

INFORMATION HANDOUT

For Contract No. 04-3G0704

At 04-Son-1-7.2

Identified by

Project ID 0400021271

PERMITS

Coastal Development Permit

MATERIALS INFORMATION

USFWS Biological Opinion for the State Route 1 Cheney Gulch Slip-Out Repair Project, Sonoma County (dated July 7, 2014)

Water Source Information – Bay Area Recycle Water Commercial Truck Fill Facilities Location Guide (June 2015)



COUNTY OF SONOMA
PERMIT AND RESOURCE MANAGEMENT DEPARTMENT

2550 Ventura Avenue, Santa Rosa, CA 95403
(707) 565-1900 FAX (707) 565-1103

February 22, 2016

Sent via USPS & e-mail

CA Dept of Transportation
c/o Eric Schen
111 Grand Avenue
Oakland CA 94612

Re: File No.: CPH15-0011
Address: State Route 1, Postmile 7.2
APN: Various

Your Coastal Permit to construct a roadway slip out and drain system repair and placement of rock slope protection on State Route 1 Postmile 7.2 has been approved subject to the enclosed Conditions of Approval.

A Notice of Pending Action Waiver of Public Hearing was mailed to each property owner within 300 feet of the proposed project and any comments were required to be submitted to the County within 10 days as per Section 26C-344(b). No comments were received prior to approval of the Coastal Permit. A Notice of Final Action will be sent to the California Coastal Commission on March 3, 2016, upon expiration of the local appeal period.

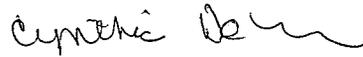
The Coastal Permit approval is based on a determination by the Permit and Resource Management Department that the project, as described in the revised application and as conditioned, conforms with the plans, policies, requirements and standards of the Sonoma County Coastal Program and the California Coastal Act. In addition, it is the determination of the Department that it shall act as a responsible agency under the provisions of the California Environmental Quality Act (CEQA) pursuant to the Provisions of Title 14 of the California Administrative Code, Section 15096, because the applicant is the lead agency under CEQA.

The Coastal Permit shall be issued for the use as described on the application form, the proposal statement, the site plan submitted to this department and as modified by the Conditions of Approval. Any modifications of the use, expansion or alteration shall be submitted for review and approval by the Permit and Resource Management Department, Project Review Division, in advance of the proposed change and may, at the discretion of the department, require a new Coastal Permit with or without a public hearing.

This decision may be appealed to in writing, along with an appeal fee, within 10 (ten) calendar days of the date of this letter to the Sonoma County Board of Zoning Adjustments per Section 26C-347 of the Sonoma County Zoning Ordinance.

If you have any questions, feel free to contact me at (707) 565-1754 or at Cynthia.Demidovich@sonoma-county.org. Please refer to your file number (CPH15-0011) and site address when making inquiries.

Sincerely,



Cynthia Demidovich
Project Planner

:bp

Enclosure: Conditions of Approval dated February 22, 2016

c: CPN15-0011
Jo Ann Cullom
Caltrans District 4, Robert Solotar

Conditions of Approval

Date: February 22, 2016
Applicant: CA Dept of Transportation
Address: State Route 1, PM 7.2

File No.: CPH15-0011
APN: Various

Project Description: Request for a Coastal Permit to construct a roadway slip out and drain system repair and placement of rock slope protection on State Route 1 Postmile 7.2.

Prior to commencing the use, evidence must be submitted to the file that all of the following non-operational conditions have been met.

BUILDING:

1. The applicant shall apply for and obtain building related permits from the Permit and Resource Management Department. The necessary applications appear to be, but may not be limited to, site review, building permit, and grading permit.

PLANNING:

"The conditions below have been satisfied" BY _____ DATE _____

2. This Coastal Permit allows the applicant to construct a roadway slip out and drain system repair and placement of rock slope protection. The use shall be operated in accordance with the proposal statement and site plan located in File No. CPH15-0011 unless otherwise modified by these conditions.
3. Any proposed modification, alteration, and/or expansion of the use as described by the application submitted on July 28, 2015, and as authorized by this Coastal Permit shall require the prior review and approval of the Permit and Resource Management Department or the Board of Zoning Adjustments, as appropriate. Such changes may require a new or modified Coastal Permit and additional environmental review.
4. The applicant shall comply with all avoidance, minimization and mitigation measures located in the Initial Study dated, July 2014, and the Natural Environment Study –Update dated, November 2015
5. All building and/or grading permits shall have the following note printed on plan sheets:

"In the event that archaeological resources such as pottery, arrowheads, midden or culturally modified soil deposits are discovered at any time during grading, scraping or excavation within the property, all work shall be halted in the vicinity of the find and County PRMD Project Review staff shall be notified and a qualified archaeologist shall be contacted immediately to make an evaluation of the find and report to PRMD. PRMD staff may consult and/or notify the appropriate tribal representative from tribes known to PRMD to have interests in the area. Artifacts associated with prehistoric sites include humanly modified stone, shell, bone or other cultural materials such as charcoal, ash and burned rock indicative of food procurement or processing activities. Prehistoric domestic resources include hearths, firepits, or house floor depressions whereas typical mortuary resources are represented by human skeletal remains. Historic artifacts potentially include all by-products of human land use greater than 50 years of age including trash pits older than fifty years of age. When contacted, a member of PRMD Project Review staff and the archaeologist shall visit the site to determine the extent of the resources and to develop and coordinate proper protection/mitigation measures required for the discovery. PRMD may refer the mitigation/protection plan to designated tribal representatives for review and comment. No work shall commence until a protection/mitigation plan is reviewed and approved by PRMD - Project Review staff. Mitigations may include avoidance, removal, preservation and/or recordation in accordance with California law. Archeological evaluation and mitigation shall be at the applicant's sole expense.

"If human remains are encountered, all work must stop in the immediate vicinity of the discovered remains and PRMD staff, County Coroner and a qualified archaeologist must be notified immediately so that an evaluation can be performed. If the remains are deemed to be Native American, the Native American Heritage Commission must be contacted by the Coroner so that a "Most Likely Descendant" can be designated and the appropriate provisions of the California Government Code and California Public Resources Code will be followed."

Mitigation Monitoring: No permits for any construction activities shall be issued until the above note appears on the construction plans.

6. This permit shall be subject to revocation or modification by the Permit and Resource Management Department if: (a) the department finds that there has been non-compliance with any of the conditions or (b) the department finds that the use for which this permit is here by granted constitutes a nuisance. Any such revocation shall be preceded by a public hearing noticed and heard pursuant to Section 26-335 and 26C-335.2 of the Coastal Zoning Ordinance.

In any case where a Coastal Permit has not been used within two (2) years after the date of granting thereof, or for such additional period as may be specified in the permit, such permit shall become automatically void and of no further effect provided, however, that upon written request by the applicant prior to the expiration of the two year period the permit approval may be extended for not more than one (1) year by the authority which granted the original permit pursuant to Section 26C-348 of the Coastal Zoning Ordinance.



United States Department of the Interior



In Reply Refer to:
08ESMF00
2013-F-0337-1

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

JUL 7 2014

Mr. Javier Almaguer
California Department of Transportation
Central Region Biology South Branch
855 M Street, Suite 200
Fresno, California 93721

Subject: Biological Opinion for the State Route 1 Cheney Gulch Slip-Out Repair Project,
Sonoma County, California (Caltrans EA 04-3G070)

Dear Mr. Almaguer:

This Biological Opinion (BO) is in response to your February 21, 2013, request for formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed State Route (SR) 1 Cheney Gulch Slip-Out Repair Project in Sonoma County, California. Your letter was received in our office on February 28, 2013 and included a request for formal consultation on the threatened California red-legged frog (*Rana draytonii*). The consultation package was considered complete on May 22, 2014, following the Service's review of additional project information provided by Caltrans.

This document represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog and critical habitat for the threatened yellow larkspur (*Delphinium luteum*). This BO has been prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*)(Act).

The Service concludes that the project is not likely to adversely affect yellow larkspur because: (1) the species was not observed during 2013 botanical surveys of the construction footprint; and (2) Caltrans will conduct larkspur surveys during the species' blooming period (April-June), a year prior to construction (anticipated spring 2015) and reinitiate consultation if the species is found in the action area.

The Service concludes that the project is not likely to adversely affect the threatened Myrtle's silverspot butterfly (*Speyeria zereene myrtleae*) because: (1) the construction footprint consists of a sparsely vegetated road shoulder and heavily eroded slope; (2) the species' larval host plant, *Viola adunca*, was not found during 2013 botanical surveys of the construction footprint; (3) there will be no direct effects to grassland vegetation where the more vulnerable butterfly life forms, eggs and larvae, would occur; (4) adult butterflies would likely avoid the area due to the construction activity; (5) Caltrans will implement measures to control fugitive dust; and (6) the project will not result in the loss of habitat for the species.

The Service concludes that the project is not likely to adversely affect the endangered tidewater goby (*Eucyclogobius newberryi*) because: (1) the habitat for the species is approximately 1 mile downstream of the project footprint; (2) the project does not include activity within the Cheney Gulch streambed; and (3) implementation of the required Stormwater Pollution Prevention Plan (SWPPP) and standard Caltrans erosion control best management practices (BMPs) are likely sufficient to protect downstream water quality.

Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 6, 2012. Effective, October 1, 2012, MAP-21 includes provisions to promote streamlined and accelerated project delivery. Caltrans was approved to participate in the MAP-21 Surface Transportation 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.

This BO is based on: (1) the February 2014, Biological Assessment (BA); (2) Caltrans' April 21, 2014, response to the Service's March 13, 2014, electronic mail (e-mail) message; (3) a revised April 2014 BA; (4) June 9, 2014 revised project information; and (5) other information available to the Service.

Consultation History

- | | |
|------------------|---|
| March 26, 2013 | The Service received a preliminary project description and a California Natural Diversity Database (CNDDDB) map generated for the proposed project via an e-mail message. |
| March 28, 2013 | The Service sent Caltrans a BO issued for another Caltrans' Cheney Gulch project as technical assistance via an e-mail message. |
| April 5, 2013 | The Service received a map of the propose construction footprint via an e-mail message. |
| April 11, 2013 | The Service visited the proposed project site with Caltrans. |
| May 31, 2013 | The Service provided Caltrans will technical assistance via an e-mail message. |
| January 14, 2014 | The Service and Caltrans engaged in an e-mail correspondence regarding formal vs. informal consultation for the California red-legged frog. The Service recommended that Caltrans initiate formal consultation on the listed frog given the proposed ground disturbing activities adjacent to Cheney Gulch Creek. |
| January 8, 2014 | The Service received additional maps and project information from Caltrans via an e-mail message. |

- February 28, 2014 The Service received Caltrans' February 21, 2013, request for consultation along with a February 2014 BA.
- March 13, 2014 The Service sent Caltrans comments and questions regarding our review of the February 2014 BA. The message was the equivalent of a 30-day letter.
- April 21, 2014 The Service received Caltrans' response to the Service's March 13, 2014 e-mail. The response included an April 2014 revised BA and Caltrans' determination that the proposed action was unlikely to result in an adverse modification to yellow larkspur critical habitat.
- June 6, 2014 At Caltrans' request, the Service sent Caltrans the draft project description for review.
- June 9, 2014 The Service received revised project description information from Caltrans via an e-mail message.
- June 13, 2014 The Service received Caltrans' edits to the draft project description via an e-mail message.

