit Format View Help

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/02/2018
Case Description: 1) GWC Site Preparation Phase

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
GWC Parking Lot Trailhead	Residential	60.0	50.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Dozer	No	40		81.7	100.0	0.0
Dump Truck	No	40		76.5	100.0	0.0
Excavator	No	40		80.7	150.0	0.0
Flat Bed Truck	No	40		74.3	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	71.2	67.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	68.2	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	69.0	65.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	75.6	77.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2. GWC Equipment Install Phase.txt - Notepad

File Edit Format View Help

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/02/2018
Case Description: 2) GWC Equipment Install Phase

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
GWC Parking Lot Trailhead	Residential	60.0	50.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Crane	No	16		80.6	150.0	0.0
Dozer	No	40		81.7	100.0	0.0
Dump Truck	No	40		76.5	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	71.0	63.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dump Truck	70.4	66.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	69.0	65.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.2	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

3. GWC Tree Removal Phase.txt - Notepad

File Edit Format View Help

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/02/2018
Case Description: 3) GWC Tree Removal Phase

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
GWC Parking Lot Trailhead	Residential	60.0	50.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Chain Saw	No	20		83.7	200.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA) Day		Evening		Night		Noise Limit Exceedance (dBA) Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Chain Saw	71.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	69.0	65.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.7	67.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4. GWC Pave & Barrier Phase.txt - Notepad

File Edit Format View Help

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/02/2018
Case Description: 4) GWC Pavement and Barrier Phase

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
GWC Parking Lot Trailhead	Residential	60.0	50.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	100.0	0.0
Compressor (air)	No	40		77.7	100.0	0.0
Concrete Mixer Truck	No	40		78.8	100.0	0.0
Flat Bed Truck	No	40		74.3	100.0	0.0
Generator	No	50		80.6	100.0	0.0
Paver	No	50		77.2	100.0	0.0
Pickup Truck	No	40		75.0	100.0	0.0
Roller	No	20		80.0	150.0	0.0

Results

			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
	Calculated (dBA)		Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compactor (ground)	77.2	70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	68.2	64.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	69.0	65.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	70.5	63.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.2	77.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

100% TRANSPORTATION MANAGEMENT PLAN

January 17, 2019

Gray Whale Cove Pedestrian Access Improvement Project

04-SM-1-37.8/38.0

The final version of this report shall be included in the R.E. File.

This Transportation Management Plan has been prepared under the direction of the following registered civil engineer.

_____ _____

Prepared by DATE

REGISTERED CIVIL ENGINEER
Scott Kelsey, P.E.
AECOM
100 W. SAN FERNANDO STREET, SUITE 200
SAN JOSE, CA 95113
(408) 297-8415

Transportation Management Plan reviewed by:

_____ _____

TMP Coordinator DATE

Gray Whale Cove Pedestrian Access Improvement Project

TABLE OF CONTENTS

1. PROJECT DESCRIPTION

San Mateo County in cooperation with the California Department of Transportation (Caltrans) proposes a pedestrian access improvement Project (Project) on State Route 1 in San Mateo County at Gray Whale Cove State Beach. The Project will add a pedestrian crosswalk across State Route 1, install pedestrian hybrid beacons, widen pavement for left turn lane and acceleration lane, relocate and improve the parking lot entrance, and install overhead lighting, overhead signs and roadside signs. The Project is located within existing Caltrans right-of-way except for utility connections. Areas outside of the Caltrans right-of-way are owned and managed by the California Department of Parks and Recreation. Figure 1 shows the Project location and layout.

The project was initially identified in the Highway 1 Safety and Mobility Improvement Study Phase 2. This study was completed in 2012 and adopted by the San Mateo County Board of Supervisors in November 2012.

The Project is included in the Metropolitan Transportation Commission's (MTC's) Regional Transportation Plan (RTP) Plan Bay Area 2040 under a larger corridor project called the "Highway 1 operational and safety improvements in County Midcoast (acceleration/deceleration lanes; turn lanes; bike lanes; pedestrian crossings; and trails)" (RTP ID 17-06-0020).

San Mateo County is the sponsor and California Environmental Quality Act (CEQA) lead agency for the Project. San Mateo County Transportation Authority (SMCTA) is the implementing agency for the design process while Caltrans will be the implementing agency for construction.

1.1 Location and Route Description

State Route 1 in San Mateo County is generally a two-lane undivided road (1-lane in each direction) with turn lanes at some locations. The recently constructed Tom Lantos Tunnel at Devils Slide is located to the north of the Project, and the community of Montara is to the south. In the vicinity of the Project, State Route 1 offers scenic views of the coast, with occasional vehicle pullouts, but is not a designated Scenic Highway at this location. The Project is within the California Coastal Zone.

State Route 1 is at an elevation of about 150 feet above sea level at the existing Gray Whale Cove State Beach parking lot located on the east side (northbound side) of State Route 1. This lot provides parking for the Gray Whale Cove State Beach and hiking trails. To access the State Beach, people park their cars in the crescent shaped parking area on the east side of

State Route 1 and walk across the highway to access the beach entrance on the west side of State Route 1. Other than one warning sign for a pedestrian crossing in the southbound direction, there are no other existing signs, crosswalks, or pavement markings at this location to aid pedestrians crossing State Route 1, or to warn on-coming vehicles of pedestrian presence.

State Route 1 is used as a regional bike route. In the immediate area of the project, the highway has paved shoulders that bicyclists use in both the northbound and southbound directions. The beach is not readily accessible by bikes due to the relatively steep path, stairway and unpaved trail.

1.2 Purpose and Need

The purpose of the proposed Project is to:

- Enhance pedestrian access across State Route 1 between Gray Whale Cove State Beach and the parking area.
- Improve vehicle access and vehicle turning movements entering and exiting State Route 1 at the Gray Whale Cove State Beach parking area.

Need

Within the Project limits, there is no designated highway crossing location available to users. A high volume of visitors frequent the area, especially on weekends. The existing parking lot at Gray Whale Cove State Beach is located on the opposite side of the highway from the coast, requiring pedestrians and bicyclists to cross State Route 1 and walk along the roadway shoulder to access points of attraction including the State Beach, hiking and biking trails. The presence of motorists traveling at high speeds through the Gray Whale Cove Beach area, and a lack of pedestrian facilities make crossing State Route 1 to access the State Beach challenging, especially during peak hours of traffic. The parking area is located between two curves. The limited available sight distance reduces the visibility for drivers approaching the curve. The Project is needed to:

- Provide a designated pedestrian crossing with a pedestrian and vehicular traffic control device.
- Promote drivers' awareness of a transition from open highway conditions to an area of increased pedestrian activity.
- Improve visibility of pedestrians and bicyclists crossing State Route 1.
- Minimize traffic backups on State Route 1 caused by traffic movements into and out of the parking lot area.

1.3 Proposed Project/ Improvements

The proposed project would include the following improvements as part of its design as shown in the exhibit included in Appendix A:

- Provide marked crosswalk with Pedestrian Hybrid Beacon (PHB);
- Provide programmed controller to control number of pedestrian activations per hour;
- Install advanced warning signs and loop detectors for the proposed PHB;
- Install pavement markings;
- Install overhead lighting;
- Improve parking lot driveway ingress/egress by providing the southbound left-turn pocket lane, acceleration lane, pavement markings and signs.

Project Vicinity Map

The proposed schedule identifies environmental clearance by approximately February 2019 and construction to be accomplished within a three-month timeframe during the 2019 construction season (April to November). The estimated construction cost of this project is $1.43M.

Higher traffic is expected in the project area during the weekend and holidays. Based on 24-hour Traffic Volumes collected from Year 2017, the maximum daily volume within the study area on Highway 1 in the northbound direction is approximately 9,012 vehicles per day (vpd), and approximately 9,442 vpd in the southbound direction.

Construction activities can create significant additional traffic delay and safety concerns on already congested highways during construction. Planning work activities and balancing traffic demand with highway capacity becomes more critical during construction or maintenance. In order to prevent unreasonable traffic delays resulting from planned work, Transportation Management Plans (TMPs) must be carefully developed and implemented in order to maintain acceptable levels of service and safety during all work activities on the state highway system.

A TMP is a method for minimizing activity-related traffic delay and accidents by the effective application of traditional traffic handling practices and an innovative combination of public and motorist information, demand management, incident management, system management, construction strategies, alternate routes and other strategies. TMP share the common goal of congestion relief during the project period by managing traffic flow and balancing traffic demand with highway capacity through the project area, or by using the entire corridor.

Department Deputy Directive 60 (DD-60) titled Transportation Management Plans requires TMPs and contingency plans for all state highway activities. The Department minimizes motorist delays when implementing projects or performing other activities on the state highway system. This is accomplished without compromising public or worker safety, or the quality of the work being performed. TMPs, including contingency plans, are required for all construction, maintenance, encroachment permit, planned emergency restoration, locally or specially-funded, or other activities on the state highway system. As per the department guidelines major lane closures are those that are expected to result in significant traffic impacts despite the implementation of TMPs. Significant traffic impact is 15 minutes above normal recurring traffic delay on the existing facility or the delay threshold set by the District Traffic Manager (DTM), whichever is less. Contingency Plans address specific actions that will be taken to restore or minimize effects on traffic

when congestion or delays exceed original estimates due to unforeseen events such as work-zone accidents, higher than predicted traffic demand, or delayed lane closures.

2. CONSTRUCTION STAGING AND POTENTIAL IMPACTS

2.1 Temporary Lane Closures

Equipment and materials will have to be temporarily staged during construction. It is anticipated that staging areas will be needed at the Gray Whale Cove State Beach parking lot within Caltrans right-of-way; the total area is estimated to be 2,200 square feet and will be temporarily fenced off for use by the contractor. This will temporarily reduce the available parking area during construction. Work on or adjacent to the State Route 1 will involve periods of time when flagmen will have to close one of the travel lanes. The length of the closure is the entire study area limit (which is less than a mile). Flagger method cannot be used because of the curve and sight distance issues. Flag transfer method or pilot car method can be used, and vehicles may not be stopped for more than 5 minutes in each direction. This work will be coordinated with Caltrans and State Parks, will avoid weekends and holidays, and signs will be posted and information made available informing the public about the Project and the construction schedule.

The project Stage Construction Plans are attached in Appendix A, and proposed lane closure charts and traffic volumes are included in Appendix B.

2.2 Roles and Responsibilities

The roles and responsibilities/TMP cost estimate for the Project are shown in Table 1.

TMP Checklist and Project Cost Estimate are included in Appendix C.

TABLE 1 - Roles and Responsibilities / TMP Cost Estimate

No.	Transportation Management Measure	Responsible Agency	Action Required	Cost	Comments
1	COZEEP	CHP	Increase CHP presence during freeway closures	$7.5 K	Included in PS&E
2	Construction Area Signs	Contractor	Provide warning information to motorists.	$5 K	Included in PS&E
3	Changeable Message Signs	Contractor	Provide portable CMSs announcing delays, detours, and upcoming construction. Message content and deployment supervised by RE.	$15 K	Included in PS&E
4	Press releases	Caltrans, County of San Mateo	Provide project and construction information through media.	$10 K	Included in PS&E
5	Telephone Hotline	Caltrans, County of San Mateo	Provide construction information to public by TRAVINFO operated by Caltrans and County Telephone Hotline for the Project.	See notes*	No additional cost
6	Traveler Information System	Caltrans	Provide real time traffic information on Caltrans' website.	See notes*	No additional cost
7	County of San Mateo Community Outreach	County of San Mateo	Provide up to date project information on County website.	See notes*	No additional cost
8	Maintain Traffic	Caltrans	Provide Flagging and Traffic Handling Equipment	$5 K	Included in PS&E
9	Late Lane Closure Pick Up	Contractor	When lane closures are not picked up in adherence with contact document lane closure charts-cost per SSP 12-4.03	$1 K/10 minutes of delay	Costs for late lane openings of lane closure
Total				$42.5 K	

Note: * = Items 5, 6, 7 are included in Item 4.

3. TRANSPORTATION MANAGEMENT PLAN STRATEGIES

This section describes possible TMP strategies to mitigate construction-related traffic delays. The TMP strategies are of a general nature and mitigate the overall level of congestion. The course of TMP action can be grouped into four broad transportation management strategies:

- Public Information
- Motorist Information Strategies
- Incident Management
- Construction Strategies

Traffic management strategies that require action by the construction contractor presented in detail in the special provisions. Traffic management strategies that are to be implemented by County of San Mateo appear only in the TMP and are not included in the contract Technical Specifications.

3.1 Public Information

3.1.1 Telephone Hotlines

Through a recorded message, the hotline will provide information about detours, closures and other construction related information. At a minimum, hot line recordings will include a brief description of ongoing or imminent construction activity, hours of impact and detours.

3.1.2 Traveler Information System (Internet)

The message provided via telephone hotlines will be posted on the Caltrans and TravInfo website, in addition to real time traffic information.

3.1.3 County of San Mateo Community Outreach

Provide up to date project information on the City of Redwood City's website and via Telephone Hotline.

3.1.4 Press Release

Project and construction information will be released to the press through Caltrans Public Information Office.

3.2 Motorist Information Strategies

The motorist information system is intended to provide advance notice regarding potential delays and/or available or lane and intersection approach closures during construction throughout the project. The strategies include two measures: Changeable Message Signs (CMS) and Stationary Mounted Signs.

3.2.1 Changeable Message Signs (CMS)

The function of Changeable Message Signs (CMS) is to alert drivers to changing travel conditions in the construction zone such as congestion and to improve their opportunity to change routes or adjust travel plans. CMS's can also be used to announce upcoming lane or street closures. Messages should conform to Caltrans guidelines. The Project Construction Manager (CM) is responsible for monitoring message content and CMS deployment. At least one portable CMS should be utilized for every lane and/or street closure. A contract item has been provided in the PS&E package requiring the Contractor to furnish these CMS signs.

