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Staff Report: 5/31/07
Staff: M.Faust-Eureka

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO. **1-07-013**

APPLICANT: **Caltrans, District 1 (Eureka)**

PROJECT LOCATION: U.S. Route 101, Mad River Bridges,
Between Arcata and McKinleyville,
between kilometer post (KP) 143.4/145.5,
unincorporated area of Humboldt County

PROJECT DESCRIPTION: Replace the north and southbound bridges;
reconstruct Central Ave. on- & off-ramps and
the adjoining Central Avenue/Route 200
intersection; realign highway north and south
of the bridges to point of conformity; install
pedestrian walkway and landings at each end
of the northbound (eastward) bridge; relocate
one home and utilities.

RECOMMENDATION: **Approval with Conditions**

MOTION & RESOLUTION: Page 15

LOCAL APPROVALS: None required (see standard of review)

OTHER APPROVALS RECEIVED: State Lands Commission lease; Biological
Opinion, dated 2005, National Oceanic and Atmospheric Administration's National Marine
Fisheries Service (NOAA Fisheries); California Department of Fish & Game (CDFG)
California Endangered Species Act Consistency Determination, dated 2005.

OTHER APPROVALS REQUIRED: Addendum to NOAA Fisheries Biological
Opinion (regarding dewatering, construction changes, and pile-driving affects on fish);

Addendum to California Department of Fish and Game CESA Consistency Determination (regarding dewatering, construction changes, and pile-driving affects on fish); CDFG 1602 Streambed Alteration Agreement; Regional Water Quality Control Board: Section 401 Certification, National Pollutant Discharge Elimination System permit; Section 404 Permit, Army Corps of Engineers.

Summary

California Department of Transportation (hereinafter “Caltrans” or “applicant”) proposes to replace an aging pair of Highway 101 bridges that presently cross the Mad River north of Arcata and south of McKinleyville, in Humboldt County.

Setting

The Mad River is highly scenic, and the existing bridges offer travelers expansive views toward the coast and across the wide swath of pasture bottomlands that characterize the area, and up the river corridor toward the east. The surrounding lands are part of the Mad River floodplain and contain large flat parcels farmed for hay or grazed by dairy or beef cattle. A goat dairy farm is located east of the existing bridges. The views from the bridges include pasturelands dotted with distant barns and farmhouses, many dating from the early part of the past century.

Mature riparian vegetation on the river banks west of the bridges includes willows, alder and birch, including some specimen trees and thick undergrowth. The waters of the Mad River in the vicinity of the project provide critical habitat for rare or endangered fish species, including California Coastal Chinook salmon (*Oncorhynchus tshawytscha*), Central California Coast coho salmon (*Oncorhynchus kisutch*), Central California Coast steelhead (*Oncorhynchus mykiss*), and Coastal cutthroat trout (*Oncorhynchus clarki clarki*), a California Species of Special Concern.

Description of the Bridges

The new bridges would be cast-in-place (CIP) concrete box girder bridges. The bridges would be about 750 feet long, and each bridge would have two 12-foot-wide traffic lanes, a 5-foot-wide inner shoulder and a 10-foot-wide outside shoulder. The new northbound structure would also include an additional 8-foot-wide pedestrian walkway.

Each bridge is wider at the north end to accommodate new takeoff points for merge and exit lanes at the Route 101 intersection with Route 200. The new merge and exit lanes would be moved onto the bridged portion of the highway, to accommodate an improved geometric design. This change increases the overall width of the crossing, however, because the merge and exit lanes are presently incorporated mostly within the highway footprint off the bridge. The new design will significantly improve the safety of driver transitions by reducing the tight lane change exits that presently contribute to accidents at these locations.

The southbound bridge varies from 42.3 feet at its south end to 57.5 feet at its north end. The northbound bridge varies from 51.2 feet at its south end to 86.8 feet at its north end. At the widest combined point, including a gap between the bridges, Caltrans estimates that the overall outside to outside deck will be about 152 feet wide at the northern end. By comparison, Caltrans estimates that the combined width of the two existing bridges totals about 90 feet in width at the widest (northern) part of the combined bridges (Caltrans staff personal communication May 30, 2007).

The existing bridges have four piers within the banks of the river, below the level of ordinary high water, covering a total area of approximately 810 square feet. The proposed bridges would have three piers apiece within the river (for a total of thirteen seven-foot-diameter piles within jurisdictional waters) resulting in permanent fill of an area of approximately 510 square feet.

Grading

Caltrans provided revised grading estimates on May 30, 2007, that indicate that total grading for the proposed project would be approximately 124,419 cubic yards of material, including 19,637 cubic yards of cut, 4,851 cubic yards of which would be placed as fill elsewhere on the site, 14,786 cubic yards of export, and 85,142 cubic yards of imported fill. The export material may include lead-contaminated hazardous wastes as noted below. Special Condition 26 requires a final plan for the excavation, storage and disposal of contaminated material.

Hazardous Wastes

According to Caltrans staff (May 30, 2007), all hazardous waste issues investigated in the project site have been found to be insignificant except Aerially Deposited Lead (ADL). A preliminary site investigation in June 2005 found ADL on the project site – virtually everywhere, according to Caltrans. The investigation did not cover all areas of known contamination however. Caltrans limited detailed evaluation to areas where soils would be removed (in the northeast quadrant of the site), assuming that contaminated soils below the proposed finished grade in other areas of the site would be buried in place during construction grading.

Caltrans further stated on May 30, 2007 however, that they had performed a more detailed site investigation of the northeast quadrant of the bridge site where excavation will occur and that ADL had been found at hazardous waste levels. Caltrans indicated that they would remove and haul away the highest concentration of ADL on the upper half of the northeast quadrant embankment and use the remaining excavated soil containing lead below hazardous levels for the pedestrian walkway fill. Staff notes that issues regarding the removal, disposal or retention on-site of hazardous wastes will be addressed further in the addendum to the staff report and will in any event be resolved prior to issuance of any CDP.

4-year Construction Period

Caltrans indicates that construction is expected to require at least four years, but two-way highway traffic would continue unaffected throughout most of the construction period.

Bicyclist and Pedestrian Amenities

Bicyclists are allowed to use the existing bridges, but the narrow shoulders make the crossing dangerous for bicyclists. The new bridges would remain available for bicyclists, who may use the 10-foot-wide paved shoulders. Bicyclists would also be allowed to use the separated 8-foot-wide pedestrian corridor that would be included on the east side of the northbound bridge (and separated from traffic by a guardrail). Pedestrians would be able to safely cross the new bridge and enjoy views to the east of the Mad River, for the first time. The pedestrian crossing leads to landings at each end of the bridge.

Bridge Rail Designs

The bridge rails conceptually proposed by Caltrans in the past included 8-foot-high picket type outer rails along the pedestrian corridor of the northbound bridge (that height dates to a previous project concept that included horses in the pedestrian corridor, which has since been dropped due to safety issues associated with the unusual combination of horses, pedestrians, bicyclists, and adjacent high speed freeway traffic). The other proposed bridge outer rails were ST-10 or ST-20 type rails, topped with bike rails. Caltrans has also recently proposed architectural lighting treatments along the pedestrian corridor.