BIOLOGICAL OPINION

Description of the Action

According to Caltrans' April 2014 BA, the purpose of the project is to repair two hillside slip-outs adjacent to SR 1. The eroding slope is resulting in the movement of soil down the Cheney Gulch embankment and is compromising the integrity of the SR 1 roadway.

The two problem areas are located approximately 30 feet apart and below the SR 1 southbound lane. The southernmost slip-out is approximately 15 feet wide with a 6 foot, nearly vertical, drop down to the Cheney Gulch creekbed. The other slip-out is approximately 6 feet wide and 4 feet long, with a 10 foot vertical drop. The slip-outs have resulted in the loss of the footings for the existing southbound lane road right-of-way (ROW) fencing. The project will include stabilization of the slopes, repair of the ROW fence, and repair/replacement of an associated drainage and culvert system.

The construction footprint includes 0.013 acre of permanent effects to non-hardscape land cover due to slope repair and culvert replacement and the temporary use of a 0.06 acre area of surrounding non-hardscape landcover for access and workspace. An adjacent 0.12 acre compact soil pull-out will be used for staging.

Construction Schedule

The project is anticipated to begin in the summer of 2016, between June 1 and October 15. Construction is expected to be completed in 45 to 60 working days.

Staging and Access

Staging, stockpiling, and equipment storage will take place at the top of the slope from SR 1 and the

adjacent road shoulder and a wide turn out adjacent to the construction footprint. Heavy equipment will operate from the top of the slope. Access below the top of slope will be limited to construction personnel on foot.

Project Components and Methods

Construction will begin with the placement of signs, temporary k-rails and temporary crash cushion to separate the work area from the southbound traffic lane along the turnout area. A crane will be used to set the k-rail and crash cushion. Then the failing ROW fence will be removed, followed by clearing and grubbing of the work area. Clearing and grubbing will involve the use of heavy equipment such as backhoes, loaders, and dump trucks. The slip-out areas will then be excavated and graded. Rock slope protection (RSP) will be placed within the excavation with the use of excavators, loaders, dump trucks, vibratory/compactor equipment, and backhoes. The ROW fence will be replaced after the slope repair and hydroseeding is complete.

The larger slide will be repaired by the following means and sequence:

1. The loose material within the limits of the slide will be excavated to create a shelf at the bottom of the slope. Excavation will include the removal of approximately 122 cubic yards of soil.
2. The shelf will be lined with a 1.5-inch thick backing material.
3. The face of the excavation will be lined with fabric sheeting.
4. A drainage pipe will be installed along the base of the shelf to drain this area in a fashion that will prevent further erosion.
5. The excavated area will be backfilled with ¼ ton rocks to create a new and stable slope. The topsoil will be used to fill the spaces between this RSP. The area of RSP installation will be approximately 30 feet long, 23 feet wide, and 12 feet deep covering approximately 690 square feet (0.0158 acre).
6. The crown of the RSP will be covered with 2 feet of excavated soil and 2 to 4 inches of topsoil will be placed on the RSP slope. The finished profile will have a 1.5:1 slope.
7. The new slope will be covered with 1 inch netting and hydro-seeded with native plant seed mix appropriate for the area.

The smaller slide will be repaired by the following means and sequence:

1. The existing 24 inch culvert discharges on the southbound slope will be removed.
2. The loose material within the limits of the slide will be excavated to create a shelf at the bottom of the slope. Excavation will include the removal of approximately 50 cubic yards of soil which will be stockpiled and reused as backfill.

3. A G2 inlet with a 24 inch down drain will be installed to collect water from the top of the slope and deliver it into a new 24 inch culvert that will discharge onto a dissipating RSP pad on the newly -stabilized slope.
4. A more stable slope will be established by placing imported soils on top of the new culvert and RSP.
5. The new slope will be hydro-seeded with native plant seed mix appropriate for the area.

The majority of construction activities for the overall project will occur inside existing Caltrans ROW. A temporary construction easement and permanent easement/ROW acquisition will be required to accomplish the work. The project will not require associated utility relocation.

Conservation Measures

Caltrans proposes to reduce adverse effects to the California red-legged frog by implementing the following measures:

1. Caltrans will compensate for the permanent and temporal California red-legged frog habitat loss resulting from the project with the purchase of 0.1 acre of California red-legged frog credits at the Mountain House Conservation Bank. Documentation of the credit purchase will be provided to the Service no later than 30 calendar days prior to the start of ground breaking on the project.
2. At least 15 days prior to the onset of any construction-related activities, Caltrans will submit to the Service, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for this project. Information included in a request for authorization will include, at a minimum: (1) relevant education; (2) relevant training on species 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 listed species 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 are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); (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.
3. Prior to initial ground disturbance, a Service-approved biologist will conduct an education program for all construction personnel. At a minimum, the training will include a description of the California red-legged frog, migratory birds, and their habitats; the occurrence of these species within the project footprint and action area; an explanation of the status of these species and protection under the Act and Migratory Bird Treaty Act; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel.

Upon completion of the training program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures and implications of Act. Sign-in sheets will be kept on file and will be available to the Service upon request.

4. A Service-approved biologist(s) will be on-site during all activities that may result in the take of the California red-legged frog.
5. No more than twenty (20) working days prior to any ground disturbance, pre-construction California red-legged frog surveys will be conducted by a Service-approved biologist. The Service-approved biologist(s) will investigate all potential California red-legged frog cover sites within the action area. This includes full investigation of mammal burrows within the construction footprint with scoping or excavation. The entrances of burrows will be collapsed following investigation in areas that will be subject to ground disturbance.
6. Safety permitting, a Service-approved biological monitor will also investigate areas of disturbed soil for signs of California red-legged frog within 30 minutes following the initial disturbance of that given area.
7. The Service-approved biologist(s) will permanently remove, from the project site, any exotic wildlife species, such as bullfrogs and crayfish, to the extent possible.
8. The Resident Engineer or their designee will be responsible for implementing these *Conservation Measures* and the *Terms and Conditions* of the BO and will be the point of contact for the project. The Resident Engineer or their designee will maintain a copy of the BO onsite whenever construction is taking place. Their name and telephone number will be provided to the Service at least thirty (30) calendar days prior to groundbreaking. Prior to ground breaking, the Resident Engineer will submit a letter to the Service verifying that they possess a copy of the BO and understand the *Terms and Conditions*.
9. The Resident Engineer will stop work at the request of the Service-approved biologist(s) if activities are identified that may result in the take of the California red-legged frog. Should the biologist(s) or the Resident Engineer exercise this authority, the Service will be notified by telephone and e-mail within one (1) working day. The Service contact will be the Coast-Bay/Forest Foothills Division Chief in the Sacramento Fish and Wildlife Office at (916) 414-6600.
10. If, at any time, a California red-legged frog is discovered, the Resident Engineer and the biological monitor will be informed immediately. The biological monitor will determine if relocating the animal is necessary and will work with the Service prior to handling or relocating unless otherwise authorized.
11. Construction access, staging, storage, and parking areas will be located within the described project footprint outside of identified sensitive habitat areas or outside of the right-of-way in areas environmentally cleared and permitted. Access routes, staging and storage areas, and contractor parking will be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.

12. Vegetation that is within the cut-and-fill line or is growing in locations where permanent structures will be placed (for example, road alignment, shoulder widening, and bridge abutments) will be cleared. In areas that will be subject to revegetation, plants will only be cleared where necessary and will be cut above soil level. This will increase the potential of those plants to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand or by using construction equipment such as backhoes and excavators, with the exception of trees (which will be removed by chainsaw, as needed). All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site.
13. A Service-approved biologist will be present during all vegetation clearing and grubbing activities, and during any excavation. If a California red-legged frog is discovered during these activities, the Service-approved biologist, through the Resident Engineer or their designee, will halt all work within 50 feet of the animal and will contact the Service to determine how to proceed.
14. Except for limited vegetation clearing, work within California red-legged frog habitat will be restricted to between June 1 and October 15.
15. Caltrans will restore temporarily disturbed areas to the preconstruction function and values to the maximum extent practicable. Exposed ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Any revegetation plans will be reviewed and approved by the Service. In addition, annual monitoring reports on the success of the plantings will be provided to the Service for review.
16. Night-time construction will be minimized.
17. Firearms will be prohibited at the project site, except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
18. If requested, before, during, or upon completion of ground breaking and construction activities, Caltrans will allow access by Service personnel to the action area to inspect project effects. Caltrans requests that all agency representatives contact the Resident Engineer prior to accessing the work site and review and sign the Safe Work Code of Practices, prior to accessing the work site for the first time.
19. Prior to the start of construction, areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed will be clearly delineated using high-visibility orange fencing. The fencing will remain in place throughout the duration of the project and will prevent construction equipment or personnel from entering sensitive habitat areas. The final project plans will depict all locations where fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the sensitive areas.

20. California red-legged frog exclusionary fencing will be placed at the edge of active construction areas to restrict frog access into the work area. The fencing will consist of taut silt fabric; 24 inches in height, stacked at 10-foot intervals, with the bottom buried 6 inches below grade. Exclusion fencing will be inspected and maintained on a daily basis.
21. To prevent inadvertent entrapment of the California red-legged frog during construction, any 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 or will be constructed with one or more escape ramps composed of earth fill or wooden planks. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored in the project footprint overnight will be inspected before they are subsequently moved, capped, and/or buried.
22. Plastic mono-filament netting (erosion control matting) or similar material will not be used at the project site because California red-legged frog may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
23. Borrow material will be certified to be nontoxic and weed free.
24. All food and food-related trash items will be enclosed in sealed trash containers and removing them from the site at the end of each day.
25. Pets will be prohibited from the action area.
26. If pumping is used for dewatering, intakes will be completely screened with wire mesh no larger than 0.2 inch to prevent frogs from entering the pump.
27. Caltrans will comply with Presidential Executive Order 13112 (available at <http://www.gpo.gov/fdsys/pkg/FR-1999-02-08/pdf/99-3184.pdf>) to reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife. This order prevents the introduction of invasive species and provides for their control in order to minimize the economic, ecological, and human health effects. In the event that noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote their spread. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of 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 areas will be covered to the extent practicable with heavy black plastic solarization material until the end of the project.
28. A SWPPP and erosion control BMPs will be developed and implemented to minimize wind- or water-related erosion. These BMPs will be in compliance with Regional Water Quality Control Board requirements. Protective measures will include, at a minimum:
 - a. Forbidding any discharge of pollutants from vehicle and equipment cleaning into any storm drains or watercourses;

- b. Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facilities;
- c. Collecting and disposing of concrete wastes in washouts and water from curing operations;
- d. Maintaining spill containment kits onsite at all times during construction operations and/or staging or fueling of equipment;
- e. Using 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 of temporary stockpiles when weather conditions require;
- f. Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment;
- g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas; and
- h. Establishing permanent erosion control measures, such as biofiltration strips and swales, to receive stormwater discharges from the highway or other impervious surfaces.