3.2.2 Stationary Mounted Signs

Stationary mounted construction and warning signs provide information about immediate road conditions to motorists. The Project Construction Manager may provide input regarding numbers and types of signs needed. The PS&E package has incorporated stationary mounted construction and warning signs.

3.3 Incident Management

The incident detection and response system include the Construction Zone Enhanced Enforcement Program (COZEEP).

The COZEEP program involves the presence of the California Highway Patrol (CHP) in the construction zone, providing enforcement of speed restriction and for a faster incident response.

It is recommended that a COZEEP program be established. Enhanced enforcement would most likely be used during lane closures but could be invoked at other times at the discretion of the CM. The total COZEEP cost for the project is estimated to be approximately $7,500.

3.4 Construction Strategies

Construction strategies are implemented for projects regardless of whether a TMP is prepared. One of the primary considerations in planning and staging construction projects is to minimize the impact of the construction activity on traffic circulation. The manner in which construction is staged is the first strategy employed to minimize disruption to traffic through the construction zone and of adjacent neighborhoods. One of the key features of stage construction is scheduling work to minimize impacts to traffic by the provision of alternate routes.

3.4.1 Construction Access to Work Zones

To avoid any potential unsafe access to the freeway from the construction zones, the Contractor will be required to prepare and submit a plan that addresses access of construction equipment to work zones. Ingress and egress of construction trucks will be regulated when exiting and entering the work areas to and from Highway 1 within the project limits.

3.4.2 Contingency Plan

The contractor will be required to submit a contingency plan for reopening closures to public traffic, at least one week prior closure, or any critical operation identified by the CM for each construction project. The traffic control plan shall contain a detailed contingency plan to ensure opening of the roadway by the designated time. During construction activities requiring roadway closures, the contractor shall provide appropriate personnel to monitor activities and make decisions regarding activation of contingency plans. As soon as it becomes evident during any construction activity that it will not be possible to complete that activity and remove the closure at the designated time, that activity shall be halted and postponed until a later date.

The contingency plan shall identify key operational decision points with a timeline listing the expected completion time of each critical path activity. Clearly defined trigger points shall be identified with each critical path activity to establish when the contingency plan will be activated. The plan will list and describe any and all standby equipment and secondary material suppliers, and be available to complete the operations in the event of equipment failure, unexpected loss of material, or unexpected uselessness of material.

A decision tree with clearly defined lines of communication and authority shall be provided in the contingency plan by the contractor. For each construction project, the names, telephone numbers and cell phone numbers of the Contractor's Project Manager, Local Authority's CM, Caltrans Permit and/or Construction Oversight Resident Engineer / Senior Engineer, District 4 Traffic Management Center, CHP Area Commander, Emergency Services, and other

applicable personnel shall be provided. Appropriate communication equipment will be provided and procedures established to communicate between each other during the entire construction period, especially whenever emergency events happen.

3.4.3 Emergency Detour Plan

In coordination with Caltrans and local jurisdiction, emergency service routes within the project area will be identified as field conditions require and as per the Contractor. Typically, emergency detour routes serve hospitals, fire/police stations, emergency shelters, command centers and other facilities that provide essential services in times of emergencies, either natural or man-made. Emergency response agencies will be notified in advance prior to any change in traffic control that can affect the agency. Any planned closures or interruptions on designated emergency service routes will be notified and coordinated with appropriate emergency service providers by the Contractor.

3.4.4 Emergency Notification Plan

The Contractor will be required to submit an emergency notification plan one month before the start of construction activities for the project. The emergency notification plan shall identify the persons to be contacted in case of emergency. The plan should provide the name, contact numbers, and their responsibilities. The plan should also identify the telephone numbers of the potential organizations and contacts in the event of an emergency. Upon notification of the occurrence of an emergency situation requiring response, the involved organizations will implement their respective emergency plan and procedures.

4. TMP COORDINATION AND REVIEW

Local authorities including the MTC, County of San Mateo and Caltrans will work closely with the contractor on all stages of construction. The staffs from the local authorities are to be notified of any expected conflicting lane closures in advance of the actual closure and local authority staffs, together with the Contractors, will discuss potential conflicts in closures and options for mitigating the conflict. However, it is the Contractors' responsibility to coordinate their work and resolve the issue regarding closures.

It is expected that a focal person for TMP coordination will be appointed by the CM for each construction project and be stationed at the construction office. The TMP coordinator will be coordinating meeting and closure requests under direction of the CM for each construction project. The rules and responsibility of a TMP coordinator include:

1. The TMP coordinator will gather and disseminate the lane closures information and identify conflicts and lead coordination meetings.

2. The TMP coordinator will conduct mandatory TMP coordination meetings weekly with the CM and Contractor to discuss coordination of conflicts and future planned closures. The mandatory coordination meetings should be attended by representatives of all stake holder such as project CM's, local agency representatives, and Contractors (Prime/Sub) that are doing work that is impacting traffic. They shall be able to answer questions regarding operations and possible solutions to conflicts that will not impact traffic or their operation.

APPENDIX A
PROJECT IMPROVEMENTS AND STAGE CONSTRUCTION PLANS

In order to reduce duplication and wasteful paper consumption, please refer to Attachment A of this report for the 100% project plans.

APPENDIX B
TRAFFIC VOLUMES AND LANE CLOSURE CHARTS

EXISTING (2017) VOLUMES

1. ON CABRILLO HIGHWAY (HWY-1) NORTH OF GRAY WHALE COVE PARKING LOT

NB

Day		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24hr Total
Date / Day		100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	
Monday	11/13/2017	29	22	11	19	49	162	447	782	590	493	463	396	414	482	461	459	389	408	343	207	143	89	73	54	**6,985**
Tuesday	11/14/2017	21	7	13	18	51	171	462	832	575	585	481	403	444	429	421	451	482	512	354	242	147	144	91	58	**7,394**
Wednesday	11/15/2017	22	14	14	15	66	172	425	792	629	553	486	450	389	418	422	419	439	418	398	228	143	116	86	46	**7,160**
Thursday	11/16/2017	19	12	17	17	52	171	431	813	603	569	483	427	417	422	422	435	460	465	377	235	142	120	84	54	**7,247**
Monday-Thursday (Highest)		29	22	17	19	66	172	462	**832**	629	585	486	450	444	482	461	459	482	512	398	242	147	144	91	58	**7,394**
Friday	11/17/2017	22	15	17	17	59	171	400	**768**	616	547	485	491	560	604	610	650	728	639	420	242	189	159	116	79	**8,604**
Saturday	11/18/2017	44	34	24	16	39	96	242	433	426	465	506	643	666	694	735	771	**821**	732	529	347	246	212	169	122	**9,012**
Sunday	11/12/2017	62	47	29	12	27	34	97	171	266	367	570	619	690	710	751	811	**833**	753	481	306	218	147	88	70	**8,159**

SB

Day		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24hr Total
Monday	11/13/2017	38	23	19	10	12	60	161	270	353	392	417	437	506	512	537	598	721	740	536	399	269	208	146	91	**7,455**
Tuesday	11/14/2017	31	24	13	15	20	60	151	300	344	369	421	508	482	496	566	721	740	752	703	434	316	268	171	107	**8,012**
Wednesday	11/15/2017	39	25	14	11	19	55	141	268	360	363	365	404	428	460	502	613	751	752	624	460	301	247	149	96	**7,447**
Thursday	11/16/2017	40	30	21	14	19	36	128	266	324	305	336	377	412	416	468	588	760	670	612	488	295	240	224	122	**7,191**
Monday-Thursday (Highest)		40	30	21	15	20	60	161	300	360	392	421	508	506	512	566	721	**760**	752	703	488	316	268	224	122	**8,012**
Friday	11/17/2017	78	33	12	9	20	55	142	275	323	379	425	539	506	622	658	753	**824**	810	658	458	317	248	241	149	**8,534**
Saturday	11/18/2017	105	52	44	25	21	64	146	219	391	562	684	841	840	**888**	841	850	766	559	402	289	241	221	228	163	**9,442**
Sunday	11/12/2017	69	65	37	23	25	71	127	179	281	458	613	831	**849**	835	810	780	626	537	374	284	218	170	131	84	**8,477**

Total - Both Directions

Day	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24hr Total
Monday-Thursday (Highest)	69	52	38	34	86	232	623	1132	989	977	907	958	950	994	1027	1180	1242	**1264**	1101	730	463	412	315	180	**15,406**
Friday	100	48	29	26	79	226	542	1043	939	926	910	1030	1066	1226	1268	1403	**1552**	1449	1078	700	506	407	357	228	**17,138**
Saturday	149	86	68	41	60	160	388	652	817	1027	1190	1484	1506	1582	1576	**1621**	1587	1291	931	636	487	433	397	285	**18,454**
Sunday	131	112	66	35	52	105	224	350	547	825	1183	1450	1539	1545	1561	**1591**	1459	1290	855	590	436	317	219	154	**16,636**

Replace *Reserved* in section 12-4.02C(3)(k) with:

Comply with the requirements for the conventional highway lane closures shown in the following chart:

Chart No. K1
Conventional Highway Lane Requirements

County: SM	Route/Direction: SR-1/ Both NB and SB	Post Mile:37.80-38.10

Closure limits: Gray Whale Cove State Beach and Hiking Trails Parking Area

Hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon–Thu	R	R	R	R																		R	R	R	R
Fri	R	R	R	R																			R	R	R
Sat	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sun	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Legend:

R	Provide at least 1 through traffic lane not less than 10 feet in width for use by both directions of travel. (Reversing Control)
N	No work is allowed.
	Work is allowed within the highway where a shoulder or lane closure is not required.

REMARKS:

APPENDIX C
PROJECT ESTIMATE AND TMP CHECKLIST

PRELIMINARY ESTIMATE OF COST

IN SAN MATEO COUNTY IN MONTARA ON ROUTE 1 FROM 0.6 MILE NORTH OF MONTARA MOUNTAIN TRAILHEAD TO 0.6 MILE SOUTH OF TOM LANTOS TUNNELS

DATE 1/15/2019

Dist-Co-Rte-PM

04-SM-1-37.8/38.0

Gray Whale Cove Pedestrian Access Improvement Project

COMBINED ESTIMATE

SOURCE OF FUNDS

100% PS&E Submittal

Item No.	Item Code			Item Description	Unit	Estimated Quantity	Unit Price	Item Total
1	070030			Lead Compliance Plan	LS	1	$ 2,000.00	$ 2,000
2	100100			Develop Water Supply	LS	1	$ 2,000.00	$ 2,000
3	120090			Construction Area Signs	LS	1	$ 5,000.00	$ 5,000
4	120100			Traffic Control System	LS	1	$ 10,000.00	$ 10,000
5	120165			Channelizer (Surface Mounted)	EA	5	$ 75.00	$ 375
6	128652			Portable Changeable Message Sign (LS)	LS	1	$ 15,000.00	$ 15,000
7	129000			Temporary Railing (Type K)	LF	1,100	$ 10.00	$ 11,000
8	129100			Temporary Crash Cushion Module	EA	14	$ 230.00	$ 3,220
9	129101A			Temporary Alternative Crash Cushion	EA	2	$ 231.00	$ 462
10	130100			Job Site Management	LS	1	$ 30,000.00	$ 30,000
11	130200			Prepare Water Pollution Control Plan	LS	1	$ 5,000.00	$ 5,000
12	130505			Move-In/Move-Out (Temporary Erosion Control)	EA	2	$ 1,500.00	$ 3,000
13	130530			Temporary Hydraulic Mulch (Bonded Fiber Matrix)	SQYD	82	$ 1.50	$ 123
14	130570			Temporary Cover	SQYD	100	$ 5.00	$ 500
15	130620			Temporary Drainage Inlet Protection	EA	5	$ 150.00	$ 750
16	130640			Temporary Fiber Roll	LF	230	$ 2.50	$ 575
17	130680			Temporary Silt Fence	LF	500	$ 4.00	$ 2,000
18	130710			Temporary Construction Entrance	EA	4	$ 3,200.00	$ 12,800
19	130730			Street Sweeping	LS	1	$ 4,000.00	$ 4,000
20	130900			Temporary Concrete Washout	LS	1	$ 5,000.00	$ 5,000
21	141103			Remove Yellow Thermoplastic Traffic Stripe (Hazardous Waste)	LF	760	$ 7.00	$ 5,320
22	141120			Treated Wood Waste	LB	3,630	$ 20.00	$ 72,600
23	170103			Clearing And Grubbing (LS)	LS	1	$ 5,000.00	$ 5,000
24	190101			Roadway Excavation	CY	910	$ 140.00	$ 127,400
25	203026			Move-In/Move-Out (Erosion Control)	EA	2	$ 700.00	$ 1,400
26	210610			Compost (CY)	CY	30	$ 242.00	$ 7,260
27	210630			Incorporate Materials	SQFT	2,420	$ 0.70	$ 1,694
28	210270			Rolled Erosion Control Product (Netting)	SQFT	2,420	$ 2.00	$ 4,840
29	210300			Hydromulch	SQFT	2,420	$ 0.30	$ 726
30	210350			Fiber Rolls	LF	640	$ 6.00	$ 3,840
31	210430			Hydroseed	SQFT	2,420	$ 0.50	$ 1,210
32	260203			Class 2 Aggregate Base (CY)	CY	610	$ 205.00	$ 125,050
33	390132			Hot Mix Asphalt (Type A)	TON	340	$ 250.00	$ 85,000
34	394074			Place Hot Mix Asphalt Dike (TYPE C)	LF	250	$ 10.00	$ 2,500
35	394077			Place Hot Mix Asphalt Dike (TYPE F)	LF	260	$ 14.00	$ 3,640
36	394078A			Place Hot Mix Asphalt Dike (TYPE F Mod)	LF	230	$ 16.00	$ 3,680
37	398100			Remove Asphalt Concrete Dike	LF	420	$ 4.50	$ 1,890
38	568064			Guard Post	EA	16	$ 400.00	$ 6,400