A conceptual rendering of the bridge rails and lighting elements most recently suggested by Caltrans is shown in Exhibit C, which shows a reduced height for the pedestrian side rail feature. Caltrans has since withdrawn from present consideration any specific proposal for the bridge rails and lighting, has agreed to remove the architectural lighting (but must keep the traffic lighting required by safety standards), and has further requested that a final plan for bridge rail designs be submitted to the Commission for final review and approval as a permit amendment within one year from Commission approval of CDP 1-07-013. This sequence would allow Caltrans to consider whether a new rail design that has been conceptually developed for the Ten Mile Bridge (CDP 1-06-022) (which was similarly conditioned to allow the applicant a full year after Commission review and approval for preparation of a final bridge rail design) may be suitable for the Mad River Bridge.

Permanent removal of existing billboard

Caltrans has purchased the development rights associated with a highly visible billboard located west of the southbound bridge on the lands just north of the Mad River. The billboard is within the footprint needed for construction of the new southbound bridge and will therefore be removed. Caltrans and Humboldt County staff have verified, however, that because the parcel containing the billboard is zoned and designated for agriculture, billboard advertising structures are not a permitted use and so there is no potential for a replacement billboard to be authorized. Thus, the project would significantly improve the views toward the coast that will be available to motorists on the northern end of the southbound bridge.

Agricultural Impacts

The overall construction footprint of the proposed project includes an area of about twenty acres in size. Of this total area, the project would permanently convert 3.4 acres of productive agricultural land, including lands with prime soils, to highway use. Some temporary impacts to the productivity of the existing agricultural uses of the parcels surrounding the construction area would also occur (for staging, de-watering, access etc.) but these areas would be fully returned to pre-existing condition upon project completion.

Maintaining the maximum amount of prime land in agricultural use is of utmost importance in protecting the agricultural economy. The linkage between prime land production and local agricultural economy is directly stated in the first clause of Section 30241: "the maximum amount of Prime agricultural land shall be maintained in agricultural production . . . to assure the protection of the area's agricultural economy." This precept reflects the fact that the productivity of prime land is often a key economic factor in the overall agricultural viability of an area.

Agricultural Mitigation Property

Caltrans proposes to mitigate the loss by acquiring an approximately 2.8-acre agricultural parcel that is privately owned, and has been recently listed for sale for estate residential development. The proposed mitigation parcel takes access off, and borders, Old Arcata Road-- which forms the coastal zone boundary in that area.

The proposed mitigation site shares a border with the Arcata Educational Farm, a two-acre community-supported farm and teaching garden where Humboldt State University holds organic agriculture classes. The farm is located within the 3.5-acre Bayside Park owned by the City of Arcata. The City's parcel also adjoins the boundaries of a local middle school, which would make school field trips to the site possible on foot, without crossing any vehicle- traveled roads.

The mitigation parcel is about one-half of an acre smaller than the amount of agricultural land that would be converted for the highway, but the location adjacent to the Arcata Educational Farm affords the opportunity for intensive cultivation of organic produce. The 2.8-acre parcel could be stewarded in such a way that the productivity of the land would be significantly enhanced. Staff recommends that stewardship funding would be required to ensure that the enhanced production potential of the mitigation site is fully realized in the near-term.

Upon conclusion of the purchase process, Caltrans would transfer the agricultural mitigation property to the Coastal Conservancy. The trust fund required for agricultural stewardship of the property would be administered by the Coastal Conservancy. The Coastal Conservancy staff indicated on request of Commission staff that the Conservancy would assist with the land transfer arrangements, which would include taking title to the property and assisting with the legal requirements of placing deed restrictions and affirmative agricultural easements on the mitigation parcel. The Conservancy has a long history of managing these matters, as well as experience establishing and managing resources such as the agricultural stewardship trust fund.

Staff believes the purchase of the site will accomplish significant agricultural impact mitigation without diminishing the supply of agricultural lands presently used for other competing agricultural purposes (the purchase would not, for example, convert productive privately held farmlands for the purpose of constructing a public garden). Thus, the proposed mitigation, with the addition of adequate stewardship and capital improvement funds to implement the community-supported agricultural management of the mitigation site, will protect the County's overall agricultural economy, consistent with policies of Humboldt County that require that no net loss of productive agricultural lands contributing to the agricultural economy be allowed.

Conflict Resolution

Even with the proposed mitigation, the conversion of prime agricultural lands is inconsistent with Coastal Act Sections 30241 & 30242, which require the preservation of the maximum amount of prime agricultural lands and only allows the conversion of agricultural lands if certain criteria are met, including that the land to be converted is already limited by conflicts with urban uses, that the conversion contribute to a stable limit to urban development and that continued or renewed agricultural use be infeasible. The prime agricultural land proposed for conversion for the bridge project is located within the middle of rural agricultural lands would not contribute to a stable boundary separating agricultural and urban land uses and could feasibly renew or continue agricultural use.

However, although the project could impermissibly convert 3.4 acres of agricultural lands with prime soils, the project ensures and enhances continued public access along the highway in this essential crossing of the Mad River. Failure of the existing bridges that might occur if the proposed project is not approved would severely impede public coastal access, inconsistent with the public access and recreation policies of the Coastal Act.

Staff has reviewed the alternatives to the project evaluated by Caltrans, including the "no project" alternative. If the bridges had been shifted to the eastward side of the highway alignment, equal or greater adverse impacts on productive, prime agricultural lands would also have resulted. The footprint of Highway 101 is relatively fixed, and the off-ramps and intersections that the new bridges must tie into must be considered in determining the range of safe realignment options that Caltrans could consider. In weighing all of these considerations, staff believes that no feasible alternative exists that would reduce the agricultural impacts of the project and eliminate the inconsistencies with the requirements of Section 30241 that limit the conversion of prime agricultural lands.

Therefore, although staff believes the proposed project is inconsistent with the agriculture policies of the Coastal Act, staff also believes that approval of the project is mandated by the coastal access and recreation policies of the Coastal Act. Therefore, staff believes the proposed project presents a true conflict among the policies of Chapter 3, i.e., the agriculture policies of the Coastal Act and the policies protective of public coastal access and recreation. Staff is therefore recommending that the Commission use the conflict resolution provisions of Section 30007.5 of the Coastal Act to approve the project.

The conflict resolution provisions require that the conflict be resolved in a manner which on balance is the most protective of significant coastal resources. To meet this test, it is necessary that adverse impacts on coastal agricultural resources be mitigated to the maximum extent feasible. Staff recommends that the Commission find that on balance, approval of the bridges to provide continued safe and enhanced public coastal access together with the provision of agricultural mitigation off of Old Arcata Road, including capital improvement and stewardship funding to ensure implementation of maximum community-supported agricultural production of the mitigation site, is on balance, more protective of coastal resources than denial of the project.

The applicant's agricultural mitigation proposal for acquisition of the Old Arcata Road 2.8-acre parcel discussed above, along with capital improvement and stewardship funding to ensure implementation of maximum community-supported agricultural production of the mitigation site, would in the opinion staff afford sufficient mitigation to find that with the mitigation, approving the proposed project will resolve the conflict in a manner which on balance is most protective of significant coastal resources.

Allowable Use for Filling of Wetlands

Construction and demolition activities for the project will occur in the river and within and adjacent to freshwater and riparian wetlands found along the banks of the river. The project includes new fill of coastal waters and is an allowable use under the "incidental public service" provision of Section 30233(a)(4) as the project is a limited expansion by a public agency of an existing transportation facility necessary to safely maintain existing capacity.

