

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE
710 E STREET • SUITE 200
EUREKA, CA 95501-1865
VOICE (707) 445-7833
FACSIMILE (707) 445-7877

MAILING ADDRESS:
P. O. BOX 4908
EUREKA, CA 95502-4908

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Hearing Date: June 8, 2005
Commission Action:

STAFF REPORT: CONSENT CALENDAR

APPLICATION NO.	1-04-038
APPLICANT:	California Department of Transportation (Caltrans)
PROJECT LOCATION:	Adjacent to Mad River Bridges of Highway 101 corridor, between Arcata and McKinleyville, Humboldt County.
PROJECT DESCRIPTION:	Drill up to 5 test borings adjacent to the existing Highway 101 bridge area to obtain geotechnical information for the replacement of the bridge. The project does not include approval of any phase of the replacement bridge.
LOCAL APPROVALS:	None Required
OTHER APPROVALS REQUIRED:	Army Corps of Engineers; California State Lands Commission
SUBSTANTIVE FILE DOCUMENTS:	CDP No. 1-01-067 (Caltrans); NOAA Fisheries Endangered Species Act Informal Consultation (May 19, 2004); Drilling Plan 01-HUM-101-KP-144.4/Bridge No. 04-0025L/R (Caltrans, April 9, 2003)

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with special conditions concerning timing of construction, drilling materials, water quality management, construction responsibilities, drilling completion, and final approval by Army Corps of Engineers and State Lands Commission.

STANDARD OF REVIEW

The proposed project is located within the Commission's area of retained permit jurisdiction. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

I. MOTION and RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion: I move that the Commission approve Coastal Development Permit 1-04-038, with conditions, pursuant to the staff recommendation.

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT

The Commission hereby approves the Coastal Development Permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. State Lands Commission Review

PRIOR TO COMMENCEMENT of CONSTRUCTION, the applicant shall provide to the Executive Director a copy of a permit issued by the California State Lands Commission, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the California State Lands Commission. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

2. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall submit to the Executive Director written evidence that all necessary approvals from the Army Corps of Engineers have been obtained.

3. Timing of Construction and Protection of Water Quality and Anadromous Fish

Geotechnical borings within the river channel of the Mad River, as generally depicted on Exhibit No. 3, shall be limited to the period between June 15 and October 14, 2005 and shall be conducted only on the dry gravel bar areas of the Mad River in accordance with the applicant's proposal. No borings shall occur within the live waters of the river.

4. Drilling Materials

Geotechnical drilling mud shall be bentonite without additives. Initial drilling through gravels shall be accomplished using clean water as a lubricant. Once the drill casing is set at least five feet below the streambed surface, drilling mud (bentonite clay) may be used.

5. Water Quality Best Management Practices

Best Management Practices designed to protect the water quality of the Mad River shall be implemented during construction consistent with Caltrans project description and shall include the following measures:

- (a) Plastic sheeting and straw wattle containment booms shall be placed around the (1) perimeter of the drilling area on the bridge deck; (2) casing collar where the drill casing intercepts the gravel bar channel, except for those borings that must be drilled within the active river channel when water is flowing over the drill site; and (3) scuppers on the bridge deck.
- (b) In the event that a release of drilling mud is detected, all work shall stop immediately and the release shall be contained and cleaned up as soon as possible thereafter. Straw wattles, plastic sheeting, and absorbent pads shall be available on site for quick response in the event of a spill.

6. Construction Related Responsibilities

The permittee shall comply with the following construction-related requirements:

- (a) Project equipment shall be staged and operated from the existing bridge deck, or on public or private roadways to the maximum extent feasible; only the minimum drilling equipment or machinery necessary to undertake drilling location #3 on the dry gravel bar shall be undertaken within the Mad River corridor, in accordance

with the applicant's proposal, and such equipment shall not enter the waters of the Mad River;

No construction materials, equipment, debris or waste shall be placed or stored where it may enter river waters. Should accidental release to the waters of the Mad River occur, retrieval and cleanup shall be undertaken immediately with the minimum intrusion of equipment into the riparian area necessary, and the incident, as well as remedial measures taken, reported to the Executive Director within 24 hours.

7. Geotechnical Drilling Completion

The drilled holes shall be filled with a grout mixture of bentonite chips to seal the holes and prevent the potential mixing of aquifers to a level approximately fifteen feet below the surface of the streambed. The upper approximately fifteen feet of the holes shall be backfilled with native streambed material.