Item No.	Item Code			Item Description	Unit	Estimated Quantity	Unit Price	Item Total
39	730070			Detectable Warning Surface	SQFT	15	$ 45.00	$ 675
40	731502			Minor Concrete (Miscellaneous Construction)	CY	62	$ 990.00	$ 61,380
41	800103			Temporary Fence (TYPE CL-6)	LF	300	$ 13.00	$ 3,900
42	810120			Remove Pavement Marker	EA	66	$ 5.00	$ 330
43	810230			Pavement Marker (Retroreflective)	EA	110	$ 4.00	$ 440
44	820134			Object Marker (Type P)	EA	7	$ 50.00	$ 350
45	820630			Relocate Roadside Sign (Wood Post)	EA	10	$ 400.00	$ 4,000
46	820750			Furnish Single Sheet Aluminum Sign (0.063"-Unframed)	SQFT	130	$ 9.50	$ 1,235
47	820840			Roadside Sign - One Post	EA	5	$ 300.00	$ 1,500
48	820860			Install Sign (Strap And Saddle Bracket Method)	EA	12	$ 96.00	$ 1,152
49	832007			Midwest Guardrail System (Wood Post)	LF	440	$ 38.00	$ 16,720
50	832070			Vegetation Control (Minor Concrete)	SQYD	260	$ 114.00	$ 29,640
51	839581			End Anchor Assembly (Type SFT)	EA	4	$ 890.00	$ 3,560
52	839584			Alternative In-Line Terminal System	EA	4	$ 3,940.00	$ 15,760
53	839752			Remove Guardrail	LF	400	$ 15.00	$ 6,000
54	840516			Thermoplastic Pavement Marking (Enhanced Wet Night Visibility)	SQFT	710	$ 6.00	$ 4,260
55	840655			Paint Traffic Stripe (1-Coat)	LF	2,730	$ 0.65	$ 1,775
56	840665			Paint Pavement Marking (1-Coat)	SQFT	210	$ 3.00	$ 630
57	840666			Paint Pavement Marking (2-Coat)	SQFT	230	$ 13.00	$ 2,990
58	846007			6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility)	LF	3,670	$ 3.50	$ 12,845
59	846020			Remove Painted Traffic Stripe	LF	2,930	$ 1.50	$ 4,395
60	846030			Remove Thermoplastic Traffic Stripe	LF	1,490	$ 1.00	$ 1,490
61	870009			Maintaining Existing Traffic Management System Elements During Construction	LS	1	$ 1,000.00	$ 1,000
62	870800			Pedestrian Hybrid Beacon Systems	LS	1	$ 317,000.00	$ 317,000
63	871400			Radar Speed Feedback Sign Systems	LS	1	$ 54,000.00	$ 54,000
64	999990			Mobilization	LS	1	$ 127,000.00	$ 127,000
				CONSTRUCTION TOTAL				**1,250,000**

Item No.	Item Code			Item Description	Unit	Estimated Quantity	Unit Price	Item Total
SUPPLEMENTAL WORK ITEMS								
1	066041			Bird Protection	LS	1	$2,000	$ 2,000
2	066070			Maintain Traffic	LS	1	$5,000	$ 5,000
3	066101			Dust Palliative	LS	1	$2,000	$ 2,000
4	066103			Maintain Existing Planted Areas	LS	1	$2,000	$ 2,000
5	066595			Water Pollution Control Maintenance sharing	LS	1	$10,000	$ 10,000
6	066596			Additional Water Pollution Control	LS	1	$10,000	$ 10,000
7	066610			Partnering	LS	1	$5,000	$ 5,000
8	066670			Payment Adjustments For Price Index Fluctuations	LS	1	$10,000	$ 10,000
9	066919			Dispute Resolution Board	LS	1	$5,000	$ 5,000
				TOTAL SUPPLEMENTAL WORK ITEMS				**51,000**
DEPARTMENT FURNISHED MATERIALS AND EXPENSES								
1	066062			COZEEP Contract	LS	1	$7,500	$ 7,500
2	066063			Traffic Management Plan - Public Information	LS	1	$10,000	$ 10,000
3	66841			Traffic Controller Assembly	LS	1	$30,000	$ 30,000
4	66842A			Battery Backup System	LS	1	$6,000	$ 6,000
5	066893			Utility Service	LS	1	$2,000	$ 2,000
6	066901			Water Expenses	LS	1	$2,000	$ 2,000
				TOTAL DEPARTMENT FURNISHED MATERIALS AND EXPENSES				**$ 57,500**
						SUB TOTAL CONSTRUCTION COST		**$ 1,358,500**
						CONTINGENCY (5%)		$ 70,000
						TOTAL CONSTRUCTION COST(2019 Dollars)		**$ 1,430,000**

DISTRICT 4
TRANSPORTATION MANAGEMENT PLAN CHECKLIST (REV 12/10/12)

** This checklist is to be signed and a copy be included in the Resident Engineer file **

EA/Project ID	**EA# 04-1Q1301/ ID# 0418000207**	**Co.-Rte-PM:**	**SM-1-37.8/38.0**
			Gray Whale Cove Pedestrian Access Improvement Project
Project Engineer:	**Jason Hom, AECOM, Atif Abrar, CT**	**Description:**	
Date Prepared:	**1/16/19**	**Construction Cost:**	**$1.43 Million** **Working Days:** **60**

Check each box and reference your attachments to the item(s) number(s) shown on the list.

	Required	Not required	Not Applicable	COMMENTS
1.0 Public Information				
1.1 Public Awareness Campaign	x			$10,000 in BEES
1.2 Other Strategies		x		
2.0 Motorist Information Strategies				
2.1 Changeable Message Signs	x			$15,000 in BEES
2.2 Construction Area Signs	x			$5,000 in BEES
2.3 Highway Advisory Radio (fixed and mobile)		x		
2.4 Planned Lane Closure Web Site	x			Construction to provide info to TMC/DTM
2.5 Caltrans Highway Information Network (CHIN)	x			Construction to provide info to TMC
3.0 Incident Management				
3.1 COZEEP	x			$7,500 in BEES
3.2 Tow Truck/Freeway Service Patrol		x		
4.0 Construction Strategies				
4.1 Lane/Ramp Closures Charts	x			Night time Highway 1 lane closure using reversible control
4.1.1 Constructability Review		x		Not required (Minor project)
4.1.2 Detour through local street		x		
4.2 Full Facility Closure		x		
4.3 Coordination with adjacent construction		x		No adjacent projects identified
4.4 Contingency Plan	x			
4.4.1 Contractor Cont. Plan	x			Construction to provide upon engineer's request
4.4.2 Emergency Detour Plan	x			Construction/Contractor to provide
4.4.3 Emergency Notification Plan	x			Construction/Contractor to provide
4.5 SSP 12-4.03 and Others	x			Damage Clause Recommendation. Request in progress
4.6 A+B Bidding Provisions		x		Not used
4.7 Other Strategies:		x		
One way traffic control (flagger/signal)		x		None proposed
Maintain Traffic and Detour/Temporary Traffic Screen	x			$5,000 in BEES
5.0 Anticipate Delays				
5.1 Lane Closure Review Committee (for anticipated delays over 15 minutes)		x		
5.2 Full (directional) freeway closures		x		

5.3 Minimal delay anticipated - [x] yes [ ] no If no, explain additional measures on attached sheet.

5.4 For detailed discussion, see TMP report [x] yes [ ] no

5.5 TMP categories [ ] Blanket TMP [x] Minor TMP [ ] Major TMP

TMP Manager, Julianna Gum

Project Manager, Scott C. Kelsey(AECOM)

1/17/2019
Date:

County of San Mateo - Planning and Building Department

ATTACHMENT C

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2019-F-1730-1

AUG 07 2019

Mr. Christopher Caputo
California Department of Transportation
Environmental Division, MS-8A
111 Grand Avenue
Oakland, California 94612

Subject: Formal Consultation on the State Route 1 Gray Whale Cove Pedestrian Access Improvement Project, San Mateo County, California (Caltrans EA 1Q130)

Dear Mr. Caputo:

This letter is in response to the California Department of Transportation's (Caltrans) March 5, 2019, request to initiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route (SR) 1 Gray Whale Cove Pedestrian Access Improvement Project (proposed action) in San Mateo County, California. You provided a Biological Assessment for the project on January 8, 2019, and provided revised consultation requests on March 5, 2019 and July 12, 2019. At issue are the proposed project's effects on the federally threatened California red-legged frog (*Rana draytonii*), its critical habitat, and the federally endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). Critical habitat has not been designated for the San Francisco garter snake. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 et seq.)(Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

Fixing America's Surface Transportation Act (FAST Act) was signed into law on December 4, 2015. Providing funding from 2016 to 2020, the FAST Act includes provisions to promote streamlined and accelerated project delivery. Caltrans is approved to participate in the FAST Act project delivery program through the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding (MOU). The MOU allows Caltrans to assume the Federal Highway Administration's (FHWA) responsibilities under NEPA as well as FHWA's consultation and coordination responsibilities under federal environmental laws for most highway projects in California. Caltrans is exercising this authority as the federal nexus for section 7 consultation on this project.

The federal action we are consulting on includes the modification and addition of infrastructure to improve safe public access between the Gray Whale Cove State Beach parking lot on the east side of SR 1 and the coastline portion of the State Beach on the west side of SR 1. Caltrans submitted a Biological Assessment (BA) and additional information for our review and requested concurrence with the findings presented therein. Caltrans concluded that the proposed action may affect, and is likely to adversely affect the California red-legged frog and the San Francisco garter snake; and is not likely to adversely affect California red-legged frog critical habitat.

In considering your request, we based our evaluation on the following: (1) Caltrans' March 5, 2019, request for consultation along with their December 2018, BA; (2) Caltrans' March 5, 2019, response to the Service's February 4, 2019, electronic mail (e-mail) message; (3) Caltrans' July 12, 2019 e-mail message; (4) additional project information provided on July 19, 2019; (5) previous consultations completed in the general vicinity; and (6) other information available to the Service.

The Service agrees with Caltrans' determination that the proposed action is not likely to adversely affect designated critical habitat for the California red-legged frog. The entirety of the proposed 1.5-acre action area is located within the listed frog's SNM-1 Critical Habitat Unit. The majority of the proposed footprint is located within existing hardscape and the project will result in the addition of approximately 0.31 acre of hardscape that will be distributed along the outside edge of the existing road shoulder. An additional area extending approximately 300 feet from the proposed project footprint will be subject to project action-related noise and visual disturbance. The permanent addition of 0.31 acre of hardscape, linearly distributed along the existing SR 1 road shoulder, and temporary construction-related disturbance are unlikely to result in adverse effects to the functions of the primary constituent elements within the unit.

The remainder of this document provides our biological opinion (BO) on the effects of the proposed action on the California red-legged frog and the San Francisco garter snake.

Consultation History

January 8, 2019	The Service received a January 3, 2019, request for informal consultation from Caltrans along with a December 2018 BA.
February 4, 2019	The Service sent Caltrans an e-mail message requesting additional information needed to complete the requested consultation. The message was the equivalent of a 30-day letter.
March 5, 2019	The Service received Caltrans' e-mail response to the Service's February 4, 2019, information request. Caltrans' response provided additional information and a revised request to initiate formal consultation for the California red-legged frog.
April 25, 2019	The Service received notice from Caltrans that continued consultation is on hold.
June 13, 2019	The Service received notice from Caltrans that the consultation had been reactivated.
July 12, 2019	The Service received an e-mail message from Caltrans requesting that the consultation include the San Francisco garter snake.
July 19, 2019	The Service received additional information from Caltrans concerning the acreage of the proposed project footprint.

BIOLOGICAL OPINION

Description of the Action

In conjunction with the San Mateo County Transportation Authority, San Mateo County, and California State Parks, Caltrans District 4 proposes to implement several modifications to improve access to the Gray Whale Cove State Beach parking lot off of SR 1 and the pedestrian crossing from the parking lot across SR 1 to the beach. The proposed action includes the addition of a pedestrian crosswalk on SR 1; pedestrian hybrid beacons; widening pavement for the addition of a left turn lane and an acceleration lane; relocation and improvement of the parking lot entrance; as well as installation of associated overhead lighting, overhead signs and roadside signs.

Proposed construction will include the following components.

1. *Modify parking lot access.* Access from SR 1 to the Gray Whale Cove parking lot will be moved approximately 200 feet south of the current position. To provide this access, additional pavement will be added to widen the northbound shoulder and create a new southbound acceleration lane, a southbound left turn lane, and a paved apron at the parking lot entrance. Grading and excavation will be needed to install these new areas of hardscape. Grading will also take place to resurface and level the existing parking lot.

2. *SR 1 widening.* SR 1 will be widened up to 21 feet on the east side, and the lanes and shoulders restriped. An 8 foot wide pedestrian pathway will be installed adjacent to the west side of the highway (on the southbound side) to provide a connection between the proposed crosswalk and the existing access to the beach. The existing shoulder on the west side will be maintained. The northbound shoulder will be widened approximately 8 feet in the area of the crosswalk and parking lot entrance. Grading and excavation will be needed to install these new areas of hardscape. The total amount of additional paved or surfaced area will be approximately 0.31 acre

3. *Crosswalk installation.* A pedestrian crosswalk will be installed (striped) on the south side of the relocated parking lot entrance. Both a pedestrian hybrid beacon and overhead lighting will be placed at the crosswalk. An overhead light will extend above the pedestrian hybrid beacon, providing lighting focused on the crosswalk. The beacons and overhead lighting will be placed over both the northbound and southbound traffic lanes. This permanent overhead lighting will be directed towards the highway pavement area. An additional beacon will be installed over the southbound lane to warn motorists of the upcoming crosswalk. It will be located approximately 490 feet north of the crosswalk and consist of a set of flashing beacon lights and a pedestrian crossing sign. Similarly, an additional beacon will be installed over the northbound lane about 250 feet before the crosswalk. Excavation will be needed to install foundations for new lighting and signs.

