

Additional Explanations

HAZARDOUS WASTE/MATERIALS

Regulatory Setting

Many state and federal laws regulate hazardous materials and hazardous wastes. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper treatment of materials during excavation and transport, and proper disposal of hazardous material is vital during project construction in order to prevent impacts to workers (and the public) from contaminated dust or water. The principal state agency concerned with these issues for the protection of human health and the environment is the Department of Toxic Substances Control.

In California, properties with known hazardous waste are placed on a public list for notification and public disclosure. This list, known as the “Cortese List,” was established under Government Code 65962.5 and was published annually by the Governor's Office of Planning and Research. If a site is listed in the Cortese List database, a Negative Declaration (ND) is the minimum level of CEQA documentation required for CEQA compliance.

Affected Environment

This proposed project includes work in parcel number 144-022-1200. The suspected source of the contamination was related to fuel tanks leaking from an underground storage tank at the Anchor Bay Gas Station. The Anchor Bay Gas station is closed and the underground storage tanks were removed on August 21, 1997. The site is on the Cortese site list and the contamination is well defined. The Cortese site is under active remediation.

Potential Impacts

An ISA memorandum was completed in January 2006. It described soil sampling and analysis that was conducted within the proposed construction area by the property

owner's consultant, Brunsing Associates, Inc. This study found that low levels of highly water-soluble fuel oxygenates were present in the shallow subsurface soil along the proposed culvert alignment at Engineering Station DD10+03. It was concluded that the impacts are localized and will likely entail less than 5 cubic meters of material, and that the material could simply be graded in place during construction. If the impacted material were picked up and moved, it could be considered a waste, requiring disposal.

Since the writing of the January 2006 memorandum, the property owner's consultant has installed a soil and groundwater remediation system and has obtained an encroachment permit for groundwater discharge into our culvert facility. As a result, the levels of fuel oxygenates in the subsurface soil have likely decreased, but are probably still likely present.

Avoidance, Minimization, and/or Mitigation Measures

Based on the previous findings, avoidance or minimization measures are required. The project will include NSSPs that address the following requirements:

- If the fuel oxygenates – impacted material is not graded in place during construction, it may need to be regarded as “hazardous Waste” and disposed of accordingly.
- A worker health and safety plan for the fuel oxygenates present, will need to be prepared by the construction contractor and signed by an industrial hygienist.

BIOLOGICAL RESOURCES

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Game share regulatory responsibility for the protection of special-status species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act and/or the California Endangered Species Act. Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans entered into informal consultation with USFWS on September 25, 2009 and received a letter of concurrence stating that the project “may affect, but is not likely to adversely affect” the species in question with a list of conditions to prevent take.

The regulatory requirements for the Federal Endangered Species Act can be found at United States Code 16, Section 1531, et. seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act can be found at California Fish and Game Code, Section 2050, et. seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

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

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 United States Code 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is implemented by the U.S. Army Corps of Engineers with oversight by the Environmental Protection Agency.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration,

cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game and the Regional Water Quality Control Boards. In certain circumstances, the California Coastal Commission (CCC) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the California Department of Fish and Game before beginning construction. If the California Department of Fish and Game determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would be required. The California Department of Fish and Game's jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers (USACE) may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the Department of Fish and Game.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The Regional Water Quality Control Boards also issue water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

Within the Mendocino County Local Coastal Permit (LCP), Chapter 20.496 of the coastal zoning code includes policies that apply to Environmentally Sensitive Habitat Area (ESHAs). Buffer areas are described and defined in Section 20.496.020 as an area that shall be established adjacent to all ESHAs. The purpose of a buffer area shall be to provide for a sufficient area to protect the ESHA from degradation resulting from future developments. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game (CDFG) and Mendocino County Planning Department, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the ESHA and shall not be less than 50 feet in width. Mendocino County Code Section 20.496.025(7) further specifies development that is allowed in wetlands, including incidental public service purposes.

Affected Environment

The project area is located in the seaside town of Anchor Bay, California along State Route 1. A downdrain and culvert are located to the west of town with the downdrain flowing down the embankment and terminating at the toe of the slope. The area around the downdrain will be disturbed by vegetation removal and some grading while the downdrain is replaced. Riparian habitat will be affected but replanted after construction is completed. The culvert and the area on and east of State Route 1 will not be affected.