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 purposes of the effects assessment, the action area encompasses the 0.193-acre construction footprint that will be affected by ground disturbance, a 100 foot buffer area which will be affected by noise and visual disturbance, and Cheney Gulch Creek, downstream of the project footprint due to potential water quality issues.

Analytical Framework for the Jeopardy and Adverse Modification Determinations

Jeopardy Determination

In accordance with policy and regulation, the jeopardy analysis in this BO relies on four components: (1) the *Status of the Species*, which evaluates the California red-legged frog range-wide conditions, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the listed 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 California red-legged frog; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the California red-legged frog current status, taking into account any cumulative effects, to determine if implementation of the action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The jeopardy analysis in this BO places an emphasis on consideration of the range-wide survival and recovery needs of the California red-legged frog and the role of the action area in the survival and recovery of this listed species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Adverse Modification Determination

This revised BO does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR §402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this revised BO relies on 4 components: (1) the *Status of Critical Habitat*, which evaluates the range wide condition of designated critical habitat for the yellow larkspur in terms of primary constituent elements (PCEs), the factors responsible for that condition, and the intended recovery function of the critical habitat at the provincial and range-wide scale; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (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 PCEs and how that will influence the recovery role of affected critical habitat units and; (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on yellow larkspur critical habitat are evaluated in the context of the range-wide condition of the critical habitat at the provincial and range-wide scales, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the yellow larkspur.

The analysis in this revised BO places an emphasis on using the intended range-wide recovery function of yellow larkspur critical habitat and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

Status of the 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 re-designated for this species on March 17, 2010 (Service 2010a). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

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. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. California red-legged frogs have paired vocal sacs and vocalize in air (Hayes and Krempels 1986). Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Distribution

The historic range of the red-legged frog extended coastally from the vicinity of Elk Creek in Mendocino County, California, and inland from the vicinity of Redding, Shasta County, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985; Hayes and Krempels 1986; Fellers 2005). The red-legged frog was historically documented in 46 California counties but the taxon now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the Central Coast. Within the remaining distribution of the species, only isolated populations have been documented in the Sierra Nevada, northern Coast Range, northern Transverse Ranges, southern Transverse Ranges, and Peninsular Ranges.

Status and Natural History

California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, California red-legged frogs also have been found in ephemeral creeks and drainages and in ponds that may or may not have riparian vegetation. California red-legged frogs also can be found in disturbed areas such as channelized creeks and drainage ditches in urban and agricultural areas. For example, an adult California red-legged frog was observed in a shallow isolated pool on North Slough Creek in the American Canyon area of Napa County (C. Gaber, PG&E, pers. comm., 2008). This frog location was surrounded by vineyard development. Another adult California red-legged frog was observed under debris in an unpaved parking lot in a heavily industrial area of Burlingame (P. Kobernus, Coast Ridge Ecology, pers. comm., 2008). This frog was likely utilizing a nearby drainage ditch. Caltrans also has discovered California red-legged frog adults, tadpoles, and egg masses within a storm drainage system within a major cloverleaf intersection of Millbrae Avenue and SR 101 in a heavily developed area of San Mateo County (Caltrans 2007). California red-legged frog has the potential to persist in disturbed areas as long as those locations provide at least one or more of their life history requirements.

California red-legged frogs typically breed between November and April in still or slow-moving water at least 2.5 feet in depth with emergent vegetation, such as cattails, tules or overhanging willows (Hayes and Jennings 1988). There are earlier breeding records from the southern portion of their range (Storer 1925). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984). Individuals occurring in coastal areas are active year-round (Jennings *et al.* 1992), whereas those found in interior sites are normally less active during the cold and dry seasons.

During other parts of the year, habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer (Fellers 2005). According to Fellers (2005), this can include vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees. Sometimes the non-breeding habitat used by California red-legged frogs is extremely limited in size. For example, non-breeding California red-legged frogs have been found in a 6-foot wide coyote brush thicket growing along a small intermittent creek surrounded by heavily grazed grassland (Fellers 2005). Sheltering habitat for California red-legged frogs is potentially all aquatic, riparian, and upland areas within the range of the species and includes any landscape features that provide cover, such as existing animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned structures, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering 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.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adult frogs are often associated with permanent bodies of water. Some frogs remain at breeding sites all year while others disperse. Dispersal distances are typically less than 0.5 mile, with other individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred over one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, *i.e.* California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25-mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment, Tatarian (2008) noted that 57 percent of frogs fitted with radio transmitters in the Round Valley study area in eastern Contra Costa County stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. This study reported a peak of seasonal terrestrial movement occurring in the fall months, with movement commencing with the first 0.2 inch of precipitation. Movements away from the source pools tapered off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the bases of trees or rocks, logs, and a downed barn door; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1-4 days; however, an adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Uplands closer to aquatic sites were used more often and frog refugia were more commonly associated with areas exhibiting higher object cover (*e.g.*, woody debris, rocks, and vegetative cover). Subterranean cover was not significantly different between occupied upland habitat and non-occupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000-5,000 eggs are attached to vegetation below the surface and hatch after 6-14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand results in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3.5-7 months following hatching and reach sexual maturity at 2-3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). Sexual maturity normally is reached at 3-4 years of age (Storer 1925; Jennings and Hayes 1985). California red-legged frogs may live 8-10 years (Jennings *et al.* 1992). Populations of California red-legged frogs fluctuate from year to year. When conditions are favorable California red-legged frogs can experience extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, California red-legged frogs may temporarily disappear from an area when conditions are stressful (*e.g.*, drought).

California red-legged frogs have a diverse diet which changes as they mature. The diet of larval California red-legged frogs is not well studied, but is likely similar to that of other ranid frogs, which feed on algae, diatoms, and detritus by grazing on the surfaces of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific tree frogs, three-spined stickleback and to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination; feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Metapopulation and Patch Dynamics

The direction and type of habitat used by dispersing animals is especially important in fragmented environments (Forys and Humphrey 1996). Models of habitat patch geometry predict that individual animals will exit patches at more "permeable" areas (Buechner 1987; Stamps *et al.* 1987). A landscape corridor may increase the patch-edge permeability by extending patch habitat (La Polla and Barrett 1993), and allow individuals to move from one patch to another. The geometric and habitat features that constitute a "corridor" must be determined from the perspective of the animal (Forys and Humphrey 1996).

Because their habitats have been fragmented, many endangered and threatened species exist as metapopulations (Verboom and Apeldoorn 1990; Verboom *et al.* 1991). A metapopulation is a

collection of spatially discrete subpopulations that are connected by the dispersal movements of the individuals (Levins 1970; Hanski 1991). For metapopulations of listed species, a prerequisite to recovery is determining if unoccupied habitat patches are vacant due to the attributes of the habitat patch (food, cover, and patch area) or due to patch context (distance of the patch to other patches and distance of the patch to other features). Subpopulations of patches with higher quality food and cover are more likely to persist because they can support more individuals. Large populations have less of a chance of extinction due to stochastic events (Gilpin and Soule 1986). Similarly, small patches will support fewer individuals, increasing the rate of extinction. Patches that are near occupied patches are more likely to be recolonized when local extinction occurs and may benefit from emigration of individuals via the “rescue” effect (Hanski 1982; Fahrig and Merriam 1985; Gotelli 1991; Holt 1993). For the metapopulation to persist, the rate of patches being colonized must exceed the rate of patches going extinct (Levins 1970). If some subpopulations go extinct regardless of patch context, recovery actions should be placed on patch attributes. Patches could be managed to increase the availability of food and/or cover.

Movements and dispersal corridors likely are critical to California red-legged frog population dynamics, particularly because the animals likely currently persist as metapopulations with disjunct population centers. Movement and dispersal corridors are important for alleviating over-crowding and intraspecific competition, and also they are important for facilitating the recolonization of areas where the animal has been extirpated. Movement between population centers maintains gene flow and reduced genetic isolation. Genetically isolated populations are at greater risk of deleterious genetic effects such as inbreeding, genetic drift, and founder effects. The survival of wildlife species in fragmented habitats may ultimately depend on their ability to move among patches to access necessary resources, retain genetic diversity, and maintain reproductive capacity within populations (Petit *et al.* 1995; Buza *et al.* 2000; Hilty and Merenlender 2004).

Most metapopulation or metapopulation-like models of patchy populations do not directly include the effects of dispersal mortality on population dynamics (Hanski 1994; With and Crist 1995; Lindenmayer and Possingham 1996). Based on these models, it has become a widely held notion that more vagile species have a higher tolerance to habitat loss and fragmentation than less vagile species. But models that include dispersal mortality predict the opposite: more vagile species should be more vulnerable to habitat loss and fragmentation because they are more susceptible to dispersal mortality (Fahrig 1998; Casagrandi and Gatto 1999). This prediction is supported by Gibbs (1998), who examined the presence-absence of five amphibian species across a gradient of habitat loss. He found that species with low dispersal rates are better able than more vagile species to persist in landscapes with low habitat cover. Gibbs (1998) postulated that the land between habitats serves as a demographic “drain” for many amphibians. Furthermore, Bonnet *et al.* (1999) found that snake species that use frequent long-distance movements have higher mortality rates than do sedentary species.

Threats

Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern California red-legged frogs (*Rana aurora*) 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 Schaffer 1996). This has been attributed to predation, competition, and reproduction interference.

Twedt (1993) documented bullfrog predation of juvenile northern California red-legged frogs, and suggested that bullfrogs could prey on subadult northern California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with red-legged frog reproduction. Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat. Both California and northern California red-legged frogs have also been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Jennings 1993; Twedt 1993).

The urbanization of land within and adjacent to red-legged frog habitat has also adversely affected California red-legged frogs. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks red-legged frog dispersal, and the introduction of predatory fishes and bullfrogs.