4. *Utility connections.* Electrical power is already wired to the project area. Three new above ground utility cabinets will be installed along the east side of SR 1 road shoulder to support the new features. Trenching in the road shoulder will be needed to connect the features to the cabinets.

5. *Vegetation removal.* Ground cover vegetation will be cleared and grubbed throughout the project footprint. Removal of woody vegetation will be limited to eight trees on the west side

of SR 1. The trees will be removed to provide needed driver-pedestrian visibility and will not be replaced in-kind.

6. *Construction staging and access.* Project-related equipment and materials will be staged within the existing parking lot. Access to work areas will be gained from the parking lot and SR1.

Site Cleanup and Restoration
Construction-related materials will be removed after construction activities have been completed. The temporarily disturbed areas will be revegetated with appropriate native plant species, to the extent practicable.

Permanent erosion control, including soil stabilization measures such as hydroseeding, coir netting and non-filament mesh fiber rolls, will be applied to areas where it will be necessary to minimize erosion after construction has been completed. A permanent *Water Quality Treatment Plan* will be implemented.

Disturbed areas will be contoured to conform to the surrounding landscape, restored using a combination of compost application and revegetation with native plants, and hydro-seeded with an appropriate native seed mix. Invasive, non-native plants, duff, and excavated material containing invasive plant material will be removed from the project footprint.

Equipment
Equipment used to complete the work will likely include dump trucks, concrete mixers, flatbed trucks, water trucks, fuel trucks, front end loaders and/or backhoes, skid loaders, asphalt pavers, asphalt rollers, side pavers, substrate compactors, guardrail post drivers, pneumatic jackhammers, pneumatic impact wrenches, 6-inch diameter augers, portable electronic signs, air compressors, grinders, diesel-powered generators, saw cutters, portable tower lights, and hand tools.

Schedule
Caltrans anticipates construction will be completed in approximately three months and will occur between September and November 2019. Work will take place primarily during the day, with night work scheduled when lane closure is required for safety. Night work lane closures will be required for installation of overhead lighting and signals, and pavement restriping.

Conservation Measures
Caltrans proposes to reduce adverse effects to the California red-legged frog and San Francisco garter snake as well as other wildlife and habitat features by implementing the following measures:

1. A Service-Approved Biological Monitor. The names and qualifications of proposed biological monitor(s) will be submitted to the Service for approval prior to the start of construction. The Service-Approved Biological Monitors will keep a copy of this amended biological opinion in their possession when onsite. Through communication with the Resident Engineer, the Service-Approved Biological Monitor will be onsite during all work that could reasonably result in take of the California red-legged frog or San Francisco garter snake. The Service-Approved Biological Monitor will have the authority to stop work that may result in the unauthorized take of special-status species. If the Service-Approved Biological Monitor exercises this authority, the Service will be notified by telephone and e-mail message within one (1) working day.

2. Worker Environmental Awareness Training. Construction personnel will attend a mandatory environmental education program delivered by the Service-Approved Biological Monitor prior to taking part in site construction, including vegetation clearing. The program will focus on the conservation measures that are relevant to an employee's personal responsibility and will include an explanation as how to best avoid take of the California red-legged frog and San Francisco garter snake. At a minimum, the training will include a description of species; how they might be encountered within the project area; their status and protection; and the relevant *Conservation Measures* and *Terms and Conditions* of the biological opinion. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel. Distributed materials will include cards with distinctive photographs of California red-legged frog and San Francisco garter snake, as well as compliance reminders and relevant contact information. Documentation of the training, including sign-in sheets, will be kept on file and made available to the Service upon request.

3. Pre-Construction Surveys. Pre-construction surveys for the California red-legged frog and San Francisco garter snake will be conducted by the Service-Approved Biological Monitor no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) within upland habitat. These efforts will consist of walking surveys of the project limits and, if possible, accessible adjacent areas within at least 50 feet of the project limits. The Service-Approved Biological Monitor will investigate potential cover sites when it is feasible and safe to do so. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the project limits will be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the Service-Approved Biological Monitor will investigate areas of disturbed soil for signs of California red-legged frogs and San Francisco garter snakes within 30 minutes following initial disturbance of the given area.

4. Discovery of Listed Species. The Service-Approved Biological Monitor will be present during all activities that could reasonably result in take of the California red-legged frog or San Francisco garter snake. If at any point a listed species is discovered during these activities, the Service-Approved Biological Monitor through the Resident Engineer or their designee, will halt all work within 50 feet of the animal until the it has either been captured and moved or has moved sufficiently from harm's way on its own volition.

5. Protocol for Species Observation: The Service-Approved Biological Monitor (s) will have the authority to halt work through coordination with the Resident Engineer in the event that a listed species is observed in the action area. The Resident Engineer will keep construction activities suspended in any construction area where the biologist has determined that a potential take of the species could occur. Work will resume after observed listed individuals leave the site voluntarily, the biologist determines that no wildlife is being harassed or harmed by construction activities, or the wildlife is removed by the biologist to a release site using Service-approved handling techniques.

6. Handling of Listed Species. If a listed species is discovered, the Resident Engineer and Service-Approved Biological Monitor will be immediately informed.

    a. If a California red-legged frog or San Francisco garter snake is discovered in a construction zone, work will be halted immediately within 50 feet until the animal

leaves the site or is captured and relocated by the Service-Approved Biological Monitor.

b. The Service will be notified within one (1) working day if a California red-legged frog or San Francisco garter snake is discovered within the construction site.

c. The captured California red-legged frog or San Francisco garter snake will be released within appropriate habitat outside of the construction area but nearby the capture location. The release habitat will be determined by the Service-Approved Biological Monitor.

d. The Service-Approved Biological Monitor will take precautions to prevent introduction of amphibian diseases in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (Service 2005).

7. Injured Animals. Injured California red-legged frogs and San Francisco garter snakes will be cared for by a Service-Approved Biological Monitor(s) or a licensed veterinarian, if necessary. Any deceased California red-legged frogs or San Francisco garter snakes will be preserved according to standard museum techniques and will be held in a secure location. The Service and the California Department of Fish and Wildlife (CDFW) will be notified within one (1) working day of the discovery of a death or an injury to any listed species resulting from project-related activities or if a listed species is observed at a construction site. Notification will include the date, time, and location of the incident or the finding of a deceased or injured animal, clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle and other maps at a finer scale, as requested by the Service or CDFW, and any other pertinent information.

8. Inclement Weather Restriction. No work will occur during or within 24 hours following a rain event exceeding 0.2-inch as measured by the National Oceanic and Atmospheric Association National Weather Service for the Soquel, CA (SOQC1) base station available at: http://www.wrh.noaa.gov/mtr/versprod.php?pil=RR5&sid=RSA. The Service and CDFW approval to continue work during or within 24 hours of a rain event will be considered on a case-by-case basis.

9. Construction Boundary and Wildlife Exclusion Fencing. Before the start of construction. The project footprint boundary will be clearly delineated using high-visibility orange fencing as necessary. A security fence will enclose the designated staging area within the Gray Whale Cove parking lot. Wildlife exclusion fencing will be attached to the base of the staging area security fencing and installed to isolate the work area where paving will take place. Construction work areas will include the active construction site and all areas providing support for the project, including areas used for vehicle parking, equipment and material storage and staging, and access roads. The fencing will remain in place throughout the duration of construction activities, and will be inspected regularly and fully maintained at all times. The final project plans will show all locations where boundary fencing will be installed and will provide installation specifications. The bid solicitation package special provisions will clearly describe acceptable fencing material and prohibited construction-related activities, including vehicle operation, material and equipment storage, access roads and other surface-disturbing activities.

10. Vegetation Removal. Vegetation removal will be limited to the designated work areas needed for access and workspace. Where possible, vegetation removal in temporary work areas will be cut above soil level to promote revegetative growth of established plants following construction.

11. Staging. Construction access, staging, storage, and parking areas will be located within Caltrans ROW and the Gray Whale Cove parking lot on compacted soil and paved surfaces.

12. Night Lighting. All artificial lighting will be directed downwards, towards the travel way from sensitive resources or habitats.

13. Vehicle and Equipment Checks. Operators will check underneath construction equipment and vehicles that have been stationary for more than 30 minutes for wildlife prior to moving them. They will notify the Service-Approved Biological Monitor if any reptile or amphibian is observed.

14. Proper Use of Erosion Control Devices. To avoid California red-legged frogs and San Francisco garter snakes from becoming entangled, trapped or injured, erosion control materials that use plastic or synthetic mono-filament netting will not be used within the action area.

15. Avoidance of Entrapment. To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep will be covered at the close of each working day by plywood or similar materials. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project area overnight will be inspected before they are subsequently moved, capped and/or buried.

16. Migratory Bird Treaty Act. To minimize and avoid take of migratory birds, their nests, and their young, Caltrans will conduct vegetation and tree trimming between September 30 and January 30 before project construction. This work will be limited to vegetation and trees that are within the project footprint. No grubbing or other ground disturbing actions will occur at this time. Upon completion of vegetation and tree trimming, Caltrans will install storm water and erosion control best management practices (BMPs). A Service-Approved Biological Monitor with appropriate construction and species experience will conduct nest and bird surveys and other wildlife surveys before and during tree cutting. All work will be conducted under a Regional Water Board approved Water Pollution Control Plan or Storm Water Pollution Protection Plan. Vegetation will be cleared only where necessary and will be cut above soil level. This will allow plants that reproduce vegetatively to resprout after construction.

    During the nesting season, pre-construction surveys for nesting birds will be conducted by a qualified biologist no more than 72 hours prior to the start of construction activities. If work is to occur within 300 feet of active raptor nests or 50 feet of active passerine nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. All clearing and grubbing of woody vegetation will be performed by hand or using light construction equipment, such as backhoes and excavators.

17. Poison Control. Pesticides and herbicides will not be used.

18. Invasive Species Management. To reduce the spread of invasive non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. The purpose of this order is to prevent the introduction of invasive species and provide for their control to minimize economic, ecological, and human health impacts. In the event that high- or medium-priority noxious weeds, as defined by the California Department of Food and Agriculture or the California Invasive Plant Council, are disturbed or removed during construction-related activities, the contractor will contain the plant material associated with these noxious weeds and will dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area will be covered to the extent practicable with heavy black plastic solarization material until completion of construction. All earthmoving equipment, as well as seeding equipment to be used during project construction would be thoroughly cleaned before arriving on the project site.

19. Construction Site BMP's. The following site restrictions will be implemented to avoid or minimize impacts on special-status species and their habitats:

    a. The number and size of staging and work areas will be limited to the minimum necessary to construct the project and will be limited to existing paved surfaces or areas of compacted soil.

    b. Routes and boundaries of roadwork will be clearly marked before the start of construction or grading.

    c. To the maximum extent practicable, any borrow material will be certified to be nontoxic and weed free.

    d. All food and food-related trash items will be enclosed in sealed trash containers and will be properly disposed off-site.

    e. No pets belonging to project personnel will be allowed in the action area during construction.

    f. No firearms will be allowed in the project footprint except for those carried by authorized security personnel, or local, state or federal law enforcement officials.

    g. A *Spill Response Plan* will be prepared. Hazardous materials (e.g., fuels, oils, solvents) will be stored in sealable containers in a designated location that is at least 100 feet from any hydrologic features.

    h. All equipment will be properly maintained and free of leaks. Servicing of vehicles and construction equipment, including fueling, cleaning, and maintenance, will occur at least 100 feet from any hydrologic features unless it is an existing gas station.

20. Implementation of Water Quality/Erosion Control BMP's. Erosion control BMPs will be developed and implemented to minimize any wind or water-related erosion, in compliance with the requirements of the Regional Water Quality Control Board. Protective measures will include, at a minimum:

    a. No discharge of pollutants from vehicle and equipment cleaning will be allowed into any storm drains or watercourses.

    b. Vehicle and equipment fueling and maintenance operations will be kept at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities.

    c. Concrete wastes will be collected in washouts, and water from curing operations will be collected and disposed. Neither will be allowed into watercourses.

    d. Spill containment kits will be maintained on-site at all times during construction operations and/ or staging or fueling of equipment.

    e. Dust control measures will include use of water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock (rocking), and covering temporary stockpiles when weather conditions require.

    f. Coir rolls or straw wattles that do not contain plastic or synthetic monofilament netting will be installed along or at the base of slopes during construction, to capture sediment.

    g. Graded areas will be protected from erosion using a combination of silt fences and fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (e.g., jute or coir) will be used as appropriate on sloped areas. Erosion control materials that use plastic or synthetic monofilament netting will not be used. This will include products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials will include natural fibers, such as jute, coconut, twine or other similar fibers.

21. Replant, Reseed, and Restore Disturbed Areas. In areas of soil disturbance, any native topsoil will be removed and stored in a suitable location until project completion. Caltrans will restore temporarily disturbed areas to the preconstruction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs (using a hydro-seed mix) to stabilize and prevent erosion.

22. Service Access. If requested, before, during, or upon completion of groundbreaking and construction activities, Caltrans will allow access by Service personnel into the project footprint to inspect the project and its activities.

23. Permits. Caltrans will include a copy of this BO within the construction bid package of the proposed project. The Resident Engineer or their designee will be responsible for implementing the Conservation Measures and Terms and Conditions of this BO and the CDFW Incidental Take Permit.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." For the proposed project, the action area encompasses a 1.5-acre construction footprint (1.19 acres temporary + 0.31 acre permanent) plus a 300-foot habitat buffer to account for noise, vibration, visual disturbance, and barrier effects.