Wetlands and Riparian Habitat Mitigation

Section 30233 requires that feasible mitigation measures be provided to minimize the adverse environmental effects of an approved fill project.

Caltrans confirmed on May 30, 2007 that Caltrans proposes to mitigate wetland habitat impacts of the proposed project on-site at a 1:1 ratio, and undertake additional mitigation off-site at an additional 3:1 ratio for a total mitigation of 4:1. In summary, Caltrans will create approximately 0.21 acres of wetland on site (1:1); also providing an additional 0.62 acres of off-site mitigation (3:1). Caltrans will also provide approximately 0.5 acres of riparian wetland restoration on site (1:1), and proposes an additional 1.4 acres of off-site riparian wetland mitigation (3:1). (The net total of anticipated off-site mitigation is equal to approximately 2.0 acres.)

In addition, the new piers in the river will reduce total fill within the river channel by about 300 square feet of river bottom area once the old piers are demolished and cut off below the existing footings (to a depth of about 3 feet below the existing riverbed).

On May 30, 2007 Caltrans also informed Commission staff that lead contamination exists on-site where restorative grading is proposed to enhance hydrology for wetland mitigation purposes. The concentrations of lead are deemed high enough that the material must be

excavated and disposed of as hazardous waste. Commission staff recommends that the special condition for the review and approval of the final wetland mitigation plan by the Executive Director further incorporate the requirement that the final wetlands mitigation plan include measures to ensure that contaminated soils in the proposed wetland mitigation area have been fully remediated before the mitigation planting commences, and that levels of residual lead in remaining soils are below thresholds of pertinent biological significance.

As noted above, Caltrans would additionally implement off-site wetland enhancement to achieve an additional 3:1 mitigation by planting riparian species such as willow and alder on a portion of a 40-acre freshwater wetland pasture that has been used for grazing. The parcel does not contain surface water features that would characterize a riparian corridor with the same habitat value as the habitat of the Mad River, but California Department of Fish and Game is willing to accept the lands as an addition to nearby holdings CDFG already owns in the McDaniels Slough area. Caltrans has additionally agreed to undertake some significant management enhancements of CDFG's other nearby properties, with resultant cost-savings to CDFG serving in-lieu of a trust fund for habitat stewardship, as requested by CDFG.

CDFG's willingness to undertake stewardship of the Old Samoa parcel is a significant advantage for realization of the site's potential for mitigation purposes. Without that kind of support, acquisition of property for off-site mitigation, even with an excellent concept, may fail to yield the anticipated benefits. Stewardship support and oversight are critical to mitigation project success. Planning for stewardship and selecting sites that are of interest to potential stewardship partners is a significant consideration when weighing the potential value of a site for mitigation purposes, because Caltrans does not have the staff or agency mission to be long-term mitigation site managers.

Therefore, staff recommends that the Commission find that the project, as conditioned, is consistent with the mitigation requirements of Section 30233 because as outlined above, all adverse impacts to wetland vegetation will be fully mitigated in a combination of on- and off-site mitigation at an overall ratio of 4:1.

Least Environmentally Damaging Feasible Alternative

Section 30233 of the Coastal Act only allows approval of projects that will place fill in wetlands if no feasible less environmentally damaging alternative exists. The applicant determined that a bridge design that would not require any placement of new fill for piers within the river channel would be infeasible for the 750-foot-long crossing. In addition, the new bridges will have fewer piers within the channel than the existing bridges, and the area of the channel occupied by piers will be reduced by approximately 300 square feet upon completion of demolition of the old bridges. As outlined above, all adverse impacts to wetland vegetation will be fully mitigated in a combination of on and off-site mitigation at an overall ratio of 4:1. Thus, the design of the project will provide a net reduction in fill of the wetlands in the river channel, will reduce the number of piers in the channel, and represents the least environmentally damaging feasible alternative consistent with the applicable requirements of Section 30233.

New Issue: Hydroacoustic Affects of Pile-Driving on Fish in the Mad River

Caltrans notified Commission on May 17, 2007 that pile-driving during project construction within the river channel may generate underwater sound at levels high enough to possibly harm fish species in the Mad River. Caltrans explained that the possibility that sound impacts on fish might be caused by pile-driving in the channel was not evaluated when Caltrans staff prepared the Biological Assessment for the project in 2003 (a Biological Assessment is presented to NOAA Fisheries to initiate consultation under the federal Endangered Species Act). At that time, Caltrans staff assumed that if pile-driving is performed within de-watered coffer dams (as proposed), no significant sound energy would be transferred outside of the coffer dam, and therefore this activity would not affect fish.

NOAA Fisheries staff subsequently confirmed that in preparing the Biological Opinion (2005) based on the Biological Assessment (2003) submitted by Caltrans, NOAA Fisheries did not evaluate the project's hydroacoustic impacts to fish. NOAA Fisheries biologists indicated that 7-foot-diameter steel shell piles are considered very large in terms of potential to generate underwater sound when struck by an impact hammer, and even in a de-watered coffer dam may produce sound levels high enough to pose a risk to fish.

State and Federally endangered fish species, such as coho and Chinook salmon, and steelhead trout inhabit the waters of the Mad River, as well as coastal cutthroat trout, a state special status species.

Caltrans proposes to install a total of thirteen 7-foot-diameter steel shell piles during construction of the project (steel shell piles are like giant steel straws, made of one-inch thick steel, hollow on the inside, and are about 150 feet long). Piers 3 and 4 would be constructed within the river/channel bank and these piers would contain nine of the thirteen piles.

Scientists studying the effects of pile-driving on fish have demonstrated that piles driven near the water's edge or within de-watered coffer dams may transfer significant levels of sound energy through the substrate, and into nearby waters. This effect occurs because piles driven by impact hammer transfer sound energy through the tip of the pile that is being driven, into the substrate (rock, gravel, soil) through which the pile is passing. The substrate further transfers the sound energy in all directions, including laterally through the substrate, and from the substrate beneath the bottom of the channel up into the water column. Since the sound energy is only dissipated effectively by air, sound levels are therefore typically higher near the deepest part of the affected waters, and drop off toward the surface as the energy dissipates into the open air above.

Caltrans advised Commission staff on March 30, 2007 that a very rough calculation of the instantaneous peak sound energy a 7-foot-diameter steel shell pile might generate when struck once by an impact hammer, was calculated the week before by the acoustics consulting firm of Illingworth & Rodkin. The result was that a 7-foot-diameter steel shell pile, when struck once by an impact hammer, would produce an instantaneous peak sound of about 200 decibels. Illingworth & Rodkin estimated that the de-watered coffer dam environment could produce about 5 decibels of sound attenuation. Caltrans explained that the consultant emphasized in preparing the calculations that the results are only rough

approximations and accurate calculations would require consideration of the site-specific conditions of the Mad River.

The peak sound limit for pile-driving at the Ten Mile River Bridge project on Highway 1 in Mendocino County, by comparison, is set at 190 decibels. That project, which was approved by the Commission last June (CDP 1-06-022 Caltrans) is presently under construction. Illingworth & Rodkin are performing the hydroacoustic monitoring for pile-driving under contract with Caltrans at that site.