Diseases may also pose a significant threat though the specific effects of diseases on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson *et al.* 2003). Chytridiomycosis and ranaviruses are a potential threat to the red-legged frog because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson *et al.* 2003; Lips *et al.* 2003). Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2005). Human activities can facilitate the spread of disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (*i.e.*, contaminated boots or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease. Disease will likely become a growing threat because of the relatively small and fragmented remaining California red-legged frog breeding sites, the many stresses on these sites due to habitat losses and alterations, and the many other potential disease-enhancing anthropogenic changes that have occurred both inside and outside the species' range.

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 4-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 Frossell (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 (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 (*Rana arvalis*) 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).

Critical Habitat Status for Yellow Larkspur

Critical habitat is defined in Section 3 of the Act as: (1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. In determining which areas to designate as critical habitat, the Service considers those physical and biological features that are essential to a species' conservation and that may require special management considerations or protection (50 CFR 424.12(b)). The Service is required to list the known PCE's together with the critical habitat description. Such physical and biological features include, but are not limited to, the following:

1. Space for individual and population growth, including areas that allow gene flow and provide connectivity or linkage between populations including open spaces and disturbed areas that in some instances may also contain nonnative plant;
2. Areas that provide basic requirements for growth such as water, light, minerals;
3. Sites for germination, pollination, reproduction, and seed dispersal;
4. Areas that support populations of pollinators and seed dispersal organisms; and

5. Habitats that are representative of the historic geographical and ecological distributions of each species.

Based on our knowledge to date, the primary constituent elements of critical habitat for yellow larkspur consist of:

1. Plant communities, including north coastal scrub or coastal prairie communities, including, but not limited to, species such as: rose rockcress, Tolmei startulip, orange bush monkeyflower, sea lettuce, California polyploidy, sea cliff buckwheat, poison oak, California mistmaiden, evax, goldenback fern, and broadleaf stonecrop;
2. Relatively steep sloped soils (30 percent or greater) derived from sandstone or shale, with rapid runoff and high erosion potential, such as Kneeland or Yorkville series soils;
3. Generally north aspected areas; and
4. Habitat upslope and downslope from known populations to maintain disturbance such as occasional rock slides or soil slumping that the species appears to require.

Environmental Baseline

California Red-Legged Frog

The proposed project is located in rural area of coastal Sonoma County along Cheney Gulch. Cheney Gulch is an approximately 3.9 mile intermittent stream that parallels SR 1 from the town of Bodega to Bodega Bay where it empties into the tidal wetlands near Doran Beach. Cheney Gulch has a small watershed but supports a remnant population of steelhead trout (CDFG 2006). The slopes above and below SR 1 are moderate to steep and include several areas of exposed rock and slides. The adjacent land is privately owned and used for livestock grazing. Other than a few ranching related structures and the large abandoned quarry, immediately north of the project footprint, there is little development along the Cheney Gulch/SR 1 corridor. The project area is located within an extensive geographical zone of similar habitat across a wide range of connected habitat and is modeled as highly permeable by the California Essential Habitat Connectivity Project (CDFW 2014a) for upland wildlife.

The creek is bordered by a narrow band of dense riparian vegetation while the uplands include a mix of grassland and scrub. Cheney Gulch is subject to high volume flows following winter storms but during much of the year it is characterized by a series of ponds linked by modest surface or subsurface flow. Fish occupation and general biologic diversity of these ponds is dependent upon pond depth, persistence, and upstream barriers to fish passage. Rain water directed by the SR 1 roadway into Cheney Gulch has resulted in hastened erosion of slope between the highway and the creek. The roadway has resulted in this baseline condition that likely reduces downstream water quality by releasing elevated sediment loads into the creek. The eroding slope has created near vertical drops that likely limit frog movement between the creek, the adjacent quarry pond, and surrounding uplands.

The local segment of SR 1 is an undivided 2-lane highway passing through a confined canyon. The associated ROW features are limited to occasional compacted-soil pull outs, small road cuts, road signs, and cattle fencing. These physical features along with modest traffic volume, traffic noise, night-time lighting, exhaust, erosion, invasive vegetation, annual vegetation management, and the

threat of animal-vehicle collision have an adverse effect on the function of the neighboring habitat for both common and listed wildlife. This parallel band of disturbance is referred to as a “road effects zone”. The outward extent of this zone can vary with factors such as topography and the sensitivity of a given species to those effects. Although likely modest, the baseline spectrum of typical road effects along SR 1 are likely to negatively influence the suitability of the California red-legged frog habitat in and adjacent to the project footprint as well as the behavior of the species within the road effects zone.

The action area is located within the range of the California red-legged frog but is not located within the species’ designated critical habitat. The action area includes rolling grassland vegetation associated with the species’ upland foraging, refuge, and dispersal life history needs. The Cheney Gulch riparian corridor also provides suitable foraging, refuge, and dispersal habitat for the frog. Cheney Gulch and surrounding quarry and stock ponds provide both non-breeding and potential breeding aquatic habitat. Cheney Gulch is located entirely within private property and is relatively undeveloped. The area is not conducive to biological investigation. Nearby CNDDDB records (yellow larkspur and Myrtle’s silverspot) are limited to the Caltrans ROW. Two miles is the distance that we know the species is capable of traveling (Fellers 2005, Bulger *et al.* 2003) and this 2 mile buffer from the project footprint includes occupied aquatic breeding and upland habitat. The closest California red-legged frog CNDDDB record is located approximately 1.8 miles southeast of the project footprint along the Estero Americano (occurrence 845). Another occurrence record is located approximately 2 mile east in the Valley Ford area (occurrence 743).

The Service believes that the California red-legged frog is reasonably certain to occur within the action area because: (1) the project is located within the species’ range and current distribution; (2) there is suitable upland and aquatic habitat within the action area; (3) the habitat within the action area is similar to that which is found in nearby areas with confirmed California red-legged frog occupancy; (4) nearby observations are well within the known travel distance of a California red-legged frog; (5) there are no significant barriers to frog movement between confirmed occupied areas and the action area; (6) the lack of significant disturbance or history of significant threats to the species in the general vicinity; and (7) the biology and ecology of the animal.

Yellow Larkspur Critical Habitat

The action area is located within the L1 critical habitat unit. The L1 unit consists of 1,369 acres near the town of Bodega. The unit includes features that are conducive to the species presence including Kneeland series soils, coastal prairie and scrub habitat, and a climate moderating fog belt. Conservation within the unit is especially important given that at least 30 percent of the known records of the plant and recent observations of the plant are found in it. The construction footprint includes 0.073 acre of the L1 critical habitat unit and includes steep eroding slope with Kneeland soil (PCE 2).

Effects of the Action

California Red-Legged Frog

Direct effects of the proposed project are effects occurring within the action area during construction of the proposed project. Direct effects may be temporary (lasting less than 1 year) or permanent (lasting more than 1 year). Indirect effects are the effects of the proposed project generally occurring later in time after construction has been completed (e.g., degradation of habitat due to the spread of invasive plant species; barriers to dispersal due to the installation of retaining

walls). An interrelated activity is an activity that is part of the proposed project and depends on the proposed project for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification.

The action area provides suitable habitat for the California red-legged frog. Not including existing paved areas, the project, including staging and access, will be contained within a 0.193-acre activity footprint. Ground disturbing activities will include excavation and recontouring a slope as well as the work space needed to complete the activities. The project will result in the excavation of 0.013 acre of eroded slope followed by the creation of a more stable slope consisting of RSP and native soil. The 0.06 acre of work space needed within sparsely vegetated grassland habitat at the base of the slope will be restored to baseline habitat values at the end of the project. The ground disturbance in this 0.06-acre area will be limited to foot traffic. Construction access is provided by a wide compacted road pullout.

Caltrans proposes to minimize adverse effects related to the proposed project by implementing the *Proposed Conservation Measures* included in the *Description of the Action* section of this BO. Effective implementation of the *Conservation Measures* will likely minimize but not prevent adverse effects to the California red-legged frog during project construction.

The activities associated with the ground-disturbing activities may result in adverse effects to the California red-legged frog. Project activities are limited to upland habitat. Therefore, adverse effects will be limited to juvenile and adult life stages of the species. The Service concludes that the California red-legged frog could be encountered throughout the 0.193-acre construction footprint.

The proposed project will result in disturbance of 0.073 acre of grassland habitat associated with the California red-legged frog. The habitat disturbance will take place adjacent to the SR 1 road shoulder in areas that were subject to elevated erosion due to baseline road effects on rain water surface flow. The project will result in remedy of the erosion hastened by the roadway design. The proposed slope stabilization is unlikely to influence baseline noise and visual effects or the habitat fragmentation and road mortality risks for the California red-legged frog.

Access by construction equipment and personnel and excavation of the project site could result in the disturbance and potential death of individual frogs. It will be important that Service-approved monitors "clear" sites to avoid crushing or otherwise harming frogs above ground, below ground, or under cover sites such as boards or debris. Biological monitoring will include pre-construction surveys as well as an active presence during construction. Frogs may be actively moving around, through, or within the work area during the evening as well as when work is taking place. This places greater emphasis on thorough biological clearance of work areas and under staged equipment and materials prior to the start of each day's activities.

If unrestricted, biologists and construction workers traveling to the action area from other project sites may transmit diseases by introducing contaminated equipment. The chance of a disease being introduced into a new area is greater today than in the past due to the increasing occurrences of disease throughout amphibian populations in California and the United States. It is possible that chytridiomycosis, caused by chytrid fungus, may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (*e.g.*, water pH) that reduce normal immune response capabilities (Bosch *et al.* 2001, Weldon *et al.* 2004).

Discovery, capture, and relocation of individual California red-legged frogs may avoid injury or mortality; however, capturing and handling animals may result in stress and/or inadvertent injury during handling, containment, and transport. Although survivorship for translocated animals has not been estimated, survivorship of translocated wildlife, in general, is lower because of intraspecific competition, lack of familiarity with the location of potential breeding, feeding, and sheltering habitats, and increased risk of predation. These potential effects associated with translocation will be minimized by short distance translocation of frogs within Cheney Gulch, no further than the individual is capable of moving on its own.

Equipment noise, vibration, increased human activity, and artificial lighting during the project may interfere with normal behaviors such as feeding, sheltering, movement between refugia and foraging grounds, and other essential behaviors. This can result in avoidance of areas that have suitable habitat but intolerable levels of disturbance. If left exposed overnight, animals can become trapped in excavated pits. The installation of ramps should provide a means of exit but trapped frogs risk being directly killed or may be unable to escape and be killed due to 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, and ravens, to the site, which could subsequently prey on the listed frog. 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).