Analytical Framework for the Jeopardy Determinations

Section 7(a)(2) of the Endangered Species Act requires that federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this BO considers the effects of the proposed federal action, and any cumulative effects, on the range wide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the range wide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed federal action and the effects of any interrelated or interdependent activities on the species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-federal activities in the action area on the species.

Status of the Species

California Red-Legged Frog

Listing Status: The California red-legged frog was listed as a threatened species on May 23, 1996 (Service 1996). Critical habitat was designated for this species on April 13, 2006 (Service 2006a), with revisions to the critical habitat designation published on March 17, 2010 (Service 2010). At that time, the Service recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii* (Shaffer et al. 2010). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002b).

Description: The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003); dorsolateral folds are prominent on the back. The California red-legged frog is sexually dimorphic; the females are larger than the males (Dodd 2013a, b). California red-legged frog tadpoles range from 0.6 inch to 3.1 inches in length and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Current Status and Distribution: The historical range of the California red-legged frog extended from central Mendocino County and western Tehama County south in the California Coast Range to northern Baja California, Mexico, and in the Sierra Nevada/Cascade Ranges from Shasta County

south to Madera County (Jennings and Hayes 1994). The species historically occurred from sea level to elevations of about 5,200 feet in 46 counties; however, currently the taxon is extant in 238 streams or drainages within only 22 counties, representing a loss of 70 percent of its former range (Service 2002b). Isolated populations persist in several Sierra Nevada foothill locales and in Riverside County (Barry and Fellers 2013; Backlin et al. 2017; CDFW 2019; Gordon, R. and J. Bennett, pers. comm., 2017). The species is no longer considered extant in California's Central Valley due to significant declines caused by habitat modifications and exotic species (Fisher and Shaffer 1996). Currently, the California red-legged frog is widespread in the San Francisco Bay nine-county area (CDFW 2018). They are still locally abundant within the California coastal counties from Mendocino County to Los Angeles County and presumed extirpated in Orange and San Diego counties (CDFW 2019; Yang, D. and J. Martin, pers. comm., 2017; Gordon, R. and J. Bennett, pers. comm., 2017). Baja California represents the southernmost edge of the species' current range (Peralta-García et al. 2016).

Barry and Fellers (2013) conducted a comprehensive study to determine the current range of the California red-legged frog in the Sierra Nevada, concluding that it differs little from its historical range; however, the current Sierra Nevada populations appear to be small and tend to fluctuate. Since 1991, eleven California red-legged frog populations have been discovered or confirmed, including eight probable breeding populations (Barry and Fellers 2013; Mabe, J., pers. comm., 2017). Microsatellite and mitochondrial DNA analysis by Richmond et al. (2014) confirmed the Sierra Nevada populations of the California red-legged frog are genetically distinct from each other, as well as from other populations throughout the range of this species. The research concluded that the Sierra Nevada populations are persisting at low levels of genetic diversity and no contemporary gene flow across populations exist. On a larger geographic scale, range contraction has left a substantial gap between Sierra Nevada and Coast Range populations, similar to the gap separating the Southern California and Baja California populations (Richmond et al. 2014).

Habitat and Life History:

Habitat

The California red-legged frog generally breeds in still or slow-moving water associated with emergent vegetation, such as cattails, tules (hardstem bulrush), or overhanging willows (Storer 1925; Fellers 2005). Aquatic breeding habitat predominantly includes permanent water sources such as streams, marshes, and natural and manmade ponds in valley bottoms and foothills (Jennings and Hayes 1994; Bulger et al. 2003; Stebbins 2003). Since the 1850's, manmade ponds may actually supplement stream pool breeding habit and can be capable of supporting large populations of this species. Breeding sites may hold water only seasonally, but sufficient water must persist at the beginning of the breeding season and into late summer or early fall for tadpoles to successfully complete metamorphosis. Breeding habitat does not include deep lacustrine water habitat (e.g., deep lakes and reservoirs 50 acres or larger) (Service 2010). Within the coastal lagoon habitats, salinity is a significant factor on embryonic mortality or abnormalities (Jennings and Hayes 1990). Jennings and Hayes (1990) conducted laboratory studies and field observations concluding salinity levels above 4.5 parts per thousand detrimentally affected the California red-legged frog embryos. Aquatic breeding habitat does not need to be available every year, but it must be available at least once within the frog's lifespan for breeding to occur (Service 2010).

Non-breeding aquatic habitat consists of shallow (non-lacustrine) freshwater features not suitable as breeding habitat, such as seasonal streams, small seeps, springs, and ponds that dry too quickly to support breeding. Non-breeding aquatic and riparian habitat is essential for providing the space, food, and cover necessary to sustain the California red-legged frog. Riparian habitat consists of

vegetation growing nearby, but not typically in, a body of water on which it depends, and usually extends from the bank of a pond or stream to the margins of the associated floodplain (Service 2010). Adult California red-legged frogs may avoid coastal habitat with salinity levels greater than 6.5 parts per thousand (Jennings and Hayes 1990).

Cover and refugia are important habitat characteristic preferences for the species (Halstead and Kleeman 2017). Refugia may include vegetation, organic debris, animal burrows, boulders, rocks, logjams, industrial debris, or any other object that provides cover. Agricultural features such as watering troughs, spring boxes, abandoned sheds, or haystacks may also be utilized by the species. Incised stream channels with portions narrower and depths greater than 18 inches may also provide important summer sheltering habitat. During periods of high water flow, California red-legged frogs are rarely observed; individuals may seek refuge from high flows in pockets or small mammal burrows beneath banks stabilized by shrubby riparian growth (Jennings and Hayes 1994). Accessibility to cover habitat is essential for the survival of California red-legged frogs within a watershed and can be a factor limiting frog population numbers and survival.

Breeding

The California red-legged frog typically breeds between November and April; however, breeding may occur later in the Sierra Nevada Range (Barry 2002). Females deposit their egg masses on emergent vegetation, floating on or near the surface of the water. The California red-legged frog is often a prolific breeder, laying eggs during or shortly after large rainfall events in late winter and early spring. Egg masses containing 300-4,000 eggs hatch after six to fourteen days (Storer 1925; Jennings and Hayes 1994; Fellers 2005). Historically, the California red-legged frog in the Sierra Nevada likely bred within stream pools, which tend to be small with limited forage, constraining the size and number of populations (Barry and Fellers 2013).

California red-legged frog tadpoles undergo metamorphosis three to seven months following hatching. Most males reach sexual maturity in two years, while it takes approximately three years for females (Jennings and Hayes 1985; Fellers 2005). Under favorable conditions, California red-legged frogs may live eight to ten years (Jennings et al. 1992). Of the various life stages, tadpoles likely experience the highest mortality rates; only one percent of each egg mass completes metamorphosis (Jennings et al. 1992).

Diet

The California red-legged frog has a variable diet that changes with each of its life history stages. The feeding habits of the early stages are likely similar to other ranids, whose tadpoles feed on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005). Hayes and Tennant (1985) found invertebrates to be the most common food items of adult California red-legged frogs collected in southern California; however, they speculated that this was opportunistic and varied based on prey availability. Vertebrates, such as Pacific tree frogs and California mice, represented over half of the prey mass eaten by larger frogs, although invertebrates were the most numerous food items. Feeding typically occurs along the shoreline and on the surface of the water; juveniles appear to forage during both daytime and nighttime, whereas adults appear to feed at night (Hayes and Tennant 1985).

Movement

California red-legged frogs do not have a distinct breeding migration (Fellers 2005), rather they may move seasonally from non-breeding pools or refugia to breeding pools. Some individuals remain at breeding sites year-round while others disperse to neighboring water features or moist upland sites when breeding is complete and/or when breeding pools dry (Service 2002b; Bulger et al. 2003;

Fellers and Kleeman 2007; Tatarian and Tatarian 2008; Tatarian 2008). Studies in the several San Francisco Bay counties showed movements are typically along riparian corridors (Fellers and Kleeman 2007; Tatarian 2008). Although, some individuals, especially on rainy nights and in more mesic areas, travel without apparent regard to topography, vegetation type, or riparian corridors, and can move directly from one site to another through normally inhospitable habitats such as heavily grazed pastures or oak-grassland savannas (Bulger et al 2003).

California red-legged frogs show high site fidelity (Tatarian and Tatarian 2008) and typically do not move significant distances from breeding sites (Bulger et al. 2003; Fellers and Kleeman 2007; Tatarian and Tatarian 2008; Tatarian 2008). When traveling between aquatic sites, California red-legged frogs typically travel less than 0.31 mile (Fellers and Kleeman 2007; Tatarian and Tatarian 2008), although they have been documented to move more than two miles in Santa Cruz County (Bulger et al. 2003). Various studies have found that the frogs typically do not make terrestrial forays further than 200 feet from aquatic habitat (Bulger et al. 2003; Fellers and Kleeman 2007; Tatarian and Tatarian 2008; Tatarian 2008). Upland movements are typically associated with precipitation events and usually last for one to four days (Tatarian 2008).

Threats: Factors associated with declining populations of the California red-legged frog throughout its range include degradation and loss of habitat through agriculture, urbanization, mining, overgrazing, recreation, timber harvesting, non-native species, impoundments, water diversions, erosion and siltation altering upland and aquatic habitat, degraded water quality, use of pesticides, and introduced predators (Service 2002b, 2010). Urbanization often leaves isolated habitat fragments and creates barriers to frog dispersal.

Non-native species pose a major threat to the recovery of California red-legged frogs. Several researchers have noted the decline and eventual local disappearance of California and northern red-legged frogs in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976; Barry 1992; Hunt 1993; Fisher and Shaffer 1996). The decline of the California red-legged frog due to these non-native species has been attributed to predation, competition, and reproduction interference (Twedt 1993; Bury and Whelan 1984; Storer 1933; Emlen 1977; Kruse and Francis 1977; Jennings and Hays 1990; Jennings 1993).

Chytridiomycosis, an infectious disease caused by the chytrid fungus, *Batrachochytrium dendrobatidis* (*Bd*), has been found to adversely affect amphibians globally (Davidson et al. 2003; Lips et al. 2006). While *Bd* prevalence in wild amphibian populations in California is unknown (Fellers et al. 2011), chytrid is expected to be widespread throughout much of the California red-legged frog's range. The chytrid fungus has been documented within the California red-legged frog populations at Point Reyes National Seashore, two properties in Santa Clara County, Yosemite National Park, Hughes Pond, Sailor Flat, Big Gun Diggings, and Spivey Pond (Padgett-Flohr and Hopkins 2010; Tatarian and Tatarian 2010; Fellers et al. 2011; Barry and Fellers 2013). However, no chytrid-related mortality has been reported in these populations, suggesting that California red-legged frogs are less vulnerable to the pathogenic effects of chytrid infection than other amphibian species (Tatarian and Tatarian 2010; Barry and Fellers 2013; Fellers et al. 2017). While chytrid infection may not directly lead to mortality in California red-legged frogs, Padgett-Flohr (2008) states that this infection may reduce overall fitness and could lead to long-term effects. Therefore, it is difficult to estimate the full extent and risk of chytridiomycosis to the California red-legged frog populations.

Negative effects to wildlife populations from roads and pavement may extend some distance from the actual road. The phenomenon can result from any of the effects already described in this BO,

such as vehicle-related mortality, habitat degradation, and invasive exotic species. Forman and Deblinger (1998, 2000) described the area affected as the "road effect" zone. Along a four-lane road in Massachusetts, they determined that this zone extend for an average of approximately 980 feet to either side of the road for an average total zone width of approximately 1,970 feet. They describe the boundaries of this zone as asymmetric and in some areas diminished wildlife use attributed to road effects was detected greater than 0.6 mile from Massachusetts Route 2. The "road-zone" effect can also be subtle. Van der Zande *et al.* (1980) reported that lapwings and black-tailed godwits feeding at 1,575-6,560 feet from roads were disturbed by passing vehicles. The heart rate, metabolic rate and energy expenditure of female bighorn sheep increase near roads (MacArthur *et al.* 1979). Trombulak and Frissell (2000) described another type of "road-zone' effect due to contaminants. Heavy metal concentrations from vehicle exhaust were greatest within 66 feet of roads, but elevated levels of metals in both soil and plants were detected at 660 feet of roads. The "road-zone" apparently varies with habitat type and traffic volume. Based on responses by birds, Forman and Deblinger (2000) estimated the effect zone along primary roads of 1,000 feet in woodlands, 1,197 feet in grasslands, and 2,657 feet in natural lands near urban areas. Along secondary roads with lower traffic volumes, the effect zone was 656 feet. The "road-zone" effect with regard to California red-legged frogs has not been adequately investigated.

The necessity of moving between multiple habitats and breeding ponds means that many amphibian species, such as the California red-legged frog, are especially vulnerable to roads and well-used large paved areas in the landscape. Van Gelder (1973) and Cooke (1995) have examined the effect of roads on amphibians and found that because of their activity patterns, population structure, and preferred habitats, aquatic breeding amphibians are more vulnerable to traffic mortality than some other species. Large, high-volume highways pose a nearly impenetrable barrier to amphibians and result in mortality to individual animals as well as significantly fragmenting habitat. Hels and Buchwald (2001) found that mortality rates for anurans on high traffic roads are higher than on low traffic roads. Vos and Chardon (1998) found a significant negative effect of road density on the occupation probability of ponds by the moor frog in the Netherlands. In addition, incidents of very large numbers of road-killed frogs are well documented (*e.g.*, Ashley and Robinson 1996), and studies have shown strong population level effects of traffic density (Carr and Fahrig 2001) and high traffic roads on these amphibians (Van Gelder 1973; Vos and Chardon 1998). Most studies regularly count road kills from slow moving vehicles (Hansen 1982; Rosen and Lowe 1994; Drews 1995; Mallick *et al.* 1998) or by foot (Munguira and Thomas 1992). These studies assume that every victim is observed, which may be true for large conspicuous mammals, but it certainly is not true for small animals, such as the California red-legged frog. Amphibians appear especially vulnerable to traffic mortality because they readily attempt to cross roads, are slow moving and small, and thus cannot easily be avoided by drivers (Carr and Fahrig 2001).