IV. FINDINGS AND DECLARATIONS

Site & Project Description

The Highway 101 Mad River Bridge is located just south of McKinleyville, and north of Arcata, in Humboldt County. The rural area surrounding the site is primarily agricultural, used for grazing and open space. (Exhibits 1 & 2)

Caltrans proposes to conduct geotechnical drilling at up to five locations (some are located outside the Commission's retained jurisdiction) adjacent to the bridge and nearby roadway to evaluate soil and bedrock conditions. The information gathered will be used to design a replacement bridge. The existing bridge requires replacement because it has required extensive repairs in recent years, scouring is occurring at the piers, it is seismically substandard (half of the bridge has been seismically retrofitted) and it is considered to be at the end of its useful life.

The Mad River Bridge crosses the river two miles inland from the ocean. The river and its reaches are migratory and spawning corridor for three federally listed anadromous fish species (fish whose life cycles include both fresh and salt water): Chinook salmon, Coho salmon, and steelhead trout. The banks of the river near the bridges are flanked by riparian woodlands including alders and willow trees, and a mixture of native shrubs, Himalayan (nonnative) blackberry, coyote brush, and other riparian species. No vegetation would be removed to undertake the geotechnical studies; however some trimming of non-native blackberry brambles (but no root disturbance) would be required in one location to access the gravel bar. The trimmed brambles would fully regrow within a single season.

Caltrans states that the geotechnical drilling would be completed within twelve weeks once operations commence, and that each boring location may require up to two weeks to complete. Caltrans proposes to undertake all geotechnical survey work between mid-June and mid-October to access to the gravel bar location after peak river flows recede and thereby ensure minimal disruption to fish species. No impacts to public access or recreation would result from the geotechnical drilling activities. Access would be taken from existing roadways located on private grazing and pasturelands; no public roads or trails would be closed to undertake the drilling studies.

Proposed Project Details

The proposed borings would be completed using rubber tired all-terrain drill rigs. One or two borings would be completed at each of the five locations, and would consist of vertical rotary soil borings approximately 100 to 150 feet deep. Only boring #3 would be completed within the Mad River active channel, but only on a gravel bar that is exposed annually when the river dries up in summer.

Bentonite clay and water would be used as drilling fluid in or close to the river channel. No polymer would be used where escape to river waters could occur. The drilling mud would be circulated through the boreholes in a closed drilling system and recirculated using a mud tub container. Caltrans proposes to implement Best Management Practices (BMPs) to provide secondary containment around the drilling activities and boring locations. Applicable BMPs include placing visquene and straw waddles under and around the rig, the mud tub and borehole to contain and collect any accidental mud spills. Caltrans will also ensure that absorbent pads and other spill containment supplies are maintained on site at all times during drilling operations in or near the river channel. All drilling waste would be properly barreled and stored offsite, for storage at the Eureka Caltrans maintenance yard and eventual disposal at a licensed waste facility.

2. Filling and Dredging in Coastal Waters and Wetlands

Section 30106 of the Coastal Act defines development, in part, as the "*removing, dredging, mining, or extraction of any materials.*" Section 30108.2 defines fill as the placement of earth or other substance or material in a submerged area. Although the project would not involve the placement of fill on top of existing soils and aquatic substrate, it would involve the subsurface removal of soil and rock and replacement of that native material partially with bentonite mud. Therefore, the proposed project constitutes dredging and filling in wetlands.

Section 30233 of the Coastal Act provides as follows, in pertinent part:

(a) *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

...

Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

Section 30231 of the Coastal Act address the protection of coastal water quality and marine resources in conjunction with development and other land use activities. Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantially interference with the surface water flow, encouraging, wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams. (emphasis added)

The above policies set forth a number of different limitations on what development projects may be allowed in coastal wetlands. For analysis purposes, the limitations can be grouped into four general categories or tests.

These tests are:

- that the purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;
- that the project has no feasible less environmentally damaging alternative;
- that feasible mitigation measures have been provided to minimize adverse environmental effects; and
- that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

a. **Permissible Use for Fill**

The first test for a proposed wetland fill/dredging project is whether the fill/dredging is for one of the eight allowable uses under Section 30233(a). The relevant category of use

listed under Section 30233(a) that relates to the proposed geotechnical drilling is subcategory (5), stated as follows:

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

To determine if the proposed fill/dredging is for an incidental public service purpose, the Commission must first determine that the proposed fill/dredging is for a public service purpose. The drilling is required to obtain geotechnical information needed to design and construct a replacement bridge for increased public safety. Since the project would be conducted by a public agency to improve public safety on an existing public highway bridge, the Commission finds that the fill/dredging expressly serves a public service purpose consistent with Section 30233(a)(5).