Caltrans is seeking further acoustic consulting services to develop an addendum to the Biological Assessment. Caltrans estimates that work will require about a month to complete. Caltrans will then re-initiate consultation with NOAA Fisheries under Section 7 of the Endangered Species Act, and NOAA Fisheries will likely issue an addendum to the previous Biological Opinion. California Department of Fish and Game will then prepare an addendum to the California Endangered Species Act Consistency Determination prepared in 2005. Caltrans has not determined whether an addendum will be prepared for the Negative Determination prepared by Caltrans in 2005 under the California Environmental Quality Act (CEQA). Caltrans estimates that the further consultations will require about three to four months.

Caltrans requests that the project be reviewed by the Commission during the June Commission meeting in order for Caltrans to meet project delivery milestones. To accommodate this request, yet address the hydroacoustic impacts issue, Commission staff recommends a series of conditions that call for further analysis and adaptation of the project as guided by the results subsequent to Commission approval of the project.

Staff determined that there is general agreement among the agencies that limiting noise from the pile driving according to a dual criteria metric threshold standard that takes into account peak, and cumulative, effects of sound on fish during pile-driving would be protective of fish species. Staff, including the Executive Director, met with Caltrans staff on May 22, 2007 to discuss the project, including hydroacoustic impact concerns. Staff notified Caltrans that the dual criteria metric threshold standard applied by NOAA Fisheries in the March 30, 2007 Biological Opinion for a Caltrans bridge over the Russian River ("Talmage Bridge"), would be the standard recommended by staff. Caltrans has revised its project description to meet the dual criteria threshold standard. Special Condition 4(A)(2) contains the dual criteria metric threshold published by NOAA Fisheries in the referenced Biological Opinion:

The dual metric criteria threshold imposed by NOAA Fisheries includes metrics for both single strike and multiple strikes, and identifies when injury to fish is likely to occur as follows:

SEL: A fish receiving an accumulated Sound Exposure Level (SEL) at or above 187 dB re one micropascal squared-second during the driving of piles likely results in the onset of physical injury; and

Peak SPL: A fish receiving a peak sound pressure level (SPL) at or above 208 dB re one micropascal from a single hammer strike likely results in the onset of physical injury.

Physical injury is likely to occur if either of the above conditions are met.

Accordingly, staff recommends that the Commission impose a special condition requiring that Caltrans not exceed either component of the dual criteria standard above. Further, although there is agreement among the agencies as to the protective benefits for fish of the dual criteria metric threshold as a standard, there is not agreement yet between Caltrans and the resource agencies on how to calculate when the cumulative impact portion (“SEL”) of the criteria has been met.

The NOAA Fisheries Biological Opinion referenced above used the following method of calculating when the SEL has been met:

“To accumulate the sound energy a fish might be exposed to over multiple hammer strikes, NMFS will use the simple summation procedure of $10\log(\text{number of strikes})$ to assess cumulative impacts. This procedure is consistent with the Equal Energy Hypothesis.”

However, the Caltrans consultant’s evaluation of hydroacoustic impacts and the subsequent review of this information by NOAA Fisheries and CDFG and preparation of the addendum to the Biological Opinion by NOAA Fisheries will help resolve how to calculate when the cumulative impact component of the dual criteria standard has been met and how to best implement the standard and determine if project revisions are needed to meet the standard. Therefore, the method of calculating how the SEL has been met will be the method that is used by NOAA Fisheries in the pending addendum to the Biological Opinion for the Mad River Bridges. If NOAA Fisheries does not prepare an addendum, then the method that was used by NOAA Fisher in the Biological Opinion issued March 30, 2007, for the bridge over the Russian River (Talmage Bridge) will be used.

Staff is therefore recommending conditions that require Caltrans to submit for the review and approval of the Executive Director a Fisheries Protection and Hydroacoustic Monitoring Plan that incorporates the dual criteria metric threshold standard, minimizes hydroacoustic impacts on fish, and provides for measuring and implementing the required standards consistent with the requirements of the NOAA Fisheries Biological Opinion and addendum. In addition, staff is recommending a condition that requires Caltrans to incorporate project revisions necessary to achieve the applicable standards which may require a permit amendment. Furthermore, staff is recommending that Caltrans submit a fisheries mitigation plan for the review and approval of the Commission as an amendment to CDP 1-07-013. The plan would provide for full mitigation of any residual significant adverse impacts to sensitive fish species from the project.

Commission staff believes that (1) by requiring adherence to the dual criteria metric threshold as a standard protective of sensitive fish species, (2) requiring that the standard be measured and implemented in a manner consistent with the requirements of the addendum to

the NOAA Fisheries Biological Opinion of 2005 that will be prepared by NOAA Fisheries to address the project's potential hydroacoustic affects on sensitive fish species, (3) requiring Caltrans to amend the granted permit to consider potential project revisions that could reduce or attenuate the sound impacts of the project, and finally by (4) by requiring mitigation for any residual significant impact on sensitive fish species, the project as conditioned, will provide adequate mitigation for hydroacoustic impacts on sensitive fish species in the Mad River consistent with Section 30233 of the Coastal Act.

Conclusion

For the reasons outlined above, Commission staff believes that approval of the proposed project is consistent with the Coastal Act. The Motion and Resolution are set forth on Page 15 of the staff report.

Staff Notes

1. To Submit Public Comments:

Public comments concerning this staff report may be provided to the North Coast District Office at the letterhead address. Please note that Commission staff cannot guarantee receipt of comments transmitted electronically.

2. Availability of environmental information:

All environmental information relied on by the Commission and its staff is available for review at the above-referenced North Coast District Office of the California Coastal Commission, in Eureka. Caltrans prepared a "Negative Declaration and Initial Study" dated June 2005, to comply with the California Environmental Quality Act (CEQA).

Environmental information provided by Caltrans subsequent to the Commission hearing will be available in the North Coast District Office as it is received. Additional environmental information that is pending will also be available in the North Coast District Office upon receipt by Commission staff.

3. Jurisdiction and Standard of Review:

The proposed project area is bisected by the boundary between the coastal development permit jurisdiction of the Commission and of Humboldt County. The Coastal Act was amended by Senate Bill 1843 in 2006, effective January 1, 2007. The amendment added Section 30601.3 to the Coastal Act. Section 30601.3 authorizes the Commission to process a consolidated coastal development permit application, when requested by the local government and the applicant and approved by the Executive Director, for projects that would otherwise require coastal development permits from both the Commission and a local government with a certified LCP.

In this case, the Humboldt County Board of Supervisors adopted a resolution and Caltrans submitted a letter requesting consolidated processing of the coastal development permit application by the Commission for the subject project, which was approved by the Executive Director.

The policies of Chapter 3 of the Coastal Act provide the standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

The application fee for a consolidated coastal development permit is ordinarily determined by the Commission's permit fee schedule. However, the Commission does not require state or local governments or agencies to pay application fees.

4. Addendum

This staff report does not contain the complete findings for approval of the project. Staff was unable to complete the findings prior to the mailing of the staff report. However, staff will

present the remaining portion of the recommended findings for approval of the project as part of the addendum at the Commission meeting. The findings contained in both this staff report and its addendum will reflect the basis for approval with conditions. In addition, staff was unable to send some Exhibits prior to mailing of the staff report and noted that pages 212 - 223 of Exhibit B were inadvertently omitted. The additional exhibits and missing exhibit pages will be submitted in the addendum.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion: I move that the Commission approve Coastal Development Permit No. 1-07-013 pursuant to the staff recommendation.

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 the majority of the Commissioners present.