Potential Impacts

The project will impact 137 linear feet (lf) of Waters of the US during construction. Of this total length, 94 lf will be permanently impacted due to the 62 lf rock lined ditch and the new downdrain which extends 32 lf farther than the old one. Temporary impacts to Waters of the U.S. will result from the 43 lf of replacement downdrain which will be buried to provide a larger area for revegetation. This will require clearing and grubbing of 0.01 acre of wetland and 0.05 acre of riparian habitat, including removal of several mature willow trees and several juvenile Bishop pines. There is no Bishop pine forest within the ESL; however, encroachment into the designated buffer zone will be necessary as the ESL is immediately adjacent to the Bishop pine forest. Possible effects as they relate to California Coastal Commission designated Environmentally Sensitive Habitats will be addressed in the ESHA analysis. Some soil disturbance will occur when the new downdrain is buried, and there is some concern about soil contamination from underground storage tanks that were removed from an adjacent property. If contaminated soil is found, it will need to be disposed of at an approved offsite location. All clean topsoil will be redistributed onsite to preserve the seedbank.

California red-legged frog (CRLF) habitat, though temporarily impacted during construction, will be improved upon completion of the project through pool creation in the rock lined ditch and riparian/wetland restoration of a larger area. This restoration will be made possible by burial of the down drain and slope stabilization provided by the rock lined ditch. Impacts to CRLF individuals are not anticipated from this project as CRLF are not believed to be present at the site. The anticipated outcome of Section 7 consultation with USFWS is a letter of concurrence stating “that the proposed project may affect, but is not likely to adversely affect” with a list of conditions to avoid “take.” One of the conditions will be that if any individual frogs are encountered, all work will be stopped.

Avoidance, Minimization, and/or Mitigation Measures

- A qualified biologist will conduct the environmental awareness training for the construction workers prior to beginning of construction activities. The awareness training will include a brief review of the biology of the California red-legged frog and guidelines that must be followed by all construction personnel to avoid “take” of California red-legged frogs and to minimize potential effects to all sensitive biological resources during the construction period. Worker Environmental Awareness Training will be conducted for all new personnel before they join construction activities.
- A qualified biologist will be on-site to monitor all initial ground disturbing construction activities. The biologist's duties will include surveying the project area for all life stages of California red-legged frog immediately prior to ground disturbing activities.
- If a California red-legged frog is encountered during any project activities, construction activities will cease in the area and the Service will be notified.
- Water pumps will be screened with wire mesh screens no larger than 0.2 inch to prevent California red-legged frog larvae, juveniles, and adults from entering the pump system.
- All food related trash will be disposed of in closed containers and removed from the project area at least twice per week during the construction period.
- The contractors will implement a toxic materials control and spill response plan. Equipment refueling will only occur at staging areas that are located where fuel will not enter the floodplain.
- All vegetation removal activities will employ only hand tools (including chainsaws).

The impacted waters and wetlands will be restored onsite following construction. Burial of the downdrain will provide a larger area within the ESL to be revegetated, with the goal being a net gain in wetland/riparian habitat. Debris and trash within the ESL, such as culvert pipe and an old truck body, will also be removed to improve habitat and water quality. Non-native species such as pampas grass, will be removed to improve the

quality of habitat. The area of construction disturbance will be kept narrow (20 ft. wide) to minimize impacts to sensitive resources.

Below the downdrain outlet, a rock lined ditch inter-planted with willows will be constructed. This will improve water quality by reducing erosion. It will also allow riparian plants to establish and provide shade/habitat. These design modifications will improve CRLF habitat. Two pools will be created in the rock lined ditch in order to trap water and create CRLF habitat, and the rocklined ditch will be reduced to 62 feet long. Beyond that point, the channel intercepts bedrock, and further rock slope protection (RSP) is not needed. Existing pools in this section of bedrock provide better quality habitat than artificial ones made from RSP, so they will be preserved.