If unrestricted, the proposed construction activities could result in the introduction of chemical contaminants to frog snake habitat. 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 minimize these risks by implementing BMPs which will consist of refueling, oiling, or cleaning of vehicles and equipment a minimum of 50 feet from riparian and aquatic areas; 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.

The reconstructed slope is unlikely to affect the California red-legged frog's ability to move between Cheney Gulch and the quarry pond on the north side of SR 1. Stabilization of the slope is likely to result in the reduction of sediment being discharged Cheney Gulch. This should improve the quality of the California red-legged frog aquatic habitat in Cheney Gulch, downstream of the project footprint. Adequate restoration of temporary work areas within the project footprint to baseline or better habitat values will minimize the adverse effects of the project. Acquisition of in-perpetuity preserved and managed habitat occupied by the California red-legged frog at the Mountain House Conservation Bank will partially offset the effects of permanent and temporal habitat loss by aiding the recovery of the species in the Bay Area.

Yellow Larkspur Critical Habitat

The proposed action is not expected to appreciably diminish the conservation and recovery value of critical habitat for yellow larkspur. The proposed project will result in the permanent loss of 0.013 acre and the temporal loss of 0.06 acre of habitat within yellow larkspur critical habitat. The project will directly affect areas of steep eroding Kneeland soil (PCE 2) in order to remedy a situation created by water running over and under SR 1. The temporal disturbance to 0.06 acre of

PCE 2 will be limited to foot traffic and the PCE should retain its former values following project completion. The project includes the excavation and stabilization of 0.013 acre of PCE 2 but the remedy will include the establishment of a more stable slope capped with native Kneeland soil. Therefore although considered a modification of the baseline condition, the created slope is likely to have some PCE 2 value.

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 Cheney Gulch Slip-Out Repair Project are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of specific projects that might affect the California red-legged frog or adversely modify yellow larkspur critical habitat in the action area that are currently under review by State, county, or local authorities.

Conclusion

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area, and the effects of the proposed action, and the cumulative effects on the species, it is the Service's biological opinion that the SR 1 Cheney Gulch Slip-Out Repair Project, as described herein, is not likely to jeopardize the continued existence of the California red-legged frog. We base this conclusion on the following: (1) the project is limited to a small area of disturbance and will be completed; (2) the construction will be completed within a short period of time; (3) successful implementation of the described *Conservation Measures* is likely to minimize the potential for proposed construction activities to result in disruption of normal behavior or risk of injury; (4) the project area should continue to provide upland habitat for the California red-legged frog following construction; (5) the stabilized slope may enhance the frog's access to upland habitat; and (6) Caltrans will partially offset habitat loss with the purchase of occupied California red-legged frog habitat credits at a Service-approved conservation bank.

The Service has also determined that the proposed action is not likely to result in the destruction or adverse modification of critical habitat for the yellow larkspur due to limiting permanent effects to the existing road shoulder and the eroded slope.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral 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 this *Incidental Take Statement*.

The measures described below are non-discretionary, and must be implemented by Caltrans so that they become binding conditions of any grant or permit issued to Caltrans as appropriate, in order for the exemption in section 7(o)(2) to apply. Caltrans has a continuing duty to regulate the activity covered by this *Incidental Take Statement*. If Caltrans (1) fails to assume and implement the *Terms and Conditions* or (2) fails 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 will be difficult to detect due to their small size, wariness, and cryptic nature. When California red-legged frogs are not in their aquatic breeding sites, they may be taking cover in burrows, dense vegetation, or other cover sites a distance from the breeding habitat. Finding an injured or dead California red-legged frog is unlikely due to their relatively small body size, rapid carcass deterioration, and likelihood that the remains will be removed by a scavenger. Losses of this species may 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 risk of harm, harassment, injury and mortality as a result of the proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as: (1) the injury and mortality of one adult or juvenile California red-legged frog; and (2) the capture, harm and harassment of all California red- within the action area.

Effect of the Take

The Service has determined that this level of anticipated take for the California red-legged frog is not likely to jeopardize the continued existence of these 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. Caltrans will be responsible for the implementation and compliance with this measure:

1. Minimize the adverse effects to the California red-legged frog and its habitat in the action area by implementing their 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 comply 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. Caltrans shall include language in their contracts that expressly requires contractors and subcontractors to work within the boundaries of the project footprint identified in this BO, including vehicle parking, staging, laydown areas, and access.
 - b. At least 15 days prior to the onset of any construction-related activities, Caltrans shall submit to the Service, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for this project. Information included in a request for authorization should include, at a minimum: (1) relevant education; (2) relevant training on California red-legged frog 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 at what level (such as construction monitoring versus handling), this should 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 are authorized to work with the California red-legged frog (to include permit number, authorized activities, and name of permit holder); (6) any relevant professional references with contact information. No project construction shall begin until Caltrans has received written Service approval for biologists to conduct specified activities.
 - c. Each California red-legged frog encounter shall be treated on a case-by-case basis in coordination with the Service but general guidance is as follows: (1) leave the non-injured animal if it is not in danger or (2) move the frog to a nearby location if it is in danger.

These two options are described further as follows.

- 1) When a California red-legged frog is encountered in the action area the first priority is to stop all activities in the surrounding area that have the potential to result in the harm, harassment, injury, or death of the individual. Then the monitor needs to assess the situation in order to select a course of action that will minimize adverse effects to the individual. Contact the Service once the site is secure. The contacts for this situation are Ryan Olah (ryan_olah@fws.gov) or John Cleckler (john_cleckler@fws.gov). They can also be reached at (916) 414-6600. If you get voicemail messages for these contacts then contact John Cleckler on his cell phone at (916) 712-6784. Contact the Service prior to the start of construction to confirm the status of this contact information.

The first priority is to avoid contact with the animal and allow it to move out of the action area and hazardous situation on its own to a safe location. The animal should not be picked up and moved because it is not moving fast enough or it is inconvenient for the construction schedule. This guidance only applies to situations where a California red-legged frog is encountered on the move during conditions that make their upland travel feasible. This does not apply to animals that are uncovered or otherwise exposed or in areas where there is not sufficient adjacent habitat to support the life history of the California red-legged frog should they move outside the construction footprint.

Avoidance is the preferred option if the animal is not moving and is using aquatic habitat or is within some sort of burrow or other refugia. The area should be well marked for avoidance by construction and a Service-approved biological monitor should be assigned to the area when work is taking place nearby.

- 2) The animal should be captured and moved when it is the only option to prevent its death or injury.

If appropriate habitat is located immediately adjacent to the capture location then the preferred option is short distance relocation to that habitat. This must be coordinated with the Service but the general guidance is the frog should not be moved outside of the area it would have traveled on its own. Under no circumstances should a frog be relocated to another property without the owner's written permission. It is Caltrans' responsibility to arrange for that permission. The release must be coordinated with the Service and will depend on where the individual was found and the opportunities for nearby release. In most situations the release location is likely to be into the mouth of a small burrow or other suitable refugia and in certain circumstances pools without non-native predators may be suitable.

Only Service-approved biologists for the project can capture California red-legged frogs. Nets or bare hands may be used to capture California red-legged frogs. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within 2 hours before and during periods when they are capturing and relocating California red-legged frogs. To avoid transferring disease or pathogens between sites during the course of surveys or handling of amphibians, Service-approved biologists must use the following guidance for disinfecting equipment and clothing. These recommendations are adapted from the *Declining Amphibian Population Task Force's Code* (<http://www.open.ac.uk/daptf/>).

- i. All dirt and debris, including mud, snails, plant material (including fruits and seeds), and algae, must be removed from nets, traps, boots, vehicle tires and all other surfaces that have come into contact with water and/or an amphibian. Cleaned items should be rinsed with fresh water before leaving each site.

- ii. Boots, nets, traps, etc., must then be scrubbed with either a 70 percent ethanol solution, a bleach solution (0.5 to 1.0 cup of bleach to 1.0 gallon of water), QUAT 128 (quaternary ammonium, use 1:60 dilution), or a 6 percent sodium hypochlorite 3 solution and rinsed clean with water between sites. Avoid cleaning equipment in the immediate vicinity of a pond or wetland. All traces of the disinfectant must be removed before entering the next aquatic habitat.
- iii. Used cleaning materials (liquids, etc.) must be disposed of safely, and if necessary, taken back to the lab for proper disposal.
- iv. Service-approved biologists must limit the duration of handling and captivity. While in captivity, California red-legged frogs shall be kept 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.

The Service believes that all the California red-legged frogs in the action area will be incidentally taken due to harassment, but no more than one (1) California red-legged frog will be incidentally taken due to harm as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. Caltrans must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

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. The Service must be notified within one (1) working day of the finding of any injured or dead listed species or any unanticipated damage to its habitat associated with the proposed project. Notification will be made to the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600, and must include the date, time, and precise location of the individual/incident clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle or other maps at a finer scale, as requested by the Service, and any other pertinent information. 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 CNDDDB (<http://www.dfg.ca.gov/biogeodata/cnddb/>).

3. Caltrans shall submit an annual construction compliance report prepared by the on-site biologist to the Service within forty (40) working days following the end of the year and/or project completion or within sixty (60) calendar days of any break in construction activity lasting more than forty (40) working days. This report will detail (i) dates that construction occurred; (ii) pertinent information concerning the success of the project in meeting compensation and other conservation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on listed species, if any; (v) occurrences of incidental take of any listed species; and (vi) other pertinent information. The report(s) will be addressed to the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office.

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 containing a paper 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 persons are the Coast-Bay/Forest Foothills Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600; and the Resident Agent-in-Charge of the Service's Office of Law Enforcement, 5622 Price Way, McClellan, California 95562, at (916) 569-8444.

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).
3. Caltrans should consider participating in the planning for a regional habitat conservation plan for the California red-legged frog, other listed species, and sensitive species.
4. Caltrans should consider establishing functioning preservation and creation conservation banking systems to further the conservation of the California red-legged frog. 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, 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.

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 Cheney Gulch Slip-Out Repair Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO, including work outside of the project footprint analyzed in this BO and including vehicle parking, staging, lay down areas, and access roads; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this BO including use of rodenticides or herbicides; relocation of utilities; and use of vehicle parking, staging, lay down areas, and access roads; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any additional take will not be exempt from the prohibitions of section 9 of the Act, pending reinitiation.

If you have questions concerning this BO, please contact John Cleckler, Caltrans Liaison (john_cleckler@fws.gov) or Ryan Olah, Coast-Bay/Forest Foothills Division Chief (ryan_olah@fws.gov), at the letterhead address, (916) 414-6600, or by electronic mail.