The Commission must next determine if the fill/dredging is for an "incidental" public service purpose. The Commission has in the past determined that certain fill/dredging for bridge repair projects is for an "incidental" public service purpose under Section 30233(a)(5). For example, in CDP No. 1-96-71 (Caltrans' seismic retrofit of the Pudding Creek Bridge in Fort Bragg); CDP No. 1-01-067 (Caltrans' geotechnical drilling for replacement of the Van Duzen River bridge) and CDP No. 1-00-032 (Caltrans' geotechnical drilling for the retrofit of the Ten Mile River Bridge in Mendocino), the Commission found that these public service projects were for an incidental public service purpose because the fill/dredging associated with these projects was incidental to the highway they affected as the repairs and geotechnical boring projects were not the primary part of the highways themselves and the impacts were of temporary duration. In the present case, the Commission finds that the proposed geotechnical drillings, as conditioned in this permit, will also have impacts of a temporary duration and are also for an incidental public service purpose, i.e. to provide information for the design and planning of the replacement of an existing public transportation facility to increase public safety.

Therefore, the Commission finds that for the reasons discussed above, the dredging (excavation) and filling for the proposed project is for an incidental public service purpose, and thus, is an allowable use pursuant to Section 30233(a)(5) of the Coastal Act.

b. Alternative Analysis

The second test of Section 30233(a) is whether there are feasible less environmentally damaging alternatives to the proposed project. Coastal Act Section 30108 defines "feasible" as follows:

'Feasible' means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, social, and technological factors.'

Drilling within the river channel can result in potential significant adverse impacts to anadromous fish, water quality, and wetland functions. In some cases, Caltrans has proposed undertaking geotechnical drilling within flowing water areas when locational requirements were such that these areas could not be avoided. Such procedures could adversely impact water quality through increased water turbidity from the release of drilling mud or disturbed sediments, which in turn can adversely affect sensitive anadromous fish species. According to NOAA Fisheries, suspended sediments can make salmonid prey and predator detection difficult, reduce feeding opportunities, and induce behavioral modifications. Suspended sediments may also cause respiratory problems for fish, smother incubating eggs or juvenile fish, and reduce habitat by reducing the volume of interstitial spaces within substrate. Additionally, direct impact and/or vibrations resulting from driving the casing could be injurious to eggs and alevins in the gravel.

In the subject proposal, however, Caltrans proposes only to access the river during the driest season, from June 15 through October 14, and to restrict drilling to the dry gravel bar area only (with no equipment traversing flowing water areas), as set forth in Special Condition 3.

NOAA Fisheries has determined that the proposed project, which would avoid drilling in flowing water, and would be restricted to the dry season between June 15 and October 15 to avoid the peak period of fish migration, would not result in an incidental take pursuant to standards of the Endangered Species Act. The standard set forth in Coastal Act Section 30233(a) that the Commission must apply is that the project be the least environmentally damaging feasible alternative. Alternatives to the project as proposed are discussed below. The Commission finds, as discussed below, that a less environmentally damaging feasible alternative to the proposed project exists and must be required to find the project consistent with Section 30233(a).

Avoid Drilling in the River Channel

The purpose of the geotechnical investigation is to gather information to plan for the design, siting, and construction specifications of a replacement of the existing Mad River bridge including pile capacity and foundation recommendations. The information from the drillings will allow Caltrans to design a replacement bridge as part of a separate permit application to the Commission. The soil and bedrock information must be obtained as close as possible to the existing piers to obtain accurate information about the geologic composition of the site. Because the bridge crosses aquatic habitat and bridge piers are located within the river channel, both above and below the level of ordinary high water, it is not feasible

to avoid drilling in the river channel. As stated previously, Caltrans proposes to limit access to the drier part of the year and to drill only on a dry gravel bar rather than within areas of active water flow.

Use of Existing Geotechnical Data

Due to the unknown geotechnical makeup of the soil at each location and due to current seismic codes that Caltrans must adhere to for safety, deeper borings are required to determine to what depth future bridge pilings should be placed. Failure to do so at each pier location could potentially increase the exposure of the bridge to a catastrophic seismic event. The future piers will be constructed to a depth that is below the scour line and the results of the borings will help to determine the material of the piling and the construction method to be used for the future bridge. Because existing data available to Caltrans does not reflect the conditions at the required depth or precise location of the southbound bridge, using the existing data is not a less environmentally damaging feasible alternative. However, as discussed above, none of the boring locations contain wetland vegetation or other sensitive vegetation as they are either primarily within grazed pasturelands or within alluvial deposits of unvegetated sand and gravel. Only minor trimming of Himalayan blackberry-dominated vegetation would be necessary to secure access to drilling location #3, and plant roots will not be disturbed; thus complete regrowth of trimmed vegetation is anticipated within one season according to Caltrans biologists.

No Project Alternative

The Commission also finds that a "no project alternative" is not a less feasible environmentally damaging alternative to the proposed project because the no project alternative would not meet the project objective of replacing a bridge that has reached the end of its design life and ensuring the safety of the traveling public using the bridge. Therefore, the Commission finds that the proposed geotechnical drilling location and method has no less feasible environmentally damaging alternative.