All off-road construction equipment shall be cleaned of noxious weed sources (mud and vegetation) before entering the construction site, as well as after entering potentially infested areas to help ensure that noxious weeds are not introduced into the project area. The contractor shall employ whatever cleaning methods (typically the use of a high pressure water hose) are necessary to ensure that the equipment is free of noxious weeds before its arrival at the project location. Equipment shall be considered free of soils, seeds, and other such debris when a visible inspection indicates that such materials are not present.

Appropriate Caltrans Best Management Practices (BMPs) will be implemented to prevent any construction material, debris or petroleum products associated with equipment from entering the drainage. BMPs for erosion control will be implemented and in place prior to, during, and after construction in order to ensure that no silt, sediment, backfill, petroleum products or invasive plants enter drainage ditches.

WATER QUALITY

Regulatory Setting

Since this project has a disturbed soil area (DSA) of less than one acre, regulatory permits that address storm water discharges to construction sites do not apply. However, reporting requirements under Section A, General Discharge Prohibitions, in Caltrans Statewide NPDES Permit do apply. The reporting requirements as applied to 401 Certifications is further discussed in Caltrans Storm Water Management Plan, Section 9.4, Noncompliance Reporting, part 9.4.1.2.

Affected Environment

The drainage system is located in the Garcia River Watershed (HA 113.70). There is a Sediment Total Maximum Daily Load (TMDL) established for the Garcia River. However, this drainage system discharges to the Pacific Ocean and is located 18 miles south of the Garcia River. The proposed project location is within the jurisdictional boundary of the North Coast Regional Water Quality Control Board (Regional Board). The Regional Board has the authority to implement water quality protection standards through the issuance of permits to protect waters of the state. Water quality objectives for the North Coast Region are specified in the Water Quality Control Plan for the North Coast Region (Basin Plan) prepared in compliance with the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of both surface waters and groundwater.

The project area collects water from an unknown ephemeral drainage (culvert discharges to the inlet) and storm water runoff from the northbound lane and adjacent parking lot south of the inlet. The outlet discharges to the Pacific Ocean.

Potential Impacts

The proposed project should have no impacts to either beneficial uses and/or water quality objectives for the coastal waters. A storm water plan is typically required by the Regional Board for the Section 401 Water Quality Certification/Waste Discharge Requirements to address discharges of pollutants to receiving waters. Because the project will result in no increase in impervious surface area, and does not include any structural improvements, the feasibility analysis of post construction treatment BMPs is outside the scope and cost for this project.

Due to the jurisdictional drainage within the project limits, a Section 401 Water Quality Certification/Waste Discharge Requirements or a Waiver of Waste Discharge Requirements will be required by the Regional Board. The project does not propose to increase the impervious surface of the highway facility, and therefore will not generate an increase in storm water runoff. Given the existing and proposed storm water drainage system within the project limits and the regional water quality concerns associated with this area, the following water quality concerns were identified related to the project:

- Sediment and other discharges related to construction and operation.
- Dredge and fill impacts to jurisdictional waters.

- Localized increase to surface water temperatures due to removal of riparian vegetation.

Avoidance, Minimization, and/or Mitigation Measures

Based on the previous findings, avoidance, minimization, or mitigation measures are required. In accordance with Caltrans' Construction Best Management Practices (BMPs) the following measures will be implemented to minimize impacts to water quality.

- Standard Special Provisions (SSPs) 07-340 and 07-346 will be required.

Construction BMPs will be incorporated to address potential sedimentation associated with any necessary temporary and/or permanent access. Localized temporary increases in temperature due to removal of riparian vegetation will take place. This is expected to be a temporary impact until vegetation is re-established. Any localized increase in temperature will not affect the temperature of the receiving water (Pacific Ocean). Specific construction site BMPs to address potential discharges of grout will be specified by the Project Engineer with concurrence by the Construction Storm Water Coordinator for inclusion in the contract. To address the potential temporary water quality impacts resulting from construction activities, Standard Special Provisions (SSP) 07-340 will be included with of the Plans, Specifications, and Estimates. SSP 07-340 will address water pollution control work and implementation of a Storm Water Pollution Prevention Plan (SWPPP) during construction. Source control issues will be addressed through SSP 07-346, Construction Site Management which sets forth handling procedures and BMPs for potential sources not addressed by line items in the contract special provisions.