Sincerely,



Jennifer M. Norris
Field Supervisor

cc:

Melissa Escaron, California Department of Fish and Wildlife, Napa, California
Kristin Baker, California Department of Transportation, Fresno, California

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BAY AREA RECYCLED WATER



Commercial Truck Fill Facilities Location Guide

JUNE 2015

Background

This Guide was prepared by Whitley Burchett & Associates under contract with the Bay Area Clean Water Agencies and under the direction of the BACWA Recycled Water Committee. The Guide was prepared in response to inquiries of commercial recycled water truck fill facilities in the Bay Area. It is the Recycled Water Committee's intention to update this Guide annually. If you see any information that should be updated, have a facility to add to this Guide, or have any questions please email Info@bacwa.org.

Disclaimer

The intent of this Guide is to provide prospective water haulers with general information regarding the location of Bay Area recycled water commercial truck fill facilities, permit requirements, and associated fees for recycled water. Information in this Guide represents data collected in the fall of 2014 and updated in June 2015. Please contact agencies directly for current information.

Cover Photos

Top row: East Bay Municipal Utility District
Bottom row from left to right: City of Palo Alto, City of Santa Rosa

Acknowledgements

This Guide was prepared in conjunction with the BACWA agencies. The time spent by agencies providing program information and review of this document is greatly appreciated.

Electronic Version

The BACWA Truck Fill Guide is available on the BACWA website at <http://bacwa.org>.

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Bay Area Commercial Recycled Water Truck Fill Facilities Location Map



* Indicates the general location of a truck fill facility.

**List of Agencies with Recycled Water Commercial Truck Fill Facilities
Sorted by County/City**

COUNTY/CITY	AGENCY	PAGE NO.
ALAMEDA COUNTY		
Dublin	Dublin San Ramon Services District	3
Livermore	City of Livermore	5
Oakland	East Bay Municipal Utility District	4
Pleasanton	Dublin San Ramon Services District	3
San Lorenzo	Oro Loma Sanitary District/East Bay Dischargers Authority	10
CONTRA COSTA COUNTY		
Concord	Central Contra Costa Sanitary District	2
Martinez	Central Contra Costa Sanitary District	2
Richmond	East Bay Municipal Utility District	4
San Ramon	Dublin San Ramon Services District	3
MARIN COUNTY		
Novato	North Marin Water District	9
San Rafael	Marin Municipal Water District	6
NAPA COUNTY		
Calistoga	City of Calistoga	1
Napa	Napa Sanitation District	8
Yountville	Town of Yountville	20
SAN FRANCISCO		
San Francisco	City and County of San Francisco/SFPUC	14
SAN MATEO COUNTY		
San Francisco	San Francisco International Airport	15
Redwood City	City of Redwood City	13
SANTA CLARA COUNTY		
Milpitas	City of Milpitas/South Bay Water Recycling	7
Palo Alto	City of Palo Alto	11
San Jose	City of San Jose/South Bay Water Recycling	16
Sunnyvale	City of Sunnyvale	19
SONOMA COUNTY		
Petaluma	City of Petaluma	12
Santa Rosa	City of Santa Rosa	17
Sonoma	Sonoma County Water Agency	18

SECTION 1

Recycled Water Commercial Truck Fill Facilities Information

CITY OF CALISTOGA	
707.942.2782 www.ci.calistoga.ca.us	
Recycled Water Fill Facilities: Treatment Plant Yes	Distribution System No Can water be used outside of this agency's service area? Yes
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: Quality: Quantity Limitations per Trip: Other Restrictions: Additional Access Information:	Connection Device: Truck Size Limits: Truck Weight Limits:
Fill Facilities at Treatment Plant	
Location: Dunaweal Wastewater Treatment Plant (call for address) Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Quantity Limitations per Day: No Minimum Maximum 50,000 gal Additional Access Information:	Type of Connection: Side Hours: Mon-Fri 7 a.m. - 3:30 p.m. Appointment Required: No Truck Size Limits: None Truck Weight Limits: None
Training	
Required: No Who: Schedule:	Duration: Frequency: Location: Length of time to become authorized truck hauler: 1 business day
Signage	
Area Use Signage Required: No Signs Provided by Water Agency: N/A	Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes
Vehicle Inspection	
Required: No Duration: How to schedule:	Inspection Location: Re-inspection Required:
Fees	
Water: No Charge Connection Device: No Charge Vehicle Signage: No Charge Other:	Training: No Charge Permit: No Charge Use Area Signage: N/A

CENTRAL CONTRA COSTA SANITARY DISTRICT	
925.228.9500 www.centrsan.org	
Recycled Water Fill Facilities:	
Treatment Plant	No
Distribution System	Yes
Can water be used outside of this agency's service area? Yes	
Hydrant Fill Facilities	
Location: Locations in Concord (Willow Way) and Martinez (Marsh Drive)	
Number of Fill Facilities:	3
Connection Device:	Hydrant key and Construction meter
Quality:	Disinfected Tertiary
Truck Size Limits:	Max. truck length 18 ft.
Quantity Limitations per Trip:	No Minimum
Truck Weight Limits:	No limit
Maximum	6,000 gal
Other Restrictions:	
Additional Access Information: Fill times: Mon.-Fri. 7 a.m. - 5 p.m. (can be negotiated)	
Fill Facilities at Treatment Plant	
Location: None	
Quality:	Type of Connection:
Quantity Limitations per Trip:	Hours:
Quantity Limitations per Day:	Appointment Required:
Additional Access Information:	
Truck Size Limits:	
Truck Weight Limits:	
Training	
Required:	Yes
Duration:	15 minutes
Who:	Either Truck Owner, Truck Driver, or Customer using water
Frequency:	Only Once
Schedule:	By Appointment
Location:	Recycled Water Treatment Plant
Length of time to become authorized truck hauler: 1 business day	
Signage	
Area Use Signage Required:	No
Vehicle Signage Required:	Yes
Signs Provided by Water Agency:	N/A
Signs Provided by Water Agency:	Yes
Vehicle Inspection	
Required:	No
Inspection Location:	
Duration:	
Re-inspection Required:	
How to schedule:	
Fees	
Water:	\$3.28 per 1,000 gal
Training:	No Charge
Connection Device:	\$750 (refundable deposit)
Permit:	No Charge
Vehicle Signage:	No Charge
Use Area Signage:	N/A
Other:	

DUBLIN SAN RAMON SERVICES DISTRICT	
925.875.2334 www.dsrdsd.com	
Recycled Water Fill Facilities: Treatment Plant Yes	Distribution System Yes Can water be used outside of this agency's service area? Yes
Hydrant Fill Facilities	
Location: Dublin and San Ramon, CA - see website for locations Number of Fill Facilities: 18 Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Other Restrictions: Permit plus \$1,000 refundable deposit for meter required. Additional Access Information: Obtain permit and meter at 7051 Dublin Blvd, Dublin.	
Fill Facilities at Treatment Plant	
Location: DSRSD Wastewater Treatment Plant 7399 Johnson Drive, Pleasanton Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Quantity Limitations per Day: No Minimum No Maximum Additional Access Information: *After business hours truck drivers must use special gate access code to enter the plant. The access code is valid only during hours specified in the permit.	
Training	
Required: Yes Who: Truck Owner and Driver Schedule: By Appointment Duration: 15 min Frequency: Once Location: Recycled Water Plant Length of time to become authorized truck hauler: 1 business day	
Signage	
Area Use Signage Required: No Signs Provided by Water Agency: N/A Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes	
Vehicle Inspection	
Required: No Duration: How to schedule: Inspection Location: Re-inspection Required:	
Fees	
Water: Hydrant- check with DSRSD for current fee; Plant- \$10/truck load Connection Device: Hydrant access- \$1,000 deposit for construction meter; Treatment Plant- No connection device charge Vehicle Signage: No Charge Other: Training: No Charge Permit: Hydrant- No permit fee; Treatment Plant- \$73/year Use Area Signage: N/A	

EAST BAY MUNICIPAL UTILITY DISTRICT 510.287.1346 www.ebmud.com	
Recycled Water Fill Facilities: Treatment Plant Yes	Distribution System No Can water be used outside of this agency's service area? Check with EBMUD
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: Quality: Quantity Limitations per Trip: Other Restrictions: Additional Access Information:	Connection Device: Truck Size Limits: Truck Weight Limits:
Fill Facilities at Treatment Plant	
Locations: 1) EBMUD Wastewater Treatment Plant, Oakland 2) North Richmond Water Recycling Plant, Richmond (*No recycled water available in 2015. All recycled water from this location has been allocated for 2015.)	
Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Quantity Limitations per Day: No Minimum No Maximum Additional Access Information: 1) EBMUD Wastewater Treatment Plant - enter through the main security gate at the plant to obtain access to the fill hydrant. 2) North Richmond Plant - hydrant is located outside of the plant gate and is accessible with a hydrant key. For more information, visit www.ebmud.com , search "Recycled Water Truck	Type of Connection: Hydrant Hours: 24 hrs/day, 7 days/wk Appointment Required: Only for first visit Truck Size Limits: None Truck Weight Limits: None
Training	
Required: Yes Who: Truck Driver Schedule: By Appointment	Duration: 15 minutes Frequency: Once Location: Recycled Water Plant Length of time to become authorized truck hauler: 5 business days
Signage	
Area Use Signage Required: No Signs Provided by Water Agency: N/A	Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes
Vehicle Inspection	
Required: Yes Duration: Less than 1 hour How to schedule: To be conducted at time of training	Inspection Location: Recycled Water Plant Re-inspection Required: No
Fees	
Water: No Charge Connection Device: No Charge Vehicle Signage: No Charge Other:	Training: No Charge Permit: No Charge Use Area Signage: N/A

CITY OF LIVERMORE	
925.960.8138	
Recycled Water Fill Facilities: Treatment Plant	No Distribution System Yes Can water be used outside of this agency's service area? No
Hydrant Fill Facilities	
Location: Call for address Number of Fill Facilities: 10+	Connection Device: Construction meter and Hydrant Key Truck Size Limits: No limit Truck Weight Limits: No limit
Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit	
Other Restrictions: Additional Access Information:	
Fill Facilities at Treatment Plant	
Location: None Quality: Quantity Limitations per Trip:	Type of Connection: Hours: Appointment Required: Truck Size Limits: Truck Weight Limits:
Quantity Limitations per Day: Additional Access Information:	
Training	
Required: Yes Who: Truck Driver Schedule: At time of hydrant meter deposit	Duration: 2 hours or less Frequency: Once Location: Administration Building Length of time to become authorized truck hauler: 1 business day
Signage	
Area Use Signage Required: Yes Signs Provided by Water Agency: Yes	Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes
Vehicle Inspection	
Required: No Duration: How to schedule:	Inspection Location: Re-inspection Required:
Fees	
Water: \$2.50 per CCF Connection Device: \$1,000 Vehicle Signage: Varies Other: Monthly service charge of \$195.30	Training: No Charge Permit: No Charge Use Area Signage: No Charge