Resolution to Approve Permit:

The Commission hereby approves a coastal development permit, subject to the conditions specified below, for the proposed development on the grounds that, as conditioned, the development 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 Acknowledgement. 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 amount of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of 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. TIMING of CONSTRUCTION.

All project activities shall be undertaken in accordance with the following requirements at all times. Any changes to these requirements shall require an amendment of Coastal Development Permit 1-07-013, unless the Executive Director determines that no amendment is legally required:

A. June 16 – October 14 annually: Project activities, excluding pile driving, which is addressed in Special Condition 2 below, may be undertaken riverward of the Ordinary High Water Mark (OHWM), which shall be defined as: that line on the riverbank established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. The OHWM shall be marked in the field by Caltrans biologist in consultation with the Commission staff biologist before commencement of the first construction season pursuant to Section B below; and

B. May 1 – June 15 annually: Project activities, excluding pile driving, may be undertaken within the area landward of the Ordinary High Water Mark (OHWM) as defined in Section A above, which shall be marked in the field annually before May 1 by Caltrans' biologist, prior to commencement of activities within this described area, provided that the conditions listed below are met. In addition, the Executive Director may approve additional activities (excluding pile-driving) on a case-by-case basis within the additional area between the OHWM and the outermost edges of the wetted channel (which shall be defined for these purposes as any portion of the river channel that is wetted at any time during the previous twenty-four hours, as evidenced by moisture-saturated soils) upon request and a showing to the Executive Director's satisfaction that the requested activity would not pose any significant risk of adverse impacts to sensitive species or water quality, and provided the conditions listed below are also met:

- 1) the three (3)-day forecast for precipitation indicates that the chance of rain is less than thirty (30) percent; and
- 2) soils are not saturated as indicated by standing water from previous rains anywhere within the construction site or adjacent fields; and
- 3) there is no precipitation at the time the proposed activities are undertaken; and
- 4) if rain commences, the activities within the subject area shall immediately cease and Best Management Practices to fully cover and secure any exposed soils shall be immediately implemented, with fiber coils and silt fences additionally deployed to protect against sediment discharges to the waters of the Mad River. No activities shall re-commence within the subject for a minimum of 24 hours after a precipitation event, and then only if all of the conditions set forth in 1) through 4) herein are again met.; and

C. October 15 to the following May 1, annually: Project activities shall not be undertaken in the area of the project closer to the river than defined by a setback line of at least thirty (30) feet from the top of bank at any point, and the limits of the setback shall be

clearly marked in the field with exclusionary fencing not later than October 15, annually. In addition, all disturbed areas of the site shall be treated with properly installed silt fences, straw, fiber coils and coverings over stockpiled materials in a manner sufficient to continuously prevent the intrusion of sediment-laden runoff into the waters of the Mad River, consistent with the requirements of Special Condition 9 (Construction Responsibilities), Special Condition 10 (Erosion Control and Revegetation Plan), Special Condition 11 (Drainage Structure Final Plan: Maintenance Responsibility, and Special Condition 12, Water Quality Protection Plan SWPPP). No placement of rock slope protection (RSP) except as specifically shown on plans for the upland bridge abutments shall be utilized for erosion control or access restriction purposes. No vehicles or mechanized equipment shall be allowed at any time closer to the river than the setback limit established herein.

D. Restorative planting of the on-site wetland mitigation area shall not commence until Caltrans has verified that achievement standards required by Special Condition 18(B) have been fully achieved and implemented.

E. Construction activities that may generate underwater sound within the Mad River shall not commence until the applicant has obtained Coastal Commission approval of an amendment of CDP 1-07-013 incorporating into the permit a Fisheries Mitigation Plan pursuant to the requirements of Special Condition 5, set forth below.

2. PILE-DRIVING

A. All project activities involving pile or sheet-pile driving shall be undertaken in accordance with the requirements set forth below:

- 1) Restorative planting of the on-site wetland mitigation area shall not commence until Caltrans has verified that achievement standards required by Special Condition 18(B) have been fully achieved and implemented.
- 2) Construction activities that may generate underwater sound within the Mad River shall not commence until the applicant has obtained Coastal Commission approval of an amendment of CDP 1-07-013 incorporating into the permit a Fisheries Mitigation Plan pursuant to the requirements of Special Condition 5, set forth below.
- 3) No pile-driving activities shall occur at any time between October 15 of one year and June 15 of the following year, for the duration of project construction, or as further restricted pursuant to the provisions of CDP 1-07-013; and
- 4) Pile-driving shall be limited to daylight hours and shall only be undertaken when the fisheries biological monitor is immediately available on site. Pile-driving activities may not continue after dusk or before dawn and shall stop if the fisheries biological monitor determines that light conditions, turbidity or other problem prevents adequate observation of fish or predatory birds (that may feed on injured or dead fish) during pile-driving. Artificial lighting shall not be deployed as a means of extending operations into dusk or dawn. Caltrans may provide more than one qualified fisheries biological monitor if necessary to achieve the required full monitoring coverage, but

- if for any reason the fisheries biological monitor is unavailable, or must unexpectedly leave the site, no pile-driving activities shall occur until a qualified fisheries biological monitor is present, even if this causes delays in the anticipated construction schedule. This provision means, for example, that if the fisheries biological monitor leaves the site for any reason, an alternate, fully qualified fisheries biological monitor must be on-site first, or pile-driving activity must cease immediately upon the fisheries biological monitor's departure from the active work area in the river channel; and
- 5) The pile-driving construction season of June 16 through the following October 14, annually, shall not be extended; however, the pile-driving construction season may be reduced (for example restricted instead to July 1 through the following September 1, annually) in accordance with the provisions of this special condition and Special Condition 4, below, if the Executive Director or other state or federal agency determines that substantial evidence indicates such reduction is necessary to reduce hydroacoustic impacts to fish in the Mad River; and
 - 6) Pile-driving activities shall terminate immediately and shall not resume for the remainder of the in-water construction season, if adult salmon or steelhead enter the new scour pool required by Special Condition 6, or other fish refuge areas near the project. The presence of adult fish could significantly increase the adverse effects of pile-driving on the fisheries of the Mad River. The fisheries biological monitor shall monitor the scour pool daily during the June 16 – October 14 in-water construction season, and at least twice per day, not less than 4 hours between observations, after August 15, annually, and shall include a fish census in the weekly monitoring reports. All monitoring protocols shall be designed in consultation with NOAA Fisheries in a manner that minimizes any detection of the monitor by fish under observation, and further, avoids disruption or stress of fish. If adult fish arrive in the scour pool or other refuges, the fisheries biological monitor shall immediately report the information to the resident engineer, the environmental construction liaison, NOAA Fisheries, CDFG, and the Executive Director; and
 - 7). Protective measures or project revisions, including conservation recommendations required by NOAA Fisheries and/or CDFG pursuant to the additional consultations to address hydroacoustic impacts, shall be incorporated into the report and become part of the binding, enforceable conditions of CDP 1-07-013. Such measures may include, but are not limited to:
 - a. reductions in the size of the steel shell piles that may be driven;
 - b. reductions in the number of piles that may be driven each construction season (which may extend the time required to complete construction by an additional year or more)
 - c. alternative foundation design that eliminates the need for pile-driving within the river environs;
 - d. limits on the number of successive pile strike blows that may occur without prescribed rest from pile-driving;