Minimizing Drilling in the Wet Channel

Caltrans proposes to drill within the river channel between June 15 and October 14 when the channel is dry at boring location #3 and the seasonal gravel bar has formed. NOAA Fisheries has cited these construction timing limitations in the Biological Opinion prepared for the project.

The Commission finds that the least environmentally damaging feasible alternative to the proposed timing of construction is to allow drilling within the river channel, but to avoid drilling in the water, as the applicant proposes. As discussed above, drilling when the channel is dry would avoid the potential for disturbed sediments and drilling muds from becoming suspended in the water

column, which in turn would avoid such increased turbidity from adversely impacting anadromous fish. Additionally, drilling in the dry streambed would avoid the potential for direct impact to fish from the drilling equipment and minimize disturbance from the vibration caused during drilling.

The Commission finds that to minimize the impacts of drilling in the water, and for the project to be consistent with requirements of Section 30233(a) of the Coastal Act that the project be the least environmentally damaging feasible alternative, no geotechnical borings should occur within the live waters of the river, and access to the river channel for drilling on the dry sand bar should occur on or after June 15 and prior to October 14. To ensure that the timing requirements of this alternative are followed, the Commission attaches Special Condition No. 3.

Therefore, the Commission finds that limiting the timing of drilling in the river channel to avoid the need to drill in the wet channel is the least environmentally damaging feasible alternative. As conditioned, the proposed project is the least environmentally damaging feasible alternative consistent with Section 30233(a).

c. **Feasible Mitigation Measures**

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. Depending on the manner in which the geotechnical drilling is conducted, the portions of the proposed project to be conducted below the ordinary high water mark could have potential significant adverse effects to (1) wetland (riverine) habitat, (2) anadromous fish, and (3) water quality of the Mad River. The potential impacts and their mitigation are discussed in the following three sections:

(1) Wetland Habitat

The proposed drilling location #3 is located within a riverine wetland. Riverine wetlands play an important role in a river ecosystem and provide, among other things, areas of lower velocity during flooding periods, which is critical to the survival of fish species, especially juvenile salmon. Because riverine wetlands serve as migratory corridors, connecting upland with coastal and other aquatic habitat, species richness tends to be higher than that of other terrestrial habitat.

Geotechnical drilling activities within a riverine wetland can potentially damage wetland habitat through a number of mechanisms which affect wetland hydrology and/or hydric soils and/or hydrophytic vegetation. Wetland hydrology can be adversely impacted through soil compaction, such as that resulting from operating heavy equipment in wetland areas, which can alter the physical functions of the wetlands. Additionally, direct impact to wetlands from heavy equipment can adversely impact wetland vegetation, particularly during the wet season.

To prevent these impacts from occurring, Caltrans proposes to perform the geotechnical drilling by operating all drilling equipment from the gravel bar of the stream bed after peak flows recede, and to access the site from existing private roadways. This will avoid the need to access the site through wetlands and the need to remove or impact wetland vegetation; as stated previously, only minor trimming of riparian vegetation – primarily Himalayan blackberry – would occur. In addition, all equipment will be either rubber tracked, or equipped with rubber tires, to limit compaction

Caltrans proposes to drill each of the holes to a depth of approximately 100-150 feet below the elevation of the streambed surface. The depth to which the holes must be drilled raises the potential for the borings to result in a mixing of underground aquifers. If the excavated holes were not replaced with solid material, the physical and chemical composition of the wetlands and underground aquifers could be altered. Caltrans has indicated that the holes could be filled with bentonite chips that swell and create a water tight seal, or with sand. Staff consulted with the Regional Water Quality Control Board (RWQCB) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) regarding filling the holes upon project completion to ensure that the physical and biological functions of the wetlands are maintained. The RWQCB recommended that bentonite be used in all but the upper few feet of the holes to seal them and prevent the potential for the mixing of aquifers. NOAA Fisheries recommended that the surface soils excavated by the borings be replaced with native material. Additionally, in response to concerns of Commission staff regarding future scour patterns in the riverbed, Caltrans revised the proposed project to use only native materials to fill the upper fifteen feet of core number 3. This change will ensure that there is not an aggregate plug released into the riverbed in the future should scour patterns expose the filled core. Therefore, to ensure that physical, chemical, and biological processes are not eliminated or significantly impacted, the Commission attaches Special Condition No. 7 that requires that excavated soils from the bore holes be replaced with bentonite chips up to approximately fifteen feet below the surface and that the top approximately fifteen feet of the bore holes be filled with native streambed material in a manner consistent with the recommendations of the RWQCB, NOAA Fisheries, and the revised project description proposed by Caltrans.

Therefore, the Commission finds that the proposed project, as conditioned, would not have significant adverse impacts to riverine wetland habitat. Furthermore, the mitigation measures required to avoid impacts to anadromous fish and water quality discussed in sections (2) and (3) below would further minimize adverse impacts to the functional capacity of the wetland habitat.