CITY OF MILPITAS/SOUTH BAY WATER RECYCLING 408.586.3355 www.ci.milpitas.ca.gov	
Recycled Water Fill Facilities: Treatment Plant No	Distribution System Yes Can water be used outside of this agency's service area? Check with City
Hydrant Fill Facilities	
Location: Call for locations Number of Fill Facilities: 5	Connection Device: Hydrant key and Construction meter Truck Size Limits: check with City Truck Weight Limits: check with City
Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Other Restrictions: M-F: 7 a.m. to 7 p.m.	Additional Access Information: Secure access. Gate key to be provided at training.
Fill Facilities at Treatment Plant	
Location: None Quality: Quantity Limitations per Trip: Quantity Limitations per Day: Additional Access Information:	Type of Connection: Hours: Appointment Required: Truck Size Limits: Truck Weight Limits:
Training	
Required: Yes Who: Truck Owner, Truck Driver, and Customer Schedule: By Appointment and Semi-Annually	Duration: 1 hour Frequency: Once Location: Administration Building or Hydrant fill facility Length of time to become authorized truck hauler: 2 business days
Signage	
Area Use Signage Required: Yes Signs Provided by Water Agency: No	Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes
Vehicle Inspection	
Required: Yes Duration: 1 hour or less How to schedule: Appointment	Inspection Location: Administration Building or Hydrant fill facility Re-inspection Required: Annually
Fees	
Water: \$2.65 per CCF Connection Device: \$2,000 Vehicle Signage: No charge Other: Monthly fee of \$75	Training: No Charge Permit: No Charge Use Area Signage: No charge

NAPA SANITATION DISTRICT	
707.258.6029 www.napas.com	
Recycled Water Fill Facilities: Treatment Plant Yes	Distribution System No Can water be used outside of this agency's service area? Yes
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: _____ Quality: _____ Quantity Limitations per Trip: _____ Other Restrictions: _____ Additional Access Information: _____	
Fill Facilities at Treatment Plant	
Location: Soscol Water Recycling Facility, Napa CA (call for address) Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Quantity Limitations per Day: No Minimum No Maximum Additional Access Information: _____	
Type of Connection: Side Hours: 7:30 a.m. - 4:30 p.m. Daily Appointment Required: No Truck Size Limits: None Truck Weight Limits: None	
Training	
Required: Yes Who: Truck Owner, Truck Driver, and Customer Schedule: By Appointment Duration: 2 hours or less Frequency: Once, plus Annual Refresher Location: Recycled Water Plant Length of time to become authorized truck hauler: 2 business days	
Signage	
Area Use Signage Required: Yes Signs Provided by Water Agency: Yes Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes	
Vehicle Inspection	
Required: Yes Duration: 15 min How to schedule: By Appointment Inspection Location: Recycled Water Plant Re-inspection Required: _____	
Fees	
Water: \$1.01 per 1,000 gal Connection Device: No Charge Vehicle Signage: \$6 per sticker and \$10.50 per plastic sign Other: _____ Training: No Charge Permit: \$50 Use Area Signage: \$6 per sticker and \$10.50 per plastic sign	

ORO LOMA SANITARY DISTRICT/EAST BAY DISCHARGERS AUTHORITY	
510.276.4700	
Recycled Water Fill Facilities:	
Treatment Plant: Yes	Distribution System: No
Can water be used outside of this agency's service area? Yes	
Hydrant Fill Facilities	
Location: None	
Number of Fill Facilities:	Connection Device:
Quality:	Truck Size Limits:
Quantity Limitations per Trip:	Truck Weight Limits:
Other Restrictions:	
Additional Access Information:	
Fill Facilities at Treatment Plant	
Location: Oro Loma Treatment Facility, San Lorenzo CA (call for address)	
Quality: Disinfected Secondary-2.2	Type of Connection: Overhead
Quantity Limitations per Trip: No Minimum	Hours: M-F: 6 a.m. - 5 p.m.
Maximum up to truck limit	Appointment Required: No
Quantity Limitations per Day: No Minimum	Truck Size Limits: None
No Maximum	Truck Weight Limits: None
Additional Access Information:	
Training	
Required: Yes	Duration: 15 min
Who: Truck Driver	Frequency: Once
Schedule: By Appointment	Location: Recycled Water Plant
Length of time to become authorized truck hauler: 1 business day	
Signage	
Area Use Signage Required: No	Vehicle Signage Required: No
Signs Provided by Water Agency: N/A	Signs Provided by Water Agency: N/A
Vehicle Inspection	
Required: No	Inspection Location:
Duration:	Re-inspection Required:
How to schedule:	
Fees	
Water: No Charge	Training: No Charge
Connection Device: No Charge	Permit: No Charge
Vehicle Signage: N/A	Use Area Signage: N/A
Other:	

CITY AND COUNTY OF SAN FRANCISCO/SAN FRANCISCO PUBLIC UTILITIES COMMISSION	
415.695.7378	
Recycled Water Fill Facilities: Treatment Plant Yes Distribution System No Can water be used outside of this agency's service area? No	
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: Connection Device: Quality: Truck Size Limits: Quantity Limitations per Trip: Truck Weight Limits: Other Restrictions: Additional Access Information:	
Fill Facilities at Treatment Plant	
Location: South East Treatment Plant 750 Phelps Street, San Francisco Quality: Disinfected Secondary-23 Type of Connection: Overhead and Side Quantity Limitations per Trip: No Minimum Hours: 24 hrs/day, 7 days/week Maximum up to truck limit Appointment Required: Quantity Limitations per Day: No Minimum Truck Size Limits: None No Maximum Truck Weight Limits: None Additional Access Information: Access code and PIN provided at permit issuance	
Training	
Required: Yes Duration: 2 hours or less Who: Truck Driver Frequency: Once Schedule: By Appointment Location: Treatment Plant Length of time to become authorized truck hauler: 3 business days	
Signage	
Area Use Signage Required: Yes Vehicle Signage Required: Yes Signs Provided by Water No Signs Provided by Water Agency: Yes	
Vehicle Inspection	
Required: Yes Inspection Location: Truck Fill Facility Duration: 1 hour or less Re-inspection Required: Not required How to schedule: Appointment	
Fees	
Water: No Charge Training: No Charge Connection Device: No Charge Permit: No Charge Vehicle Signage: No Charge Use Area Signage: N/A Other:	

CITY OF SANTA ROSA	
707.543.3938	
Recycled Water Fill Facilities:	
Treatment Plant: Yes	Distribution System: No
Can water be used outside of this agency's service area? Yes	
Hydrant Fill Facilities	
Location: Utilities Field Operations-35 Stony Point Road, Santa Rosa	
Number of Fill Facilities: 1	Connection Device: Hydrant
Quality: Disinfected Tertiary	Truck Size Limits: None
Quantity Limitations per Trip: Maximum up to truck limit	Truck Weight Limits: None
Other Restrictions: Due to limited available recycled water supply, truck fill use is restricted to dust control only.	
Additional Access Information: Must get an access key from Santa Rosa Water	
Fill Facilities at Treatment Plant	
Location: Santa Rosa Subregional Water Reuse Plant	
Quality: Disinfected Tertiary	Type of Connection: Hydrant
Quantity Limitations per Trip: No Minimum	Hours: Mon-Fri 8 a.m. - 5:30 p.m.
Maximum up to truck limit	Appointment Required: No
Quantity Limitations per Day: No Minimum	Truck Size Limits: None
No Maximum	Truck Weight Limits: None
Additional Access Information: Must get an access key from Santa Rosa Water	
Other Restrictions: Due to limited available recycled water supply, truck fill use is restricted to dust control only.	
Training	
Required: No	Duration:
Who:	Frequency:
Schedule:	Location:
Length of time to become authorized truck hauler: 1 business day	
Signage	
Area Use Signage Required: No	Vehicle Signage Required: Yes
Signs Provided by Water Agency: N/A	Signs Provided by Water Agency: No
Vehicle Inspection	
Required: No	Inspection Location:
Duration:	Re-inspection Required:
How to schedule:	
Fees	
Water: \$5.09 per 1,000 gal	Training: No Charge
Connection Device: No Charge	Permit: \$15.00 per year
Vehicle Signage: N/A	Use Area Signage: No Charge
Other:	

SONOMA COUNTY WATER AGENCY	
707.521.1865 www.scwa.ca.gov	
Recycled Water Fill Facilities: Treatment Plant Yes	Distribution System No Can water be used outside of this agency's service area? Yes
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: Quality: Quantity Limitations per Trip: Other Restrictions: Additional Access Information:	Connection Device: Truck Size Limits: Truck Weight Limits:
Fill Facilities at Treatment Plant	
Locations: Sonoma Valley County Sanitation District, Sonoma CA (call for address)	
Quality: Disinfected Tertiary Quantity Limitations per Trip: No Minimum Maximum up to truck limit Quantity Limitations per Day: No Minimum No Maximum	Type of Connection: Side Hours: Mon-Fri 8 a.m. - 4 p.m.; with permission could be 24/7 Appointment Required: No Truck Size Limits: None Truck Weight Limits: None
Additional Access Information: Contact treatment plant for site access outside of business hours	
Training	
Required: Yes Who: Truck Driver Schedule: By Appointment	Duration: 2 hours or less Frequency: With each new application Location: Recycled Water Plant Length of time to become authorized truck hauler: 5 business days
Signage	
Area Use Signage Required: No Signs Provided by Water Agency: N/A	Vehicle Signage Required: Yes Signs Provided by Water Agency: Yes
Vehicle Inspection	
Required: Yes Duration: 1 hour or less How to schedule: Appointment	Inspection Location: Recycled Water Plant Re-inspection Required: With each new application
Fees	
Water: \$5.00 per 1,000 gal Connection Device: \$100 deposit Vehicle Signage: First set free Other:	Training: No Charge Permit: \$300 Use Area Signage: N/A

CITY OF SUNNYVALE	
408.760.7560	
Recycled Water Fill Facilities: Treatment Plant: Yes	Distribution System: No Can water be used outside of this agency's service area?: No
Hydrant Fill Facilities	
Location: None	
Number of Fill Facilities:	Connection Device:
Quality:	Truck Size Limits:
Quantity Limitations per Trip:	Truck Weight Limits:
Other Restrictions:	
Additional Access Information:	
Fill Facilities at Treatment Plant	
Location: Sunnyvale Water Pollution Control Plant (call for address)	
Quality: Disinfected Tertiary	Type of Connection: Hydrant
Quantity Limitations per Trip: No Minimum	Hours: Mon-Fri 7 a.m. - 4 p.m.
Maximum up to truck limit	Appointment Required: No
Quantity Limitations per Day: No Minimum	Truck Size Limits: None
No Maximum	Truck Weight Limits: None
Additional Access Information: Required to check in and check out.	
Training	
Required: Yes	Duration: 2 hours or less
Who: Truck Owner, Truck Driver, and Customer using water	Frequency: Annually
Schedule: By Appointment	Location: Agency Corp Yard
Length of time to become authorized truck hauler: 30 business days	
Signage	
Area Use Signage Required: Yes	Vehicle Signage Required: Yes
Signs Provided by Water Agency: No	Signs Provided by Water Agency: No
Vehicle Inspection	
Required: Yes	Inspection Location: Corp Yard
Duration: 1 hour or less	Re-inspection Required: Annually
How to schedule: Appointment	
Fees	
Water: \$5.23 per CCF	Training: No Charge
Connection Device: No Charge	Permit: \$125 annually
Vehicle Signage: User provides	Use Area Signage: User provides
Other:	