- e. requirement to provide prescribed periods of sustained rest between defined periods of pile-driving activity;
- f. other measures that may be recommended or required by NOAA Fisheries or CDFG to further reduce pile driving impacts, such as enhanced coffer dam dewatering, deployment of bubble curtains or other means of intervention, or temporary exclusion of fish from the area of the river subject to hydroacoustic impacts; and

The applicant shall inform the Executive Director of any changes to the project required by NOAA Fisheries and the Department of Fish and Game. 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; and

- 8) It shall be the applicant's responsibility to ensure that all bidding documents associated with the proposed project disclose and explain to potential bidders that the conditions of approval of CDP 1-07-013 contain these and other provisions that may entail substantial risk of additional costs or additional time required to complete certain aspects of project construction, though these requirements may not be fully known at the time the bidding documents are published. The applicant shall specifically highlight these risks in the bidding documents, including the fact that further requirements for protection of sensitive species and habitats may arise during the construction of the subject project (such as the termination of pile-driving if adult salmonids migrating upstream appear in the scour pool) and that these requirements would then be binding on the applicant and on the contractor or other interested parties. If the applicant determines that this burden cannot be placed on a contractor selected subsequent to Commission approval of CDP 1-07-013, then the applicant, in accepting CDP 1-07-013 agrees to accept the full liability for such extra time and expense as may result from the full implementation of the terms and conditions of CDP 1-07-013 even if implementation of these additional requirements arises after Commission approval; and
- 9) In accepting CDP 1-07-013, the applicant on behalf of Caltrans or successor in interest, and all future employees, consultants, advisors, contractors, subcontractors or other interested parties, agrees and accepts that any economic burden, including such additional burden as may derive from additional time or expense required to implement additional protective measures or to complete the job subject to the implementation of additional protective measures subsequent to Commission approval of CDP 1-07-013, including the direct or indirect costs associated with additional seasons of construction that may result from the implementation of further measures to protect sensitive species or habitats, shall be accepted as a cost of doing business in the sensitive habitat of the proposed project site, and an acceptable risk associated with the applicant seeking approval by the Commission of CDP 1-07-013 before all potential pertinent requirements are known. It shall, for example, be the applicant's responsibility to fully inform all parties who bid on the construction of the subject project, and to remind the subsequently selected contractor, subcontractor, etc., that these restrictions may reduce the available time for pile-driving or other

activities in any construction year, and that the June 16 – October 14 annual pile-driving window may be significantly reduced if determined necessary by the Executive Director or others pursuant to the terms and conditions of CDP 1-07-013; and

B. Project activities shall be conducted at all times in accordance with these provisions; No changes to the requirements of the special condition shall be made without a Coastal Commission approved amendment of CDP 1-07-013 unless the Executive Director determines that no amendment is legally required.

3. FINAL ENVIRONMENTAL DOCUMENTS, PERMITS, AND OTHER APPROVALS; INCORPORATION BY REFERENCE AS CONDITIONS OF CDP 1-07-013; SUBSEQUENT DOCUMENTS

A. PRIOR TO ISSUANCE OF CDP 1-07-013, the applicant shall submit the final revised or amended version(s) of any additional environmental review documents prepared for purposes of addressing the project's potential to generate underwater sound that may adversely affect fish, including behavioral effects, or evidence that no such additional environmental review is required. Such information shall be submitted to the Executive Director whether the information is for further compliance with the California Environmental Quality Act (CEQA), for purposes of providing additional biological information pertinent to further consultation with NOAA Fisheries or CDFG, as final amendments that may arise to the NOAA Fisheries Biological Opinion or the CDFG California Endangered Species Act Consistency Determination or Stream Alteration Agreement, or generated for the purpose of fulfilling requirements that may be imposed through Commission approval of CDP 1-07-013; and

B. PRIOR TO ISSUANCE OF CDP 1-07-013, the applicant shall submit evidence to the Executive Director's satisfaction that the applicant has obtained any outstanding permits, authorizations, or approvals the applicant must obtain from state or federal agencies, or evidence that no such approval is required. Such permits, approvals or authorizations shall include amendments there to, that remain outstanding as of May 22, 2007, or are processed after the date of Commission approval of CDP 1-07-013. The applicant shall inform the Executive Director of any changes to the project required by these approvals from other state and federal agencies. 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; and

C. The applicant shall submit concurrently to the Executive Director and to the pertinent state or federal agency with regulatory review authority over the subject project, a complete copy of any application or request the applicant makes for an amendment, addendum, or revised interpretation of any permit, opinion, authorization, or consistency determination pertinent to the proposed project that is the subject of CDP 1-07-013, including all supporting information, and the applicant shall subsequently provide to the Executive Director a complete copy of the resultant state or federal agency response(s) immediately upon receipt of same by the applicant.

4. FISHERIES PROTECTION & HYDROACOUSTIC MONITORING PLAN;
HYDROACOUSTIC LIMITS

A. PRIOR TO ISSUANCE OF CDP 1-07-013, the applicant shall submit a Fisheries Protection and Hydroacoustic Monitoring Plan, including any additional supporting information and analysis deemed necessary by the Executive Director, for the review and approval of the Executive Director. The Plan shall be designed to limit adverse impacts to fish within the Mad River that may otherwise result from the potential hydroacoustic impacts of pile-driving, for the review and approval of the Executive Director, who shall review the plan in consultation with NOAA Fisheries and CDFG biologists. The Plan shall identify all known alternatives for reducing the impacts of pile-driving on fish if the analysis indicates that such impacts are likely, pursuant to the application of the thresholds set forth below, shall indicate which of these changes or protective measures the applicant proposes, or other reviewing state or federal agencies recommend or require, to reduce the project's potentially adverse impacts on the fish of the Mad River. The plan shall additionally provide detailed information on adverse impacts to fisheries that cannot be avoided, for use in developing a mitigation plan pursuant to Special Condition 5, below. In addition, the plan shall address and include, but not be limited to, the following:

- 1) Further agency review: The final plan shall incorporate and attach the final approved Biological Opinion and addendum to the Biological Opinion for the Mad River Bridges project that will be prepared by NOAA Fisheries subsequent to Commission approval of CDP 1-07-013, and a final approved addendum to the Consistency Determination for the Mad River Bridges previously approved by CDFG under the California Endangered Species Act (CESA). The final plan shall incorporate all of the requirements set forth in each of these documents; and
- 2) Thresholds for Determination of Physical Injuries to Fish: In evaluating the potential for physical injuries to salmonids from pile-driving activities associated with the project, the final plan shall apply a "dual metric interim exposure criteria" comparable to the Biological Opinion, dated March 30, 2007, for replacement of the Russian River Bridge in Mendocino County where State Route 222 crosses over the Russian River Bridge east of the City of Ukiah and west of the town of Talmage (See Exhibit 2 of the Commission staff report) which incorporates a method for addressing cumulative impacts, with thresholds for both single strike and multiple strikes as follows:

SEL: A fish receiving an accumulated Sound Exposure Level (SEL) at or above 187 dB re one micropascal squared-second during the driving of piles likely results in the onset of physical injury; and

Peak SPL: A fish receiving a peak sound pressure level (SPL) at or above 208 dB re one micropascal from a single hammer strike likely results in the onset of physical injury.

The final plan shall be designed assuming physical injury is likely to occur if either of the above criteria are exceeded, and shall therefore provide measures to ensure that the criteria are not exceeded consistent with all other conditions of this CDP.