(2) Anadromous Fish Habitat

According to NOAA Fisheries, the Mad River estuary functions as a migratory corridor and as juvenile rearing habitat (with limited function as spawning habitat) for Chinook salmon, Coho salmon, and steelhead trout, which are federally listed threatened species.

Should the proposed geotechnical drilling take place within flowing waters of the river, the project could adversely impact sensitive fish species by increased water turbidity through the release of drilling mud or disturbed sediments. According to NOAA Fisheries, suspended sediments can make salmonid prey and predator detection difficult, reduce feeding opportunities, and induce behavioral modifications. Suspended sediments may also cause respiratory problems for fish, smother incubating eggs or juvenile fish, and reduce habitat by reducing the volume of interstitial spaces within substrate. Additionally, direct impact and/or vibrations resulting from driving the casing could be injurious to eggs and alevins in the gravel.

NOAA Fisheries states in regard to the proposed project (letter dated May 19, 2004), if undertaken in accordance with Caltrans' proposal to limit the geotechnical exploration to the season between June 15 and October 14 of a single year, and to limit access to dry gravel bar areas of the river only, with no equipment operating within active water flows: *"Based on the best information available, NOAA Fisheries has determined that the proposed Project will not adversely affect EFH (Essential Fish Habitat). Therefore, EFH conservation recommendations for fish species ... are not necessary."* Therefore, to ensure that the project occurs in accordance with the applicant's proposal, Special Condition No. 3 requires that no geotechnical drilling within the active flow of the Mad River, and that such activities be restricted to the specified season.

Therefore, the Commission finds that the proposed project, as conditioned, would minimize disturbance to sensitive anadromous fish by restricting the timing and location of work within the Mad River bed area. Furthermore, the water quality mitigation measures discussed below will also ensure that adverse impacts to sensitive fish species are minimized.

(3) Water Quality

Due to the project's location adjacent to and within the Mad River, the proposed project has the potential to adversely impact water quality within the riverine environment. Water quality could be impacted in two general ways: (1) release of sediments and/or drilling fluids from the drilling activities, and (2) release of hydrocarbons based compounds (fuels, solvents, lubricants, other fluids) from motorized/mechanical equipment associated with any aspect of the drilling.

The proposed project involves drilling approximately 150-200 feet below the surface of the streambed. Once the drill casing is set at least five feet below the streambed surface, drilling mud (bentonite clay) would be used to lubricate

the bit inside the casing. Bentonite is a clay mineral with a very small particle size and although it is generally considered to be non-toxic, it can potentially have an adverse effect on water quality and sensitive fish species. NOAA Fisheries has determined in past evaluations of Caltrans geotechnical drilling projects within salmonid habit areas that studies have shown that the effects of offshore drilling using water-based drilling muds (including bentonite), while preferred over oil-based muds or synthetic-based muds (including polymers) for environmental reasons, can still damage marine life if released into the environment. Additionally, various additives such as surfactants and oils are sometimes included in bentonite drilling mud. To minimize potential water quality impacts from the drilling muds, Caltrans proposes in accordance with NOAA Fisheries requirements, that no additives be used with the bentonite when drilling occurs within the river channel.

The use of additives in the bentonite mud such as oils or synthetics could result in greater adverse impacts to water quality and surrounding habitat areas than bentonite alone if it were released into the environment. The proposed drilling locations are generally located outside of the river channel, but adjacent to environmentally sensitive riparian habitat, with the exception of the drilling location proposed for the dry gravel bar within the riverbed. Therefore, to minimize adverse impacts to water quality, the Commission attaches Special Condition No. 4 prohibiting the use of additives in the bentonite drilling mud. Additionally, the condition requires that initial drilling through gravels be accomplished using clean water as a lubricant and once the casing is set at least five feet below the streambed surface, drilling mud (bentonite clay) may be used.

As discussed in the Project Description above, the drilling process is essentially a closed system, as drilling is confined to within the drill casing and all drilling muds are contained on the bridge deck. To further prevent the release of the bentonite drilling mud and the potential for increased turbidity within the riverine environment, Caltrans proposes several Best Management Practices to provide secondary containment around the drilling activities and boring locations during the project. Caltrans proposes to place plastic sheeting and straw wattle containment booms around the (1) perimeter of the drilling area on the bridge deck; (2) casing collar where the drill casing intercepts the gravel bar channel for those borings to be drilled underneath the bridge out of the water, and (3) scuppers on the bridge deck. If a release of drilling mud is detected, Caltrans proposes to stop work as quickly as possible and contain and clean the release as soon as possible thereafter. Equipment proposed to be kept on site to prevent or stop releases include straw wattles, plastic sheeting, straw, and absorbent pads. The Commission attaches Special Condition No. 5 to ensure that the Best Management Practices designed to protect the water quality of the Mad River are implemented during project construction as proposed by Caltrans.