Recovery Plan: The Recovery Plan for the California red-legged frog identifies eight recovery units (Service 2002b). The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, delineated core areas, designed to protect metapopulations, represent contiguous areas of moderate to high California red-legged frog densities. The management strategy identified within this Recovery Plan will allow for the recolonization of habitats within and adjacent to core areas naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs.

San Francisco Garter Snake

For the most recent comprehensive assessment of the San Francisco garter snake's range-wide status, please refer to the species' 2006 *5-Year Review* (Service 2006b). The *5-Year Review* does not include the threat, recovery, survey data, and other relevant updates for the species since its issuance.

Since that time, actions have been implemented that have resulted in additional adverse effects to the species. In association with those actions, conservation measures have been implemented for the purpose of minimizing those adverse effects and in some cases, conserving, restoring, or enhancing San Francisco garter snake habitat. While the threats posed by habitat destruction and modification as well as other factors including curtailment of habitat or range; overutilization for commercial, recreational, scientific, or educational purposes; and disease or predation are ongoing, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species.

Environmental Baseline

The proposed action area is located along the Central Pacific Coast, situated between the Pacific Ocean and the Santa Cruz Mountains. There is little development in the local area. The project is located within the Caltrans ROW and the bordering State Park lands (Grey Whale Cove State Beach to the west and McNee Ranch State Park to the east). The area experiences a moderate climate which includes cool and moist fog throughout the summer. The local landscape is characterized by steep to rolling topography vegetated by open grasslands, forests, woodlands, scrub, and densely vegetated riparian corridors.

More specifically, the SR 1 ROW and the Gray Whale Cove State Beach parking lot are located on a bench constructed at the western base of Montara Mountain, which spills over a bluff to the Pacific Coast line. Within the action area, SR 1 is limited to two lanes with no paved shoulders and occasional pullouts and road cuts.

The northern slope of Montara Mountain is included in the Green Valley Creek watershed. The northern extent of the proposed action area is within the expansive Green Valley. Green Valley is vegetated by coastal scrub and dense low profile riparian vegetation. The dense vegetation provides difficult foot access and conceals the drainage features and wetlands that have been identified in other investigations (BioMaAs 2015) but are not evident in review of aerial photography. Wetlands and side ponds have been identified in this area. Green Valley Creek appears to be seasonally intermittent but water has ponded long enough through the summer months to support California red-legged frog larvae (BioMaAs 2015).

There are numerous drainages within 0.5 mile of the proposed action area that are part of the Green Valley watershed. A detention basin is located approximately 0.25 mile north of the proposed action area, immediately east of SR 1 and adjacent to the access road to a Caltrans operations and maintenance facility. Aquatic features have also been associated with the southern entrance to the SR 1 Devil's Slide tunnels, located approximately 0.5 mile north of the proposed action area.

The Grey Whale Cove parking lot is the center of the proposed action and is located between the base of Montara Mountain and Grey Whale Cove. The Grey Whale Cove parking lot includes upper and lower parking areas that consists of pavement and packed soil. According to the December 2018 BA, the surface topography results in shallow ponding within the parking lot following rain events. Unnamed drainages coursing down the steep mountain slope lead to a gently sloped area bordering the eastern edge of the parking lot. In the December 2018 BA, Caltrans describes the drainage as entering a culvert that crosses under SR 1 to discharge to the ocean. No further information is available concerning the hydrological features in the area immediately east of the parking lot, however landscape and vegetation features suggest the possibility of seasonal to perennial wetland and drainage features.

The culvert near the parking lot discharges through the SR 1 road prism, creating a freshwater wetland between Grey Whale Cove and SR 1. Wetland restoration and creation, following slide failure of the SR 1 embankment, was the subject of a formal consultation issued on September 18, 2008, for the California red-legged frog and San Francisco garter snake (Service file #81420-2008-F-1478). The wetland was reconstructed with features to slow and retain flow, and native vegetation was established.

Through the southern portion of the proposed action area, SR 1 is flanked by road cuts into the base of Montara Mountain. The southern terminus of the proposed project footprint ends at the culverted crossing of an ephemeral drainage. It appears that there are drainage features paralleling the east side of SR 1. Martini Creek flows westward to the coast line at the base of Montara Mountain's south slope. Martini Creek is routed through a culvert under the SR 1 road prism, approximately 0.6 mile south of the southern end of the project footprint. There are several ephemeral drainages between this southern end and Martini Creek.

Caltrans' Charthouse wetland mitigation site is located just south of Martini Creek and approximately 0.95 mile south of the southern end of the project footprint. The freshwater wetland was established on the east side of SR 1 as mitigation for Caltrans' Devil's Slide Project and includes a 0.77 acre California red-legged frog protection area.

California Red-Legged Frog
The action area is located within the range of the California red-legged frog. A map depicting the species' range is included in the Service's online profile for the species at http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=D02D.

The proposed project is within California Red-Legged Frog Recovery Unit 5 (Central Coast) (Service 2002). The action area is located within Core Area #18 (South San Francisco Bay) of that Recovery Unit (Service 2002). The conservation needs for the South San Francisco Bay Core Area are: (1) protect existing populations, (2) control non-native predators, increase connectivity between populations, (3) reduce erosion, (4) implement guidelines for recreation activities to reduce impacts, (5) implement forest practice guidelines, and (6) reduce impacts of urbanization. This core area is described in the recovery plan as an important source population for the species.

The proposed action area is comprised of California State Parks land to the east and west of the bifurcating Caltrans SR 1 right-of-way. The San Mateo Coast State Beaches are actively managed for the benefit of special-status species such as the frog. The California red-legged frog is relatively abundant within this segment of the Coast Range. Compared to other portions of their historic range, habitat loss and degradation has been low to moderate in the project vicinity.

Standardized or protocol frog or other wildlife surveys were not conducted in the action area nor a wildlife movement analysis to support the baseline analysis for the project. However, occurrence of the listed frog has been documented in the area, including an observation from lower Green Valley Creek, on the east side of SR 1, approximately 420 feet north of the north end of the proposed project footprint (CNDDB California red-legged frog occurrence #242, CDFW 2019). California red-legged frog breeding has been confirmed with the observation of larvae within an isolated wetland approximately 0.35 mile northeast of the project footprint within Green Valley (BioMaAs 2015). Adult frogs have been observed within the detention basin approximately 0.25 mile north, near the Caltrans' operation and maintenance building access road (information provided by Caltrans in 2008). Adults and larvae were observed in a feature called the "Trilobite Pond", in 2005 approximately 0.3 mile north of the proposed foot print (information provided by Caltrans in 2008).

It appears that the Trilobite Pond has been filled in since that time. There are additional observations of the listed frog near the southern entrance Devil's Slide tunnel approximately 0.5 mile north of the project footprint (CNDDB California red-legged frog occurrence #539, CDFW 2019). California red-legged frog adults, egg masses, and larvae have been observed in the Charthouse wetland mitigation site is located just south of Martini Creek an approximately 0.95 mile south of the southern end of the project footprint (information provided by Caltrans in 2008).

The other wetland and other previously described hydrologic features within and in the vicinity of the proposed action area provide a spectrum of aquatic habitat values for the local California red-legged frog population, in the least, providing seasonal moisture regime regulation, support of prey species, and refuge. These features also provide "steeping stones" between other resource areas within and beyond the proposed action area, including locations that support breeding. This includes the restored and created wetland feature on the west side of the proposed action area as well as the drainage and wetland features on the east side of the proposed action area.

Cool to moderate temperatures, summer fog, and vegetative cover make upland areas hospitable for frog occupation throughout the year along this region of the Central California coast. Frogs may be encountered both in the open or taking cover under vegetation, in burrows or soil cracks, under various debris, and under staged equipment or construction materials over hardscape areas. The upland landscape areas throughout the action area include vegetative cover for refuge, temperature regulation, foraging, and movement between other resource areas. The hardscape areas provide potential areas for foraging and movement. There are no perceived physical barriers to movement through the action area, other than the risk of vehicle collision.

SR 1 is likely a fragmenting feature for upland connectivity, not due to physical barriers but from road mortality. Although most crossing attempts are likely successful, over time the compounded mortality can have a significant effect on population viability as the integrity of the larger population is disrupted and the recovery goals for the species in the South San Francisco Bay Core Recovery Unit are compromised.

There are a few local cross culverts under SR 1 but it is uncertain if they are suitable to provide safe passage for the California red-legged frog. Although frogs may be washed down through it, the drainage culverts in the action area do not appear to be conducive to intentional movement. Local movements across SR 1 would most likely take place over the road surface, exposing them to risk. Without a road mortality study or movement analysis it is difficult to determine the "hot spots" for red-legged frog movement across SR 1, and hence where increased road mortality risk would occur. Little roadkill data is available for this section of SR 1 on the University of California at Davis Road Ecology Center's online California Roadkill Observation System (http://www.wildlifecrossing.net/california/).

The road effects zone applies to the California red-legged frog and in this case, SR 1 is a permeable barrier to east and west movement due to road mortality. This baseline condition likely creates a risk for California red-legged frog that diminishes with distance from the SR 1 travel corridor and surrounding roads. Beyond road mortality, risks can also include adverse effects generated from traffic related noise, exhaust, head lighting, heavy metal and other solid deposition, toxic liquid discharges, and discarded waste. Chemicals also leach from pavement and are transported into the local environment. Paved surfaces absorb and reflect heat, creating elevated heat "islands". It is also likely that noxious weeds are introduced or spread to the SR 1 ROW and surrounding environment through deposition from passing vehicles.

Adult California red-legged frogs are highly mobile and have been documented to move more than 2 miles over upland habitat. The frog habitat within the action area has direct connectivity with habitat adjacent to the project site and is well within the feasible movement distance to documented breeding locations. Vertical barriers can limit or prevent passage but California red-legged frogs are not adverse to steep topography and could move back and forth between the action area and nearby resource areas.

The Service believes that the California red-legged frog is reasonably certain to occur within the action area due to: (1) the project being located within the species' range and current distribution; (2) suitable habitat within the action area; (3) recorded occurrences nearby; (4) all the elements needed to support the species' life history are located within less than .5 mile of the action area; (5) the lack of significant disturbance or history of significant threats to the species in the general vicinity; (6) the ability of the animal to move long distances; (7) active monitoring, management, and conservation for the species in nearby public lands; and (8) the biology and ecology of the animal.

San Francisco Garter Snake
The action area is within the historic range of the San Francisco garter snake. A map depicting the species' range is included in the Service's online profile for the species at https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=5956#currentRange.

Although there are no nearby San Francisco garter snakes observations in commonly referenced databases such as the CNDDB, the habitat and other life history needs of the species are found within the proposed action area and vicinity.

Based on what is known about this species' life history, evidence suggests that San Francisco garter snakes typically stay within 0.6 mile of aquatic habitat (Service 2006b) and as previously described, there are a range of freshwater aquatic features within 0.6 mile of the proposed project footprint. However, individuals do disperse through upland habitat and likely spend more time foraging away from aquatic habitat during the dry season as their frog prey metamorphose and wetlands and other ephemeral water sources dry up. Upland travel is also important for individuals to disperse to other suitable habitats. Therefore, the listed snake may be encountered in the project footprint dispersing or in search of prey (which includes the California red-legged frog).

The San Francisco garter snake experiences the same road-related risks described for the California red-legged frog. As noted in the snake's 5-year review, the San Francisco garter snake likely uses roads for thermoregulation, placing it at greater risk of vehicle collision (Service 2006b). The species has been observed basking on roads and road kill carcasses have been found at similarly coastally situated, Ano Nuevo State Park (Service 2006b).

The Service believes that the San Francisco garter snake is likely to be present within the action area due to: (1) the project being located within the species' range and current distribution; (2) suitable upland and aquatic habitat within the action area; (3) all the elements needed to support the species' life history are located within the action area; (4) the lack of significant disturbance or history of significant threats to the species in the general vicinity; (5) active monitoring, management, and conservation for the species in nearby public lands; and (6) the biology and ecology of the animal.

Effects of the Action

Caltrans proposes to minimize construction related effects by implementing the *Conservation Measures* included in the project description section of this biological opinion. Effective implementation of

Conservation Measures will likely minimize adverse effects to the California red-legged frog and San Francisco garter snake during construction. The proposed project has the potential to result in a variety of adverse effects to these two species, combined in the following section based on the similarities.

The California red-legged frog and San Francisco garter snake could be encountered throughout the hardscape and landscape areas of the project footprint where they risk injury under staged and moving equipment/vehicles and ground disturbing activities.

Educating project personnel will encourage compliance with the conservation measures and increase the possibility that California red-legged frogs and San Francisco garter snakes in the work area will be identified and addressed appropriately for avoidance. Worker education is limited by the effectiveness of the presentation and the willingness of the construction personnel to participate in compliance.

Pre-construction surveys by a Service-Approved Biological Monitor will assist in clearing California red-legged frogs and San Francisco garter snakes from the work area prior to the introduction of a potential construction-related threat. Biological clearance of work areas prior to the start of each day's work and during construction will increase the chances of identifying frogs and snakes in the work area that would be susceptible to injury. Biological clearance of work areas is limited by the experience of the biologist, the complexity and abundance of potential cover sites, the small size and inconspicuous nature of the species, and the challenges of completing a thorough clearance given the construction schedule and other factors.