3) Implementation of 187 dB re one micropascal squared-second SEL Threshold: The applicant shall confer with NOAA Fisheries and CDFG to determine the method most protective of fish in determining when the 187 dB re one micropascal squared-second SEL Threshold has been reached, for purposes of a) assessing potential adverse affects on fish that may reasonably be estimated for purposes of analyzing the proposed project's potential impacts on fish due to the accumulated sound pressure effects of multiple pile strikes, and b) for purposes of monitoring project compliance in the field. The final plan shall utilize the method specified in the final approved Biological Opinion and Addendum for the project that will be prepared by NOAA Fisheries subsequent to Commission approval of CDP 1-07-013. If no method is specified in the final Biological Opinion and Addendum, or if NOAA Fisheries determines that no Addendum to the previous Biological Opinion will be forthcoming, then the final plan shall utilize the method outlined by NOAA Fisheries as referenced in the document titled Biological Opinion for the replacement of the Russian River Bridge in Mendocino County, dated March 30, 2007 referenced in Subparagraph 2 above, Exhibit 2 of the Commission staff report), which states in pertinent part that:

“To accumulate the sound energy a fish might be exposed to over multiple hammer strikes, NMFS will use the simple summation procedure of $10\log(\text{number of strikes})$ to assess cumulative impacts. This procedure is consistent with the Equal Energy Hypothesis.”

And

4) Assessment of project's hydroacoustic footprint: The final plan shall include an analysis of the sound level that is likely to be produced by pile-driving with an impact hammer the proposed thirteen (13) 7-foot-diameter, 1-inch thick steel shell piles within the proposed installation locations, taking into consideration the distance from the water and the characteristics of the anticipated substrate (including verification of substrate conditions from the applicant's previous geotechnical investigations). The analysis shall show the likely peak sound levels that would be generated in the water at distances commencing at the likely closest edge of the water, toward the pile being analyzed, and shall additionally analyze the likely sound levels at incrementally increasing distances radiating in all pertinent directions from the pile driving point of entry into the substrate, within the distance calculated by NOAA Fisheries to be potentially occupied by fish during the approved window of pile driving activities (including fish that might be sheltering in the new scour pool proposed within the Caltrans right-of-way adjacent to the proposed new bridges); and

5) Impact Calculation: The final plan shall assess the likely resultant impacts on fish within the Mad River based on the dual criteria threshold standards (items 2 -3 above), the assessment of the project's hydroacoustic footprint, and the numbers, age and lifestages of all listed fish species and fish species of special concern that are

anticipated by NOAA Fisheries or CDFG to be present in the water during the subject activities. The calculations shall also take into account the potential impacts on adult salmonids migrating upstream that may assemble at the scour pool(s) near the project, or on rearing salmonids, as fish that stay longer than the time necessary to swim through the site in passing may be subject to much higher cumulative impacts than would otherwise be anticipated. These factors shall be taken into consideration and the thresholds established above shall be applied to determine the likely impacts of the subject project. The results should be assessed in light of a detailed assessment of all fish species that may be present, age/life stage classification, likelihood that each category of fish is migrating through the project site within one day or less, or if not so, the extent of residency within the potentially affected area of the river (expressed as continuous days), and the sensitivity level of each species/life stage to the degree of sound that has been calculated to develop a complete impact calculation for the proposed project; and

6) Based on the results of the analysis of potential impacts developed as required above, if adverse impacts to the fish of the Mad River are anticipated, the plan shall further assess all potential project changes, including changes outlined in special conditions set forth above, that could reduce the level of impact on fish, including but not limited to such measures as reducing the pile driving windows (for example reducing the window to July 1 – September 1 annually, or less if adult fish are observed at the new scour pool prior to September, and/or redesigning the project (such as by reducing the size but increasing the number of proposed steel shell piles), and/or other measures to reduce hydroacoustic impacts. The plan shall calculate the reduction in impacts to fish species that would be provided by deployment of each measure considered, individually and cumulatively; and

7) If the analysis of hydroacoustic impacts concludes that adverse impacts to fish species in the Mad River will result from the proposed project activities despite deployment of all feasible measures to reduce such impacts, the final plan shall not be approved by the Executive Director until the Coastal Commission approves a coastal development permit amendment and a Fisheries Mitigation Plan consistent with Special Condition 5, set forth below; and

8) In addition to other requirements of the final plan, the applicant shall include a detailed hydroacoustic monitoring plan designed to measure all project activities that may generate significant hydroacoustic impacts in comparison with the interim dual criteria established herein (including real-time assessments of SEL levels and an explanation of the technical means of achieving these assessments); and

9) Upon commencement of pile-driving, the applicant shall ensure that weekly hydroacoustic monitoring reports, including all monitoring data collected by the acoustic consultant and the biological monitor, are transmitted in a timely fashion to the NOAA Fisheries and CDFG staff who express an interest in receiving the data, and to the Executive Director. An annual monitoring report shall additionally be submitted to the interested parties and to the Executive Director not later than November 15 of each year, showing the results of the seasonal monitoring, any

adverse effects on fish species noted, adaptive measures undertaken to reduce underwater sound levels, if any, and any other relevant data deemed pertinent to a better understanding of the season's hydroacoustic footprint; and

10) At least thirty (30) days prior to commencement of construction that involves any activities that could generate sound impacts within the Mad River, the applicant shall provide evidence to the satisfaction of the Executive Director that: a) the applicant has secured the services of a qualified acoustic monitoring consultant for provision of the necessary monitoring functions established in the approved final plan, b) the consultant is prepared to commence monitoring on Caltrans' timeline of project activities, and c) the consultant has devised a satisfactory method of monitoring for the condition compliance requirements under the actual conditions (including water depths) of the Mad River deemed likely during the low-flow season. Commencement of such activities shall not commence until the acoustic monitoring consultant is on site and acknowledges readiness to proceed with the monitoring activities set forth in the approved final plan; and

11) Construction activities that may generate underwater sound within the Mad River shall not commence until the applicant has obtained Coastal Commission approval of an amendment of CDP 1-07-013 incorporating into the permit a Fisheries Mitigation Plan pursuant to the requirements of Special Condition 5, set forth below; and

12) The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5) FISHERIES MITIGATION PLAN

A. CONSTRUCTION authorized pursuant to CDP 1-07-013 that involves pile-driving or other similar activities that may generate underwater sound within the Mad River at levels perceptible to fish, SHALL NOT COMMENCE until the applicant has obtained a Commission granted amendment to CDP 1-07-013 to incorporate into the project a fisheries mitigation plan for full mitigation of any residual significant adverse impacts to any state or federally listed fish species, or to other fish species deemed locally rare, that may occur within the Mad River during the time of year that pertinent project activities will be undertaken; and

B. The mitigation shall be in a form that directly benefits the affected fish species of the Mad River, in proportion to the extent of the impact of the project on each species, and may include but is not limited to development of additional fish habitat and refugia, further enhancement of riparian canopy along the banks of the Mad River that would protect water quality and provide shade and refuge to fish, or other measures that offer direct benefits to the fish habitat of the Mad River, either within the coastal zone, or within such additional distance from the coastal zone as may be shown to have significant ecological benefits for

the habitat of the Mad River and specifically to those elements of the habitat that benefit the species affected by the project. If any fish passage improvements are proposed, these shall only be considered if Caltrans demonstrates that significant ecological benefits to fish habitat in the Mad River would result and would not otherwise have been achieved; and