Special Condition No. 6 requires construction related responsibilities to further ensure that impacts to water quality are minimized. Special Condition No. 6(a)

requires that all drilling equipment be staged and operated from the bridge deck or roadway to avoid fuel, oil, and other hydrocarbon products associated with heavy equipment from entering the waters of the Mad River. Additionally, Special Condition No. 6(b) requires that no construction debris or waste be placed or stored where it may be subject to entering river waters and specifies immediate response to accidental discharges that may occur as well as reporting requirements.

Section 30412 prevents the Commission from modifying, adopting conditions, or taking any action in conflict with any determination by the State Water Resources Control Board or any California Regional Water Quality Control Board in matters relating to water quality.

Staff consulted with the Regional Water Quality Control Board (RWQCB) about permitting requirements and potential impacts resulting from the proposed project. The proposed project requires a Section 401 Water Quality Certification from the RWQCB. The RWQCB has not yet acted on this required approval at the time of the writing of this staff report, and therefore, conditions and/or BMPs required by the Commission to minimize adverse impacts to water quality from the proposed geotechnical drilling activities would not conflict with actions of the RWQCB pursuant to the requirements of Coastal Act Section 30412.

Therefore, as conditioned, the Commission finds that the biological productivity and quality of coastal waters will be maintained and the project, as conditioned, is consistent with Sections 30230 and 30231 of the Coastal Act.

d. Maintenance and Enhancement of Marine Habitat Values

The fourth general limitation set by Section 30233 and 30231 is that any proposed dredging or filling in coastal wetlands must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed above in the section of this finding on mitigation, the conditions of the permit will ensure that the project will not have significant adverse impacts on the riverine wetland or on the water quality of the Mad River. The mitigation measures incorporated into the project and required by the Special Conditions discussed above will ensure that the geotechnical drilling would not adversely affect the biological productivity and functional capacity of the wetland environment. Therefore, the Commission finds that the project, as conditioned, will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Section 30233 and 30231 of the Coastal Act.

e. Conclusion

The Commission thus finds that the project is an allowable use, that there is no feasible less environmentally damaging alternative, that feasible mitigation is

required for potential impacts associated with the dredging and filling of coastal wetlands, and that wetland habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30233 and 30231 of the Coastal Act.

3. Public Access

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. In applying Sections 30210, 30211, 30212, and 30214, the Commission is also limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential access.

Caltrans states that no public access to roads or trails will be blocked or limited at any time due to project activities. Most of the proposed geotechnical studies would be undertaken via the use of existing private roads on agricultural lands, and at no time would interfere with the flowing water areas of the river. Therefore, the proposed project would not result in any temporary or permanent impacts to public access or recreational use of the Mad River area and would not significantly affect fishermen, canoeists or other recreational boaters. The proposed drilling will not create any additional burdens on public access and will not create any new demands for fishing access or other public access use.

Therefore, the Commission finds that the proposed project does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