Preconstruction surveys and the relocation of individual California red-legged frogs and San Francisco garter snakes by a Service-Approved Biological Monitor will minimize the likelihood of serious injury or mortality; however, capturing and handling individuals may result in stress and/or minor injury during handling, containment, and transport. Death and injury of individuals could occur at the time of relocation or later in time subsequent to their release. Although survivorship for translocated animals has not been estimated, survivorship of translocated wildlife, in general, is low because of intraspecific competition; lack of familiarity with the relocation site in regards to breeding, feeding, and sheltering habitats, risk of contracting disease in foreign environment, and increased risk of predation. Caltrans proposes to minimize these effects by using Service-Approved Biological Monitors, limiting the duration of handling, and relocating animals to suitable nearby habitat (no further than the frog or snake's typical dispersal range).

Despite being "cleared" prior to construction, California red-legged frogs and San Francisco garter snakes may move into the work site undetected and could be adversely affected by the activities occurring within.

It is unlikely that diseases, such as chytridiomycosis will be transmitted through contaminated equipment, given the lack of in-water work.

Construction noise, vibration, and increased human activity may interfere with normal behaviors – feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors of the California red-legged frog–resulting in avoidance of areas that have suitable habitat but intolerable levels of disturbance. Short-term temporal effects will occur when vegetative and debris cover and subterranean upland habitat is removed along the road shoulder as a result of project construction. Caltrans proposes to minimize these effects, in part, by locating construction staging, storage and parking areas outside of sensitive habitat; clearly marking construction work boundaries

to prevent crews from affecting more habitat than is absolutely necessary, and revegetating all unpaved areas disturbed by project activities.

Temporary effects comprise areas denuded, manipulated, or otherwise modified from their existing, pre-project conditions, thereby removing one or more essential components of a listed species' habitat as a result of project activities that include, but are not limited to work areas needed for construction. Temporary effects must be restored to baseline habitat values or better within one year following initial disturbance. Areas subject to ongoing operations and maintenance are not considered temporary even if they are restored within one year following initial disturbance. Affected areas not fulfilling these criteria are considered permanent. Construction within upland habitat, associated with pavement widening and pole and electrical installations, would result in the permanent loss and/or degradation of 0.31 acre of California red-legged frog and San Francisco garter snake upland and dispersal habitat; and the temporary loss and/or degradation of 1.19 acres of shared upland and dispersal habitat.

These effects will be further minimized by installing work boundary fencing to keep workers from straying into otherwise undisturbed habitat; erecting exclusion fencing to deter animals from moving into the staging area; implementing storm water and erosion BMP's; educating workers about the presence of California red-legged frogs and San Francisco garter snakes, their habitat, identification, regulatory laws, and avoidance and minimization measures; and requiring a Service-Approved Biological Monitor to be present to monitor project activities within or adjacent to suitable habitat.

The exclusion fence will be effective in discouraging animals from entering and taking cover under equipment or supplies. Fencing is not a complete deterrent and animals can gain access from needed gaps in the fence and end points. Therefore, continued monitoring of this area by the Service-Approved Biological Monitor will be necessary to minimize injury to California red-legged frogs or San Francisco garter snake throughout construction.

Monitoring and covering steep-walled excavations should minimize the potential for the two listed species to be affected by predation, desiccation, entombment, or starvation. Proper trash disposal is often difficult to enforce and is a common non-compliance issue. Improperly disposed edible trash could attract predators, such as raccoons, crows, gulls, and ravens, to the site, which could subsequently prey on the California red-legged frog and San Francisco garter snake. Trapped red-legged frogs may also be vulnerable to predation from the San Francisco garter snake.

California red-legged frogs, San Francisco garter snakes, and their prey could also be affected by contamination due to chemical or sediment discharge. Exposure pathways could include inhalation, dermal contact, direct ingestion, or secondary ingestion of contaminated soil, plants or prey species. Exposure to contaminants could cause short- or long-term morbidity, possibly resulting in reduced productivity or mortality. However, Caltrans proposes to reduce these risks by limiting the equipment used in the stream bed to hand tools, implementing BMPs that consist of refueling, oiling, or cleaning of vehicles and equipment a minimum of 50 feet from riparian and aquatic areas (or utilizing pads or other catchments to avoid potential discharges in cases where equipment cannot be moved); installing coir rolls, straw wattles and/or silt fencing to capture sediment and prevent runoff or other harmful chemicals from entering the aquatic habitat; and locating staging, storage and parking areas away from aquatic habitat.

Caltrans' commitment to use erosion control devices other than mono-filament should be effective in avoiding the associated risk of entrapment that can result in death by predation, starvation, or desiccation (Stuart *et al.* 2001).

The completed project will result in minor localized widening of the travel way but is unlikely to increase the local risk of California red-legged frog and San Francisco garter snake mortality from vehicle collision. The completed project will not provide wildlife with greater access to the roadway or result in the addition of structures such as barriers that may result in greater risk of being stranded in the roadway increasing their risk of being killed. Likewise, the road effects zone described in the baseline section is unlikely to change. The pedestrian crossing and associated signage and signaling will diminish baseline travel speeds and increase driver awareness in the immediate area which may result in greater detection and avoidance of wildlife on the road near the Grey Whale Cove parking exit.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future federal actions that are unrelated to the SR 1 Gray Whale Cove Pedestrian Access Improvement Project are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of the California red-legged frog and San Francisco garter snake, the environmental baseline for the action area, the effects of the proposed SR 1 Gray Whale Cove Pedestrian Access Improvement Project, and the cumulative effects, it is the Service's biological opinion that the SR 1 Gray Whale Cove Pedestrian Access Improvement Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species based on the following: (1) successful implementation of the described *Conservation Measures* is likely to reduce the potential for proposed project activities to result in the disruption of normal California red-legged frog and San Francisco garter snake behavior or risk of injury; (2) the ground-disturbing activities will be confined within and immediately adjacent to the existing paved and hard-packed surfaces; and (3) the habitat for the species in the proposed project footprint is small in size and the disturbance in those areas will be brief in duration.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action

is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this *Incidental Take Statement.*

The measures described below are non-discretionary, and must be undertaken by the Caltrans so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Caltrans has a continuing duty to regulate the activity covered by this incidental take statement. If the Caltrans (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog and San Francisco garter snake will be difficult to detect due to their small size, wariness, and cryptic nature. The project footprint includes vegetative cover which provide cover for both species. Finding an injured or dead California red-legged frog or San Francisco garter snake is unlikely due to their relatively small body size, rapid carcass deterioration, and likelihood that the remains will be removed by a scavenger or indistinguishable amongst the disturbed soil and debris. Losses of these listed animals will also be difficult to quantify due to a lack of baseline survey data and seasonal/annual fluctuations in their numbers due to environmental or human-caused disturbances. There is a reasonable likelihood of harm, injury and mortality as a result of the proposed construction activities, the permanent loss/degradation of suitable habitat, and capture and relocation efforts.

California Red-Legged Frog

The Service is authorizing take incidental to the proposed action as the non-lethal harm of all California red-legged frogs within the action area, and the capture of all individuals within the construction footprint.

Since the Service cannot estimate the number of individual California red-legged frogs that will be incidentally taken for the reasons listed, the Service is providing a mechanism to quantify when take would be considered to be exceeded as a result of implementing the proposed project. The Service will use detection of one (1) dead or injured California red-legged frog to determine when take is exceeded. By setting a threshold of one (1) individual detected, the Service has set an incidental take limit that is measurable, irrefutable, and indicates that the species are being affected at a level where conservation measures and project implementation need to be evaluated and possibly modified. The Service concludes that incidental take of the California red-legged frog will be considered exceeded if one (1) dead or injured individual California red-legged frog is detected by biological monitors or other project personnel.

San Francisco Garter Snake

The Service is authorizing take incidental to the proposed action as the non-lethal harm of all San Francisco garter snakes within the action area, and the capture of all individuals within the construction footprint.

Upon implementation of the following *Reasonable and Prudent Measure,* the incidental take of the California red-legged frog and San Francisco garter snake associated with the proposed project in proportion to the amount and type of take outlined above will become exempt from the

prohibitions described under section 9 of the Act. No other forms of take are exempted under this opinion.

Effect of the Take

In the accompanying BO, the Service determined that this level of anticipated take for the California red-legged frog and San Francisco garter snake is not likely to result in jeopardy to the species.

Reasonable and Prudent Measure

The Service has determined that the following reasonable and prudent measure is necessary and appropriate to minimize the effect of the action on the California red-legged frog and San Francisco garter snake. Caltrans will be responsible for the implementation and compliance with this measure:

> Minimize the adverse effects to the California red-legged frog and San Francisco garter snake and their habitat in the action area by implementing the proposed project, including the *Conservation Measures* as described, with the following *Terms and Conditions.*

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Caltrans must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. The following *Terms and Conditions* implement *Reasonable and Prudent Measure* one (1):

    a. Approval request for Service-Approved Biological Monitors shall include, at a minimum: (1) relevant education; (2) relevant training concerning the California red-legged frog and San Francisco garter snake, identification, survey techniques, handling individuals of different age classes, and handling of different life stages by a permitted biologist or recognized species expert authorized for such activities by the Service; (3) a summary of field experience conducting requested activities (to include project/research information); (4) a summary of BOs under which they were authorized to work with the California red-legged frog and San Francisco garter snake and at what level (such as construction monitoring versus handling), this will also include the names and qualifications of persons under which the work was supervised as well as the amount of work experience on the actual project; (5) a list of Federal Recovery Permits [10(a)1(A)] held or under which they are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); and (6) any relevant professional references with contact information. No project construction will begin until Caltrans has received written Service approval for biologists to conduct specified activities.

    b. If appropriate habitat for the California red-legged frog and San Francisco garter snake is located immediately adjacent to its capture location then the preferred option is short distance relocation to that habitat. The animal should not be moved outside of the area it would have traveled on its own. Captured animals should be released within suitable habitat as close to their capture location as feasible for their continued safety. Under no circumstances should an animal be relocated to another property without the owner's written permission. It is Caltrans' responsibility to arrange for that permission.

Service-Approved Biological Monitors must limit the duration of handling and captivity. While in captivity, California red-legged frogs and San Francisco garter snakes shall be kept individually in a cool, dark, moist, aerated environment, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or transporting should not contain any standing water.

Reporting Requirements
In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Caltrans shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded, Caltrans must reinitiate formal consultation as per 50 CFR 402.16.

1. Notification of injured or dead listed species will be made to the Coast-Bay Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623. When an injured or dead individual of the listed species is found, Caltrans shall follow the steps outlined in the following *Disposition of Individuals Taken* section.

2. Sightings of any listed or sensitive animal species should be reported to the CNDDB (http://www.dfg.ca.gov/biogeodata/cnddb/).

3. Construction compliance reports will be addressed to the Coast-Bay Division Chief of the Endangered Species Program at the SFWO.

4. Caltrans shall submit post-construction compliance reports prepared by the Service-approved biologist to the Service within 60 calendar days following completion of each construction season or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report shall detail: (1) dates that relevant project activities occurred; (2) pertinent information concerning the success of the project in implementing avoidance and minimization measures; (3) an explanation of failure to meet such measures, if any; (4) known project effects on the California red-legged frog and San Francisco garter snake; (5) occurrences of incidental take of any listed species; (6) documentation of employee environmental education; and (7) other pertinent information.

Disposition of Individuals Taken
Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast-Bay Division Chief of the Endangered Species Program at the SFWO at (916) 414-6623.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following actions:

1. Caltrans District 4 should work with the Service to develop a conservation strategy that would identify the current safe passage potential along Bay Area highways and the areas where safe passage for wildlife could be enhanced or established.

2. Caltrans should assist the Service in implementing recovery actions identified in the *Recovery Plan for the California Red-legged Frog* (Service 2002) and *Recovery Plan for the San Francisco Garter Snake* (Service 1985).

3. Caltrans should consider participating in the planning for a regional habitat conservation plan for the California red-legged frog, San Francisco garter snake, other listed species, and special-status species.

4. Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog, San Francisco garter snake, and other appropriate species. Such banking systems also could possibly be utilized for other required mitigation (i.e., seasonal wetlands, riparian habitats, etc.) where appropriate. Efforts should be made to preserve habitat along roadways in association with wildlife crossings.

5. Roadways can constitute a major barrier to critical wildlife movement. Therefore, Caltrans should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage by the California red-legged frog, San Francisco garter snake, other listed animals, and wildlife. Photographs, plans, and other information into the BAs if "wildlife friendly" crossings are incorporated into projects. Efforts should be made to establish upland culverts designed specifically for wildlife movement rather than accommodations for hydrology. Transportation agencies should also acknowledge the value of enhancing human safety by providing safe passage for wildlife in their early project design.

6. Adequate wildlife road mortality data is a critical factor in assessing where wildlife and the travelling public are most at risk due to animal-vehicle collision along California's highways. Caltrans should make its wildlife road mortality data available or provide it to a database service such as the California Roadkill Observation System (https://www.wildlifecrossing.net /california/) to enhance road ecology-based planning, add to our resources of "best available science", and increase public safety.

7. Caltrans should ensure that their container plants used for restoration are sourced from nurseries utilizing the Working Group for Phytophthoras in Native Habitats' *Guidelines to Minimize Phytophthora Pathogens in Restoration Nurseries* (available at http://www.suddenoakdeath.org/wp-content/uploads/2016/04/Restoration.Nsy_. Guidelines.final_.092216.pdf).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION--CLOSING STATEMENT

This concludes formal consultation on the SR 1 Gray Whale Cove Pedestrian Access Improvement Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the federal agency or by the Service where discretionary federal agency involvement or control over the action has been retained or is authorized by law and: (a) if the amount or extent of taking specified in the incidental take statement is exceeded; (b) if new information reveals effects of

the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the BO; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.