COASTAL ZONE

Regulatory Setting

This project is in the coastal zone. The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by

the California Coastal Act are similar to those for the CZMA; they include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act. Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs (LCPs). LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

Affected Environment

Within the Mendocino County LCP, Chapter 20.496 of the coastal zoning code includes policies that apply to Environmentally Sensitive Habitat Area (ESHAs). Buffer areas are described and defined in section 20.496.020 as an area that shall be established adjacent to all ESHAs. The purpose of a buffer area shall be to provide for a sufficient area to protect the ESHA from degradation resulting from future developments. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game (if applicable), and Mendocino County Planning Department, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the ESHA and shall not be less than 50 feet in width. This section describes a variety of standards for determining the allowable width of the buffer area, including standards for the development permitted within the buffer area. Mendocino County Code Section 20.496.025(7) further specifies development that is allowed in wetlands, including incidental public service purposes.

Potential Impacts

Due to the very steep, unstable terrain along the coastal bluff tracked equipment will be necessary for replacement of the downdrain. 137 linear feet (lf) of Waters of the US will be impacted during construction. Of this amount, 94 linear feet will be permanently impacted due to the 62 lf rock lined ditch as well as the new downdrain which extends 32 lf farther than the old one. Temporary impacts to waters of the U.S. will be to 43 lf of downdrain which will be buried after it is replaced to allow for a greater area of Revegetation. This will require clearing and grubbing of 0.01 acres of wetland and 0.05

acres of riparian habitat, including removal of several mature willow trees as well as several juvenile bishop pines. There is no Bishop pine forest within the ESL, however encroachment within the designated buffer zone will be necessary as the ESL is right next to the edge of the Bishop pine forest. Possible effects as they relate to California Coastal Commission designated Environmentally Sensitive Habitats will be addressed in the ESHA. Some soil disturbance will occur as the new down drain will be buried, and there is some concern about soil contamination from underground storage tanks that were removed from an adjacent property. If contaminated soil is found it will need to be disposed of at an approved offsite location, however, all clean topsoil will be redistributed onsite to preserve the seedbank.

Avoidance, Minimization, and/or Mitigation Measures

All Avoidance, Minimization and Mitigation Measures are listed in the Biological and Hazardous Waste section.

CLIMATE CHANGE (CEQA)

Regulatory Setting

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 -tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). The waiver was denied by EPA in December 2007. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a

35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year. On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S.

Environmental Protection Agency (EPA) to regulate GHG as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases-- carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's [proposed greenhouse gas emission standards for light-duty vehicles](#), which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009. ¹

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task. As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken.

¹ <http://www.epa.gov/climatechange/endangerment.html>

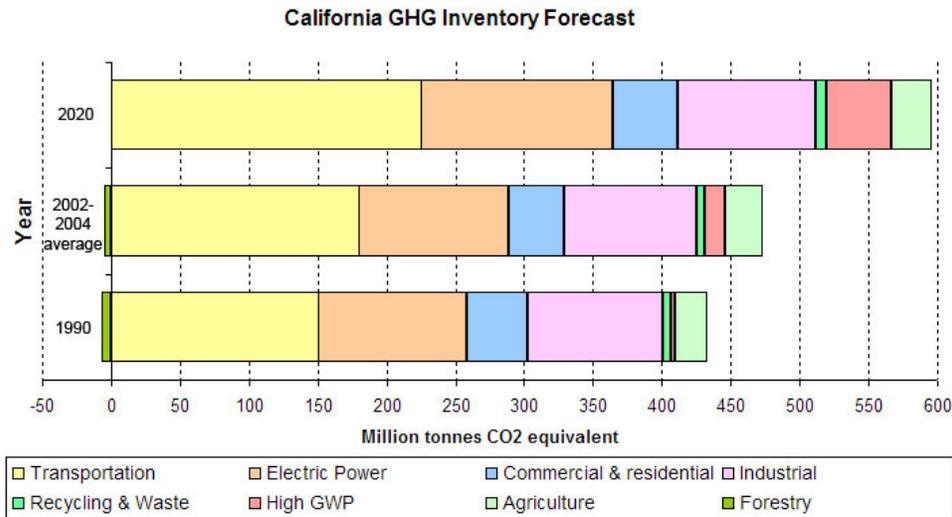


Figure 1. California GREENHOUSE GAS Inventory

Taken from : <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: <http://www.dot.ca.gov/docs/ClimateReport.pdf>

Project Analysis

This project is a water quality improvements project, and will not increase or change long-term traffic. Therefore, no increase in operational GHG emissions is anticipated to occur with the project.