4. U.S. Army Corps of Engineers Review

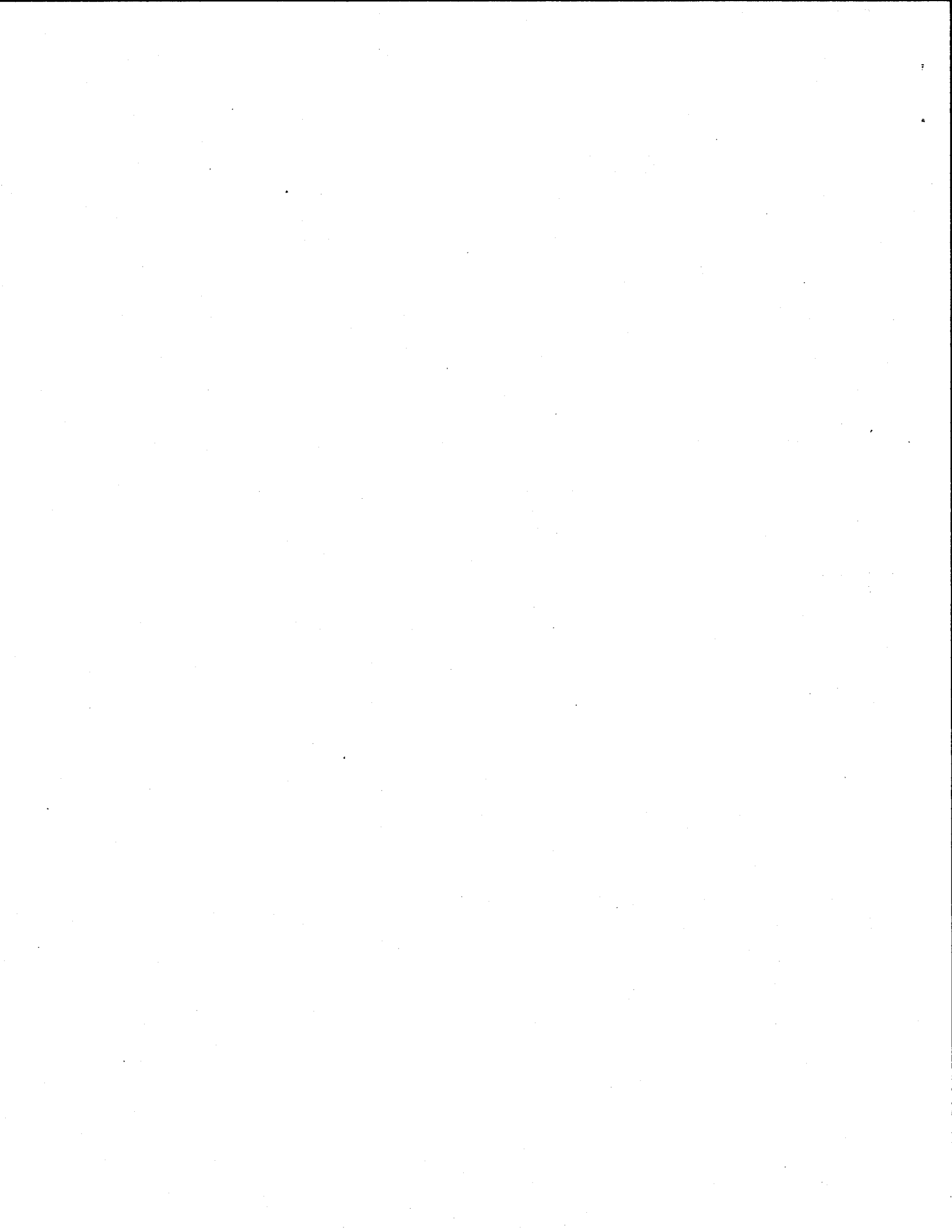
The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (USACE). Pursuant to the Federal Coastal Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the USACE, the Corps will not issue a permit until the Coastal

Commission approves a federal consistency certification for the project or approves a permit. To ensure that the project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 1 that requires the applicant, prior to the commencement of construction of any geotechnical boring within the permit jurisdiction of the U.S. Army Corps of Engineers (USACE), to demonstrate that all necessary approvals from the USACE for the proposed project have been obtained.

5. California Environmental Quality Act

Section 13096 of the Commission's administrative regulations requires Commission approval of a coastal development permit application to be supported by findings showing that the application, as modified by any conditions of approval, is consistent with any applicable requirement of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. Mitigation measures that will minimize or avoid all significant adverse environmental impact have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER	CALCULATED/DESIGNED BY	DATE	REVISOR
	ERIC Y WONG	CHECKED BY		DATE REVISOR
NORTH REGION OFFICE OF DESIGN, WEST DESIGN BRANCH 56				



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
REGISTERED CIVIL ENGINEER					
PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					
<small>Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov</small>					