TOWN OF YOUNTVILLE 707.944.2988 townofyountville.com	
Recycled Water Fill Facilities: Treatment Plant: Yes	Distribution System: No Can water be used outside of this agency's service area? No, not without authorization
Hydrant Fill Facilities	
Location: None Number of Fill Facilities: Quality: Quantity Limitations per Trip: Other Restrictions: Additional Access Information:	Connection Device: Truck Size Limits: Truck Weight Limits:
Fill Facilities at Treatment Plant	
Location: Town of Yountville Wastewater Reclamation Facility 7501 Solano Avenue, Yountville, CA 94599 Quality: Disinfected Tertiary and Disinfected Secondary-2.2 Quantity Limitations per Trip: No Minimum Maximum 5,000 gal Quantity Limitations per Day: No Minimum Maximum 25,000 gal per day Additional Access Information:	Type of Connection: Hydrant and Side Hours: Mon-Fri 8 a.m. - 3:30 p.m. Appointment Required: Yes, for initial fill-up and training Truck Size Limits: None Truck Weight Limits: None
Training	
Required: Yes Who: Truck Owner, Truck Driver, and Customer using water Schedule: By Appointment	Duration: 2 hours or less Frequency: Annually Location: Wastewater Reclamation Facility Length of time to become authorized truck hauler: 3 business days
Signage	
Area Use Signage Required: Yes Signs Provided by Water Agency: No	Vehicle Signage Required: No Signs Provided by Water Agency: N/A
Vehicle Inspection	
Required: No Duration: How to schedule:	Inspection Location: Re-inspection Required:
Fees	
Water: \$1,041.60 for first 100,000 gal Connection Device: No Charge Vehicle Signage: N/A Other:	Training: No Charge Permit: \$350 Use Area Signage: User provides

SECTION 2

Additional Commercial Truck Fill Facilities Anticipated in 2015

Commercial Fill Facilities Planned to be Operational in 2015

COUNTY/CITY	AGENCY
SAN MATEO COUNTY	
Pacifica	North Coast County Water District (contact for availability) Contact: www.nccwd.com
MARIN COUNTY	
San Rafael	Marin Municipal Water District (anticipated Jul/Aug 2015) Contact: (415) 945-1557
SONOMA COUNTY	
Windsor	Town of Windsor (anticipated late 2015) Contact: (707) 838-5343

SECTION 3

Potential Future Commercial Truck Fill Facilities

Agencies That May Consider Commerical Fill Facilities in the Future

At the time this Guide was prepared, the agencies below indicated they may consider development of commercial fill facilities, in particular if the drought continues.

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Piedmont Union City	City of Piedmont Union Sanitary District
CONTRA COSTA COUNTY	
Antioch Brentwood	Delta Diablo Sanitation District (in planning phase) City of Brentwood
MARIN COUNTY	
San Rafael	Ross Valley Sanitary District
SAN FRANCISCO	
South San Francisco	South San Francisco
SAN MATEO COUNTY	
Menlo Park San Mateo	West Bay Sanitary District (in planning phase) City of San Mateo
SOLANO COUNTY	
Benicia	City of Benicia
SONOMA COUNTY	
Guerneville	Sonoma County Water Agency

SECTION 4

Existing and Planned Residential Fill Facilities

Existing Residential Fill Facilities

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Dublin Livermore	Dublin San Ramon Services District City of Livermore
CONTRA COSTA COUNTY	
Concord	Central Contra Costa Sanitary District
SAN MATEO COUNTY	
Palo Alto	City of Palo Alto (Residents may obtain a residential use permit from the City and contract with a City-authorized commercial water hauler to deliver recycled water. The City does not have a residential truck fill station.)
Redwood City	City of Redwood City

Planned Residential Fill Facilities

COUNTY/CITY	AGENCY
ALAMEDA COUNTY	
Oakland	East Bay Municipal Utility District (anticipated July 2015)
MARIN COUNTY	
Novato San Rafael	North Marin Water District (anticipated July 2015) Marin Municipal Water District (anticipated Fall 2015)

SECTION 5

Recycled Water Uses Allowed in California

Recycled Water Uses Allowed¹ in California

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
<i>Irrigation of:</i>				
Food crops where recycled water contacts the edible portion of the crop, including all root crops	Allowed	Not Allowed	Not Allowed	Not Allowed
Parks and playgrounds	Allowed	Not Allowed	Not Allowed	Not Allowed
School yards	Allowed	Not Allowed	Not Allowed	Not Allowed
Residential landscaping	Allowed	Not Allowed	Not Allowed	Not Allowed
Unrestricted-access golf courses	Allowed	Not Allowed	Not Allowed	Not Allowed
Any other irrigation uses not prohibited by other provisions of the California Code of Regulations	Allowed	Not Allowed	Not Allowed	Not Allowed
Food crops, surface-irrigated, above-ground edible portion, and not contacted by recycled water	Allowed	Allowed	Not Allowed	Not Allowed
Cemeteries	Allowed	Allowed	Allowed	Not Allowed
Freeway landscaping	Allowed	Allowed	Allowed	Not Allowed
Restricted-access golf courses	Allowed	Allowed	Allowed	Not Allowed
Ornamental nursery stock and sod farms with unrestricted public access	Allowed	Allowed	Allowed	Not Allowed
Pasture for milk animals for human consumption	Allowed	Allowed	Allowed	Not Allowed
Non-edible vegetation with access control to prevent use as a park, playground or school yard	Allowed	Allowed	Allowed	Not Allowed
Orchards with no contact between edible portion and recycled water	Allowed	Allowed	Not Allowed ²	Not Allowed ²
Vineyards with no contact between edible portion and recycled water	Allowed	Allowed	Not Allowed ²	Not Allowed ²
Non food-bearing trees, including Christmas trees not irrigated less than 14 days before harvest	Allowed	Allowed	Allowed	Allowed
Fodder and fiber crops and pasture for animals not producing milk for human consumption	Allowed	Allowed	Allowed	Allowed
Seed crops not eaten by humans	Allowed	Allowed	Allowed	Allowed
Food crops undergoing commercial pathogen-destroying processing before consumption by humans	Allowed	Allowed	Allowed	Allowed
Ornamental nursery stock, sod farms not irrigated less than 14 day before harvest	Allowed	Allowed	Allowed	Allowed
<i>Supply for impoundment:</i>				
Non-restricted recreational impoundments, with supplemental monitoring for pathogenic organisms	Allowed³	Not Allowed	Not Allowed	Not Allowed
Restricted recreational impoundments and publicly-accessible fish hatcheries	Allowed	Allowed	Not Allowed	Not Allowed
Landscape impoundments without decorative fountains	Allowed	Allowed	Allowed	Not Allowed
<i>Supply for cooling or air conditioning:</i>				
Industrial or commercial cooling or air conditioning involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed⁴	Not Allowed	Not Allowed	Not Allowed
Industrial or commercial cooling or air conditioning not involving cooling tower, evaporative condenser, or spraying that creates a mist	Allowed	Allowed	Allowed	Not Allowed

Recycled Water Uses Allowed¹ in California

(continued)

Use of Recycled Water	Treatment Level			
	Disinfected Tertiary Recycled Water	Disinfected Secondary – 2.2 Recycled Water	Disinfected Secondary – 23 Recycled Water	Undisinfected Secondary Recycled Water
<i>Other uses:</i>				
Groundwater recharge	Allowed under special case-by-case permits by RWQCBs ⁵			
Flushing toilets and urinals	Allowed	Not Allowed	Not Allowed	Not Allowed
Priming drain traps	Allowed	Not Allowed	Not Allowed	Not Allowed
Industrial process water that may contact workers	Allowed	Not Allowed	Not Allowed	Not Allowed
Structural fire fighting	Allowed	Not Allowed	Not Allowed	Not Allowed
Decorative fountains	Allowed	Not Allowed	Not Allowed	Not Allowed
Commercial laundries	Allowed	Not Allowed	Not Allowed	Not Allowed
Consolidation of backfill material around potable water pipelines	Allowed	Not Allowed	Not Allowed	Not Allowed
Artificial snow making for commercial outdoor uses	Allowed	Not Allowed	Not Allowed	Not Allowed
Commercial car washes, not heating the water, excluding the general public from washing process	Allowed	Not Allowed	Not Allowed	Not Allowed
Industrial process water that will not come into contact with workers	Allowed	Allowed	Allowed	Not Allowed
Industrial boiler feedwater	Allowed	Allowed	Allowed	Not Allowed
Non-structural fire fighting	Allowed	Allowed	Allowed	Not Allowed
Backfill consolidation around non-potable piping	Allowed	Allowed	Allowed	Not Allowed
Soil compaction	Allowed	Allowed	Allowed	Not Allowed
Mixing concrete	Allowed	Allowed	Allowed	Not Allowed
Dust control on roads and streets	Allowed	Allowed	Allowed	Not Allowed
Cleaning roads, sidewalks, and outdoor work areas	Allowed	Allowed	Allowed	Not Allowed
Flushing sanitary sewers	Allowed	Allowed	Allowed	Allowed

This summary is prepared from the December 2, 2000-adopted Title 22 Water Recycling Criteria and supersedes all earlier versions. Prepared by Bahman Sheikh and edited by EBMUD Office of Water Recycling, who acknowledge this is a summary and not the formal version of the regulations referenced above.

¹ Refer to the full text of the December 2, 2000 version of Title 22: California Code of Regulations, Chapter 3 Water Recycling Criteria. This chart is only an informal summary of the uses allowed in this version, with the exception of orchards and vineyards noted as "Not Allowed²" on page 1 and explained below.

² Per California Department of Public Health letter of January 8, 2003 to California Regional Water Quality Control Boards.

³ Allowed with "conventional tertiary treatment." Additional monitoring for two years or more is necessary with direct filtration.

⁴ Drift eliminators and/or biocides are required if public or employees can be exposed to mist.

⁵ Refer to Groundwater Recharge Guidelines, available from the California Department of Public Health.