Construction Emissions

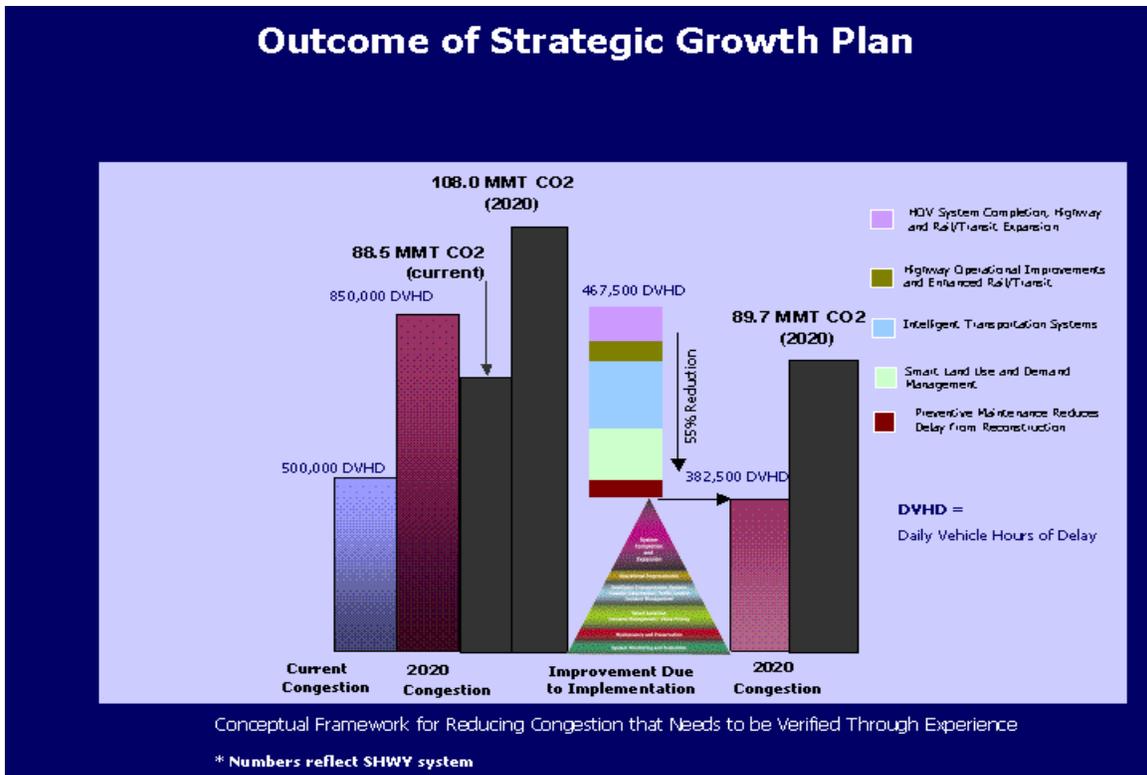
GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. Construction of this project will produce a small amount of GHG emissions associated with the operation of construction equipment and construction vehicles. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by

implementing better traffic management during construction phases. In addition, with innovations such as longer pavement life, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be minimized to some degree by longer intervals between maintenance and rehabilitation events.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding through 2016². As shown in the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that, combined together, yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

² Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)



As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the

facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaption must also involve the natural environment. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

The California Resources Agency [now the Natural Resources Agency, (Resources Agency)], through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Natural Resources Agency was directed to request the National Academy of Science to prepare a *Sea Level Rise Assessment Report* by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;

- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- a discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.)

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of Governor Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea Level Rise Assessment* which is due to be released by December 2010.