PROJECT LOCATION

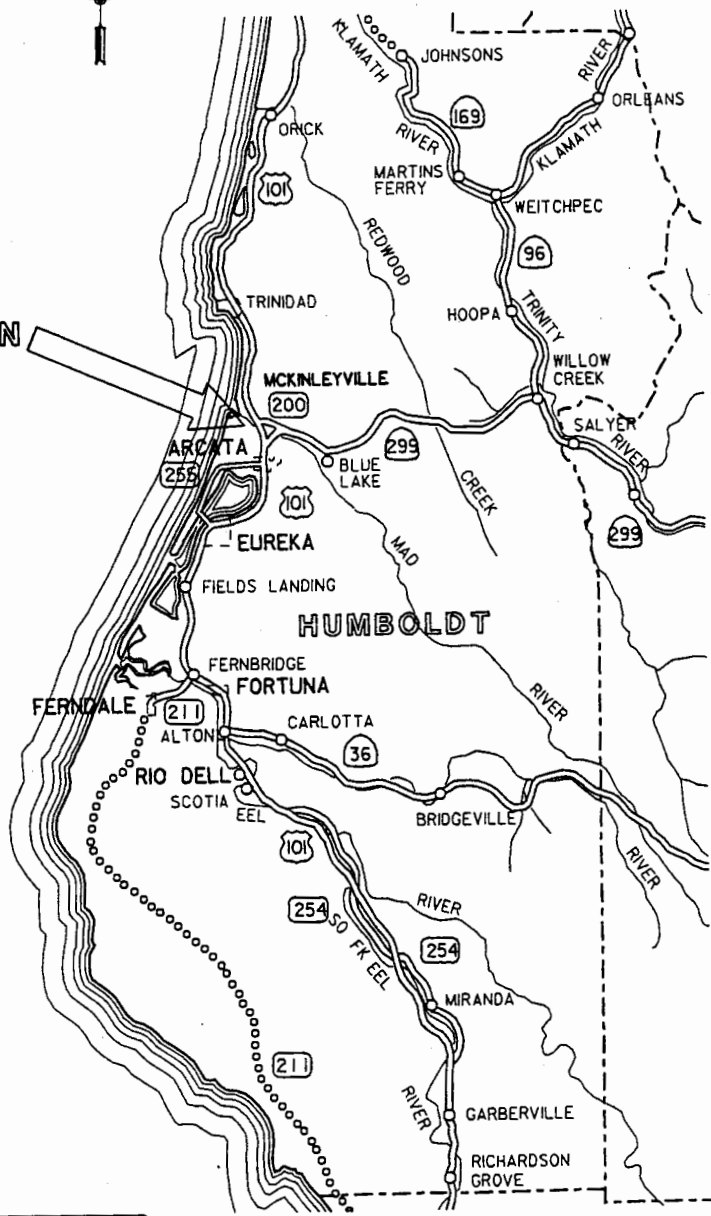


EXHIBIT NO. 1
APPLICATION NO.
 1-04-038 (Caltrans)
REGIONAL
LOCATION MAP

PROJECT LOCATION

Mad River Bridges Replacement
 PM 89.1/90.4 01-HUM-101
 EA 01-296100

No Scale

FIGURE 1

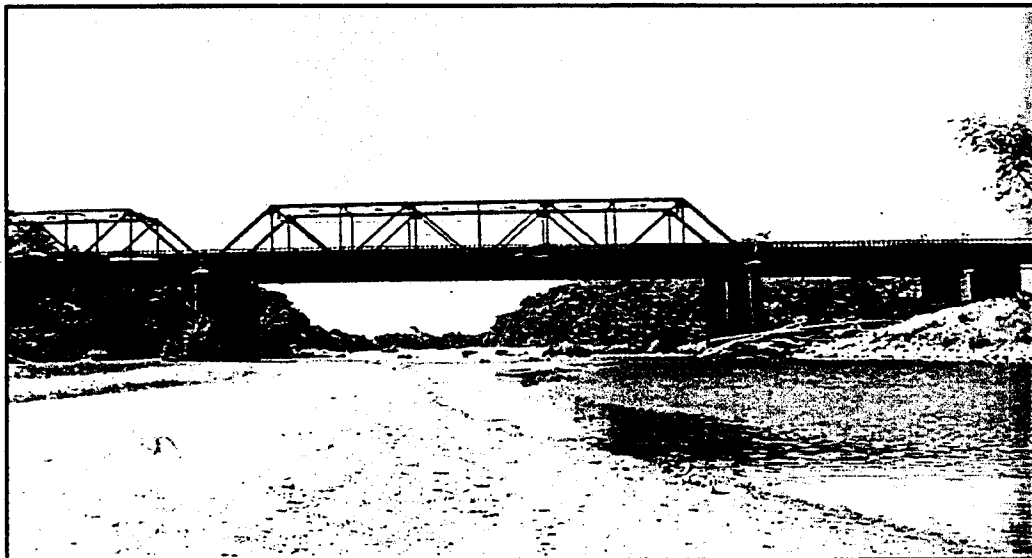
LAST REVISION: 00-00-00
 DATE PLOTTED => 14-OCT-2003
 TIME PLOTTED => 13:26

DRAFT INITIAL STUDY

Mad River Bridges Replacement Project US Route 101 Between Arcata and McKinleyville Humboldt County

KP 143.4/145.5
(PM 89.1/R90.4)

EA 01-296100



*Prepared by the
California Department of Transportation
December 2003*

EXHIBIT NO. 2
APPLICATION NO. 1-04-038 (Caltrans)
PROJECT SETTING





CRAMER

Proposed

California State
Commission can
gh water to high
in this area

Bore #4

Bore #5

Bore #3

Existing

Existing R/W

Co
ro
Ro
si
ex
bo
br

cess with private
off North Bank
along north
er, under
bridges to
ons, yes, not

CRAMER

ACCESS RIGHTS

EXHIBIT NO. 3
APPLICATION NO.
1-04-038 (Caltrans)
SITE PLAN
(Page 1 of 2)

EXHIBIT "A" EA 296100
01-HUM-101-143.4/145.5
(PM 89.1/90.4)

SCALE: 1 : 500

SHEET 1 OF 1

LEGEND:

NOTES:

Boring or Proposed Pier/
Abutment location

Construction access route

CHRISTIE

PROPOSED
EXISTING

Bore # 1

Bore # 2

CHRISTIE

Construction access through
local roads and under
existing bridges.

APPROX. PROP. LINE

ORLIKO