If you have questions concerning this consultation or implementation of its measures, please contact John Cleckler, Caltrans Liaison (john_cleckler@fws.gov), or at (916) 414-6639 or Ryan Olah, Coast-Bay Division Chief, (ryan_olah@fws.gov), at (916) 414-6623, or the letterhead address.

Sincerely,

for Jennifer M. Norris, Ph.D.
Field Supervisor

cc:
Robert Stanley, California Department of Fish and Wildlife, Fairfield, California
Gregory Pera, Caltrans District 4, Oakland, California

Literature Cited

Ashley, E. P., and J. E. Robinson. 1996. Road mortality of amphibians, reptiles and other wildlife on the Long Point Causeway, Lake Erie, Ontario. Canadian Field Naturalist 110:403–412.

Backlin, A.R., J.Q. Richmond, E.A. Gallegos, C.K. Chistensen, and R.N. Fisher. 2017. An extirpated lineage of a threatened frog species resurfaces in southern California. Oryx: 1–5.

Barry, S. 1992. Letter to Marvin L. Plenert, Regional Director, U.S. Fish and Wildlife Service, Portland, Oregon, regarding proposed listing.

_____. 2002. Dobbins and Cottage/Deadwood Watersheds, Plumas National Forest, Herpetological Surveys, 2001-2002. Department of Zoology, University of California, Davis

Barry, S.J. and G.M. Fellers. 2013. History and status of the California red-legged frog (*Rana draytonii*) in the Sierra Nevada, California, USA. Herpetological Conservation and Biology 8(2): 456-502.

BioMaAs. 2015. Biological Assessment for Green Valley Trail Alignment. Prepared for Questa Engineering and County of San Mateo Parks Department. April 5, 2015. San Francisco, California. 42 pages.

Bulger, J.B., N.J. Scott Jr., and R.B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110(2003): 85–95.

Bury, R.B. and J.A. Whelan. 1984. Ecology and management of the bullfrog. Fish and Wildlife Resource Publication 155.

California Department of Fish and Wildlife (CDFW). 2019. BIOSIS. Natural Heritage Division, Sacramento, California.

Carr, L. W., and L. Fahrig. 2001. Effect of road traffic on two amphibian species of differing vagility. Conservation Biology 15:1,071–1,078.

Cooke, A. S. 1995. Road mortality of common toads (*Bufo bufo*) near a breeding site, 1974–1994. Amphibia-Reptilia 16:87–90.

Davidson, E.W., M. Parris, J.O. Collins, J.E. Longcore, A.P. Pessier, and J. Brunner. 2003. Pathogenicity and transmission of *Chytridiomycosis* in tiger salamanders (*Ambystoma tigrinum*). Copeia 2003(3): 601-607.

Dodd, C.K. 2013a. Frogs of the United States and Canada. Volume 1. John Hopkins University Press, Baltimore, Maryland.

_____. 2013b. Frogs of the United States and Canada. Volume 2. John Hopkins University Press, Baltimore, Maryland.

Drews, C. 1995. Road kills of animals by public traffic in Mikumi National Park, Tanzania, with notes on baboon mortality. African Journal of Ecology 33:89–100.

Emlen, S.T. 1977. "Double clutching" and its possible significance in the bullfrog. Copeia 1977(4): 749-751.

Fellers, G. 2005. Rana draytonii Baird and Girard, 1852b California red-legged frog. Pages 552-554 in M. Lannoo (editor). Amphibian declines the conservation status of United States species. University of California Press. Berkeley, California.

Fellers, G.M., and P.M. Kleeman. 2007. California Red-Legged Frog (*Rana draytonii*) Movement and Habitat Use: Implications for Conservation. Journal of Herpetology 41: 276-286.

Fellers, G.M., R.A. Cole, D.M. Reintz, and P.M. Kleeman. 2011. Amphibian chytrid fungus (*Batrachochytrium dendrobatidis*) in coastal and montane California, USA Anurans. Herpetological Conservation and Biology 6(3): 383-394.

Fellers, G.M., P.M. Fleeman, D.A.W. Miller, and B.J. Halstead. 2017. Population Trends, Survival, and Sampling Methodologies for a Population of *Rana draytonii*. Journal of Herpetology 51(4): 567-573.

Fisher, R.N. and H.B. Shaffer. 1996. The decline of amphibians in California's Great Central Valley. Conservation Biology 10(5): 1387-1397.

Forman, T. T., and R. D. Deblinger. 1998. The ecological road-effect zone for transportation planning and a Massachusetts highway example. Pages 78–96 in G. L. Evink, P. Garrett, D. Zeigler, and J. Berry (editors). Proceedings of the international conference on wildlife ecology and transportation. Publication FL-ER-69-98. Florida Department of Transportation, Tallahassee.

_____. 2000. The Ecological Road-Effect Zone of a Massachusetts (U.S.A) Suburban Highway. Conservation Biology 14:36–46.

Halstead, B.J. and P.M. Kleeman. 2017. Frogs on the Beach: Ecology of California red-legged frogs (*Rana draytonii*) in Coastal Dune Drainages. Herpetological Conservation and Biology 12: 127-140.

Hansen, L. 1982. Trafikdræbte dyr i Danmark (Road kills in Denmark, in Danish). Dansk Ornitologisk Forenings Tidsskrift 76:97–110.

Hayes, M.P., M.R. Jennings, and G.B. Rathbun. 2006. Rana Draytonii (California Red-Legged Frog) Prey. Herpetological Review 37(4):449. Available at http://researcharchive.calacademy.org/research/bmammals/Rathbun/PDFs/Hayes_HerpReview_2006.pdf.

Hayes, M.P. and M.R. Tennant. 1985. Diet and feeding behavior of the California red-legged frog *Rana aurora draytonii* (Ranidae). The Southwestern Naturalist 30(4):601-605.

Hels, T., and E. Buchwald. 2001. The effect of road kills on amphibian populations. Biological Conservation 99:331–340.

Hunt, L. 1993. Letter to Marvin L. Plenert, Regional Director, U.S. Fish and Wildlife Service, Portland, Oregon, regarding proposed listing.

Jennings, M.R. 1993. Letter to Peter C. Sorensen, U.S. Fish and Wildlife Service, Sacramento, California.

Jennings, M.R. and M.P. Hayes. 1985. Pre-1900 overharvest of California red-legged frogs (*Rana aurora draytonii*): The inducement for bullfrog (*Rana catesbeiana*) introduction. Herpetological Review 31(1): 94-103.

_____. 1990. Final report of the status of the California red-legged frog (*Rana aurora draytonii*) in the Pescadero Marsh Natural Preserve. Final report prepared for the California Department of Parks and Recreation, Sacramento, California through Agreement (4-823-9018). Department of Herpetology, California Academy of Sciences, Golden Gate Park, San Francisco, California. 30 pages.

_____. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Rancho Cordova, California.

Jennings, M.R., M.P. Hayes, and D.C. Holland. 1992. A petition to the U.S. Fish and Wildlife Service to place the California red-legged frog (*Rana aurora draytonii*) and the western pond turtle (*Clemmys marmorata*) on the List of Endangered and Threatened Wildlife and Plants. 21 pages.

Kruse, K.C. and M.G. Francis. 1977. A predation deterrent in larvae of the bullfrog, *Rana catesbeiana.* Transactions of the American Fisheries Society 106(3): 248-252.

Lips, K.R., F. Brem, R. Brenes, J.D. Reeve, R.A. Alford, J. Voyles, C. Carey, L. Livo, A.P. Pessier and J.P Collins. 2006. Emerging infectious disease and the loss of biodiversity in a Neotropical amphibian community. Proceedings of the National Academy of Sciences of the United States of America 103(9): 3165-3170.

MacArthur, R. A., R. H. Johnston, and V. Geist. 1979. Factors in influencing heart rate in free-ranging bighorn sheep: a physiological approach to the study of wildlife harassment. Canadian Journal of Zoology 57:2,010–2,021.

Mallick, S. A., G. J. Hocking, and M. M. Driessen. 1998. Road-kills of the eastern barred bandicoot (*Perameles gunnii*) in Tasmania: an index of abundance. Wildlife Research 25:139–145.

Moyle, P.B. 1976. Fish introductions in California: a history and impact of native fishes. Biological Conservation 9(1): 101-118.

Munguira, M. L., and J. A. Thomas. 1992. Use of road verges by butterfly and moth populations, and the effect of roads on adult dispersal and mortality. Journal of Applied Ecology 29:316–329.

Peralta-García, A., B.D. Hollingsworth, J.Q. Richmond, J.H. Valdez-Villavicentio, G. Ruiz-Campos, R. N. Fisher, P. Cruz-Hernandez, P. Galina-Tessaro. 2016. Status of the California red-legged frog (*Rana draytonii*) in the state of Baja California, México. Herpetological Conservation and Biology 11(1): 168-180.

Padgett-Flohr, G. 2008. Pathogenicity of *Batrachochytrium dendrobatidis* in two threatened California amphibians: *Rana draytonii* and *Ambystoma californiense.* Herpetological Conservation and Biology 3(2): 182-191.

Padgett-Flohr, G.E. and R.L. Hopkins, II. 2010. Landscape epidemiology of *Batrachochytrium dendrobatidis* in central California. Ecography 33: 688–697.

Richmond, J.O., A.R. Backlin, P.J. Tatarian, B.G. Solvesky, R.N. Fisher. 2014. Population declines lead to replicate patterns of internal range structure at the tips of the distribution of the California red-legged frog (*Rana draytonii*). Biological Conservation 172: 128-137.

Rosen, P. C., and C. H. Lowe. 1994. Highway mortality of snakes in the Sonoran desert of southern Arizona. Biological Conservation 68:143–148.

Shaffer, H.B., G.M. Fellers, S.R. Voss, C. Oliver, and G.B. Pauley. 2010. Species boundaries, phylogeography, and conservation genetics of the red-legged frog (*Rana aurora/draytonii*) complex. Molecular Ecology 13: 2667-2677.

Stebbins, R.C. 2003. A field guide to western reptiles and amphibians. Houghton Mifflin. Boston, Massachusetts.

Storer, T. I. 1925. A synopsis of the Amphibia of California. University of California Publications in Zoology 27: 1-342.

_____. 1933. Frogs and their commercial use. California Department of Fish and Game 19(3): 203-213.

Stuart, J. M., M. L. Watson, T. L. Brown, and C. Eustice. 2001. Plastic netting: an entanglement hazard to snakes and other wildlife. Herpetological Review 32(3):162–164.

Tatarian, T.J. and G. Tatarian. 2008. California red-legged frog telemetry study; Hughes Pond, Plumas National Forest. Annual Report, Option Year 3 to: U. S. Fish and Wildlife Service, 2800 Cottage Way, Sacramento, California and U.S. Forest Service, Plumas National Forest, 875 Mitchell Avenue, Oroville, California.

_____. 2010. Chytrid Infection of *Rana draytonii* in the Sierra Nevada, California, USA. Herpetological Review 41(3): 325-327.

Tatarian, P.J. 2008. Movement patterns of California red-legged frogs (*Rana draytonii*) in an inland California environment. Herpetological Conservation and Biology 3(2): 155-169.

Trombulak, S. C., and C. A. Frissell. 2000. The ecological effects of roads on terrestrial and aquatic communities: a review. Conservation Biology 14:18–30.

Twedt, B. 1993. A comparative ecology of *Rana aurora* Baird and Girard and *Rana catesbeiana* Shaw at Freshwater Lagoon, Humboldt County, California. Master of Science thesis. Humboldt State University, Arcata, California. 53 pages plus appendix.

U. S. Fish and Wildlife Service (Service). 1985. Recovery Plan for the San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*). U.S. Fish and Wildlife Service, Portland, Oregon. 77 pages.

_____. 1996. Endangered and threatened wildlife and plants; determination of threatened status for the California red-legged frog. Federal Register 61: 25813-25833.

_____. 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). Portland, Oregon. 173 pages.

_____. 2005. Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog. Sacramento, California. 26 pages. Available at http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/crf_survey_guidance_aug2005.pdf

_____. 2006a. Endangered and threatened wildlife and plants; designation of critical habitat for the California red-legged frog (*Rana aurora draytonii*), and special rule exemption associated with final listing for existing routine ranching activities; final rule. Federal Register 71(71):19244-19346.

_____. 2006b. San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*) 5-Year Review: Summary and Evaluation. September 2006. Sacramento, California. 46 pages.

_____. 2010. Endangered and threatened wildlife and plants; revised designation of critical habitat for California red-legged frog; final rule. Federal Register 75: 12815-12959.

Van der Zande, A. N., W. J. ter Keurs, and W. J. Van der Weijden. 1980. The impact of roads on the densities of four bird species in an open field habitat - evidence of a long-distance effect. Biological Conservation 18:299–321.

Van Gelder, J. J. 1973. A quantitative approach to the mortality resulting from traffic in a population of *Bufo bufo* L. Oecologia 13:93–95.

Vos, C. C., and J. P. Chardon. 1998. Effects of habitat fragmentation and road density on the distribution pattern of the moor frog, *Rana arvalis*. Journal of Applied Ecology 35:44–56.

Wright, A.H. and A.A. Wright. 1949. Handbook of frogs and toads in the United States and Canada. Comstock Publishing, Ithaca, New York.

Personal Communication

Gordon, R. and J. Bennett. Electronic mail communication from Rebecca Gordon and Jesse Bennett, Service, Carlsbad FWO, to Valerie Hentges, Service, Sacramento FWO, dated October 12, 2017.

Mabe, J. 2017. Phone conversation from Jeff Mabe, U.S. Forest Service, Eldorado National Forest, to Ian Vogel, Service, Sacramento FWO, dated June 6, 2017.

Yang, D. and J. Martin. Electronic mail communication from Dou-Shuan Yang and Jacob Martin, Service, Ventura FWO, to Valerie Hentges, Service, Sacramento FWO, dated July 5, 2017.