On August 3, 2009, Natural Resources Agency in cooperation and partnership with multiple state agencies, released the 2009 California Climate Adaptation Strategy Discussion Draft, which summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The release of the draft document set in motion a 45-day public comment period.

Led by the Natural Resources Agency, numerous other state agencies were involved in the creation of discussion draft, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The discussion draft focuses on sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. The strategy is in direct response to Governor Schwarzenegger's November 2008 [Executive Order S-13-08](#) that specifically asked the Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able to review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level.

List of Preparers

The following Caltrans North Region staff contributed to the preparation of this Initial Study:

Larry M. Chiea, Associate Environmental Planner. Contribution: Environmental Study Coordinator and Document Writer.

Sandra E. Rosas, Environmental Planner. Contribution: Environmental Branch Chief.

Erick Wulf, Associate Environmental Planner (Archaeology). Contribution: Screening Memorandum

Alfred Kannely, Associate Environmental Planner/NS (Biologist). Contribution: Project Biologist, Natural Environmental Study (NES).

Alan Radford, Project Engineer. Contribution: Preparation of Design Plans.

Gary Banducci, Project Manager. Contribution: Project Coordination.

Mark Melani, Transportation Engineer. Contribution: Hazardous Waste Initial Site Assessment.

Steve Werner, Transportation Engineer. Contribution: Hazardous Waste Initial Site Assessment.

Sharon Tang, Air Specialist. Contribution: Air Quality Analysis.

Saeid Zandian, Noise Specialist. Contribution: Noise Analysis.

Laura Lazzarotto, Landscape Architect. Contribution: Visual Impact Assessment..

Dave Melendrez, Senior Civil Transportation Engineer. Contribution: Water Quality Analysis and NPDES Storm Water Coordinator.

Attachment 1 - Informal Consultation with Fish and Wildlife Service



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arcata Fish and Wildlife Office
1655 Heindon Road
Arcata, California, 95521
Phone: (707) 822-7201 FAX: (707) 822-8411

In Reply Refer To:
8-14-2009-3706
81331-2009-I-0161

OCT 16 2009

Sandra E. Rosas, Chief
Environmental Management, M2 Branch, District 3
California Department of Transportation
703 B Street
P.O. Box 911
Marysville, California 95901-0911

Subject: Informal Consultation on Culvert Repair Project along State Route 1 near
Anchor Bay, Mendocino County, California

Dear Ms. Rosas:

This letter responds to your request, dated September 24, 2009, and received October 1, 2009, for informal consultation with the U.S. Fish and Wildlife Service (Service) regarding proposed culvert (down drain) repairs and replacement along California State Route 1 (Highway 1) at post mile (PM) 4.47, Mendocino County, California. Based on information contained in a biological assessment, prepared in August 2009, by the California Department of Transportation (Caltrans), Caltrans determined that the proposed down drain repair and replacement activities may affect but would not likely adversely affect the federally listed threatened California red-legged frog (*Rana draytonii*, formerly *Rana aurora draytonii*). This response is prepared in accordance with the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act), and its implementing regulations (50 CFR § 402).

This consultation is based on information provided in the August 2009, biological assessment, species information from the California Department of Fish and Game's Natural Diversity Database, and information in our files. The project description contains a complete description of the proposed action and its effects on the above species and is hereby incorporated by reference. A complete administrative record for this consultation is on file in this office.

Caltrans proposes to repair the down drain along a section of Highway 1 in Mendocino County at PM 4.47, near the town of Anchor Bay. Damage to the down drain has occurred as a result of winter storms over the past several years, and the repairs are needed to protect the integrity of the

highway. The project would require removal of wetland and riparian vegetation within a section of hillside measuring about 20 feet wide by 200 feet long, from the coastal bluff down to the beach. A ditch measuring 9 feet wide by 82 feet long would be constructed and lined with 33 cubic yards of ¼-ton rock-slope-protection rock. Approximately 20 cubic yards of earth would be excavated in construction of the ditch. The existing 24-inch diameter corrugated metal downdrain would be removed and replaced with a plastic downdrain measuring 75 feet long and 24 inches in diameter, and a cable anchor assembly. Erosion control materials would be hand-placed over all disturbed areas. Downdrain repair and replacement activities would occur only during daylight hours, are scheduled to occur during summer months, and would take about three weeks to complete.

The proposed project area occurs within the range of the California red-legged frog. California red-legged frogs have been observed near the mouth of the Gualala River, located approximately 3.8 miles southeast of the proposed project site, and near Point Arena, which is located approximately 10 miles northwest of the proposed project site. In addition, based on a review of aerial photographs and topographic maps, at least three ponds occur within 0.75 mile of the proposed project site. Focused surveys for California red-legged frogs were not conducted at the proposed project site. However, based upon information in our files, and observations by personnel from Caltrans during a site visit in June 2009, habitats at the proposed project area include a wetland area, riparian area, Bishop pine (*Pinus muricata*) forest, and coastal scrub. The small wetland is located below the outlet of a culvert and likely does not hold water continuously from January through August. However, an ephemeral pool, emergent wetland vegetation and riparian vegetation at the proposed project site could serve as suitable aquatic non-breeding and sheltering habitats for California red-legged frogs. Therefore, based on habitat conditions at and near the proposed project site, it is the Service's opinion that California red-legged frogs could occur in the vicinity of the proposed project site.

Caltrans proposes to implement the following measures to avoid adverse effects to California red-legged frogs:

- A qualified biologist will conduct Worker Environmental Awareness Training for the construction workers prior to beginning of construction activities. The awareness training will include a brief review of the biology of the California red-legged frog and guidelines that must be followed by all construction personnel to avoid take of California red-legged frogs and minimize potential effects to all sensitive biological resources during the construction period. The qualified biologist will appoint a biological monitor (for example, the crew foreman) who will be responsible for ensuring that all crewmembers comply with the guidelines. Worker Environmental Awareness Training will be conducted for new personnel before they join construction activities. The qualified biologist will ensure that work is stopped and the Service is contacted if a California red-legged frog at any life stage is encountered.
- A qualified biologist will be on-site to monitor all initial ground disturbing construction activities. The biologist's duties will include surveying the project

area for all life stages of California red-legged frog immediately prior to ground disturbing activities.

- If a California red-legged frog is encountered during any project activities, construction activities will cease in the area and the Service will be notified to determine how to proceed.
- Water pumps will be screened with wire mesh screens no larger than 0.2 inch to prevent California red-legged frog larvae, juveniles, and adults from entering the pump system.
- All food related trash will be disposed of in closed containers and removed from the project area at least twice per week during the construction period.
- The contractors will implement a toxic materials control and spill response plan. Equipment refueling will only occur at staging areas where fuel will not enter the floodplain.
- All vegetation removal activities will be done with the use of hand tools only (chainsaws are okay).
- The number of access routes, numbers and sizes of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated.

Concurrence

California Red-legged Frog

The Service concurs with your determination that the proposed culvert repair activities may affect but are not likely to adversely affect the California red-legged frog, based on the following factors:

1. The nearest known occurrence of California red-legged frog occurs approximately 3.8 miles from the proposed project. However, suitable aquatic breeding habitat for the species likely does not occur at the proposed culvert repair site.
2. Surveys for California red-legged frog and implementation of a worker awareness training before work activities begin should confirm probable absence of California red-legged frogs at the proposed project site.
3. Suitable aquatic breeding habitat would not be removed.
4. Although vegetation around a small (approximately 100 square feet) ephemeral wetland area will be removed, the effects will likely be temporary, and this represents a miniscule fraction of the habitat available to California red-legged frogs in the vicinity of the

proposed project; therefore, it is unlikely that California red-legged frogs would occur at the proposed project area.

Conclusion

This concludes informal consultation on the proposed downdrain repairs along Highway 1 near Anchor Bay. Unless new information reveals that the proposed action: (1) may affect listed species in a manner, or to an extent, not considered in your correspondence; (2) the action is modified in a manner that causes an effect on the listed species or critical habitat not considered in your correspondence; or (3) a new species is listed or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary.

Please contact staff biologist Bill McIver at (707) 822-7201 should you have further questions regarding this consultation.

Sincerely,

A handwritten signature in black ink, appearing to read "Randy A. Brown". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Randy A. Brown
Acting Field Supervisor