C. The Plan shall include the requirement that if the acoustic monitoring during construction shows that either of the dual metric exposure criteria established pursuant to Special Condition 4 have been inadvertently exceeded contrary to the requirements of Special Condition 5A, then the applicant shall submit a coastal development permit amendment revised mitigation plan for Coastal Commission approval within six (6) months after the completion of the project activities capable of generating significant hydroacoustic impacts. The plan shall provide for additional mitigation in accordance with the standards set forth herein, proportionate to the additional impacts assessed; and

D. The plan shall include the requirement that a detailed review be conducted of all project activities that may generate significant hydroacoustic impacts, within ninety (90) days after final completion of such activities during construction; and the plan shall additionally include final copies of all monitoring reports and data analyses generated during construction, combined into one final report, and all notes and records prepared by the biological monitor during construction, and copies of these reports shall be submitted to the Executive Director, NOAA Fisheries, and CDFG; and

E. Not later than sixty (60) days after completion of construction, the applicant shall submit a final mitigation plan for review and approval of the Commission, for any additional mitigation that may be necessary to address additional impacts of project construction that were not fully considered in the approved mitigation plan; and

F. The applicant shall ensure that a qualified biologist with significant fisheries education, training and experience shall submit monitoring reports annually to the Executive Director during the implementation of the approved mitigation actions set forth in the report, and these reports shall include descriptions of actions taken and as-built plans where relevant, compliance with approved performance standards and success criteria, progress toward identified milestones, proposals for adaptive management in the following year where success criteria have not been met, and photographs taken from pre-established vantage points to document the mitigation progress visually. These monitoring reports shall be submitted annually until project success has been determined in accordance with the standards established in the approved mitigation plan; and

G. The mitigation measures incorporated into the plan may require either an amendment to CDP 1-07-013, or a new coastal development permit, for activities that were not approved under CDP 1-07-013.

H. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

6) SCOUR POOL DESIGN & PLACEMENT

A. PRIOR TO ISSUANCE OF CDP 1-07-013 the applicant, in consultation with NOAA Fisheries and CDFG, shall develop a final plan for construction of the proposed scour pool for the review and approval of the Executive Director. The final plan shall include but not be limited to the following: timing of scour pool construction to ensure that construction of the pool is completed well before the earliest possible arrival of adults is anticipated, to-scale site plan view and cross sections; detailed narrative construction proposal including timing of installation and sequencing with proposed demolition activities that will remove the existing scour pool, materials specifications (including volume and size of rock /timber proposed for placement in the stream channel), stream channel grading details, applicable Best Management Practices for sediment control, water diversion measures if applicable, and provisions for photographing the scour pool location immediately before and after construction; and

B. Project activities shall be undertaken at all times in strict accordance with the requirements of the final plan as approved by the Executive Director. Due to the potential for changing conditions within the area of the Mad River channel proposed for the construction of the scour pool, final adjustments of the scour pool design may be made in the field by the on-site NOAA Fisheries biologist in consultation with the Executive Director, without further amendment of the Coastal Development Permit, provided that such changes are reasonably consistent with the approved final plan; and

C. Monitoring of scour pool/fish: The plan shall include a detailed monitoring proposal for assessment of the use of the pool by fish during the period of bridge construction and for two (2) additional years after the completion of all construction activities, and the results of the monitoring shall be reported annually in writing to the Executive Director, NOAA Fisheries, and CDFG, commencing October 31 of the first year of construction and continuing thereafter. This monitoring and reporting obligation shall be in addition to any other scour pool monitoring required in association with pile-driving activities, and all monitoring protocols shall rely on methods that minimize associated disturbance of fish utilizing the pool;

7. BIOLOGICAL MONITORING: FISHERIES

A. Except as specifically set forth below in this Special Condition, the biological monitor for fisheries shall additionally be subject to the provisions of Special Condition 13, below, which sets forth certain standards applicable to all biological monitors of the overall project; however, the fisheries monitor shall not be responsible for monitoring any other aspect of the project construction except fisheries and shall not be assigned other duties that distract from the required focus on fisheries monitoring. The fisheries biological monitor shall at a minimum be present during every June 16 through October 14 season when work within or over the Mad River channel may occur.

B. Selection/Qualifications: In addition to the biological monitoring otherwise required by the special conditions of Coastal Development Permit 1-07-013, a qualified biological

monitor with significant education and field expertise in fisheries biology, qualified to capture impounded salmonids, experienced in monitoring the relevant construction activities subject to the required monitoring, and subject to the approval of the Executive Director, shall be present during all project activities that are undertaken overhead of, or within the river corridor below, the ordinary high water mark, at all times during project construction; and

C. Duties: The biological monitor for fisheries selected under this provision shall be dedicated to monitoring project activities that may affect fisheries, and shall not undertake other biological monitoring duties required by the other special conditions of CDP 1-07-013 or by other requirements, and shall be the dedicated monitor for project activities within the area below the ordinary high water mark or activities (such as de-watering into an upland sediment basin) or activities in other locations of the project site that may directly or indirectly affect the water quality and fisheries of the Mad River. Sufficient biological monitoring staff to attend to other monitoring duties shall be provided by the applicant so that the fisheries biological monitor is not distracted from the critical activities in the stream channel area. The biological monitor shall be qualified and authorized to conduct salmonid capture and release, and shall observe, record, and report monitoring results in the same manner as otherwise required of the biological monitor pursuant to the requirements of Special Condition 13. The biological monitor shall instruct and direct the resident engineer or other site supervisors and construction site personnel in all applicable measures necessary to avoid direct or indirect adverse impacts to fish, and it shall be the responsibility of the resident engineer, or other site supervisor, and all site personnel (contractors, subcontractors, consultants, contract employees of Caltrans, etc.) to cooperate with and follow the direction of the biological monitor. The biological monitor shall also verify compliance with water quality requirements of all applicable permits and authorizations, particularly those pertaining to pH and sediment limits, and requirements prohibiting the discharge of debris, chemicals, and other unauthorized materials to the stream channel, or to locations that drain to the stream corridor.

The biological monitor shall record and report any significant instructions or directions he/she gives to all site personnel, the identity of the personnel communicated with, and the outcomes observed, including any instances of failure to conform with the recommendations or requirements communicated by the biological monitor or set forth in any applicable permit or other authorization by state or federal agencies.

D. Stop-Work and Notification: Work shall be stopped immediately by the resident engineer or other designated site supervisor, or by the biological monitor if no site supervisor is available, if fish injury or mortality is observed by the biological monitor or any other employee or representative of Caltrans or Caltrans' representatives (including contractors, subcontractors, consultants, or Caltrans contract employees) during project activities. Notification of the fish injury or mortality and the probable cause, if known, shall immediately be made to NOAA Fisheries, US Fish & Wildlife, California Department of Fish & Game, and the Executive Director of the Coastal Commission, and any other applicable agencies. Work shall not recommence until the Executive Director provides written notice that project activities may resume. The Executive Director may require that the applicant submit

additional information and/or that the applicant deploy additional measures to avoid further impact to fisheries before determining that work may recommence; and

8. PERMIT OBLIGATIONS AND COMPLIANCE RESPONSIBILITIES

In accepting the Commission's approval of CDP 1-07-013, the applicant agrees and accepts that:

A. If the approved project will be contracted out for implementation, it is Caltrans' responsibility to ensure that the relevant bidding documents include: a) sufficient and accurate provisions for Caltrans to ensure the obligation of the winning bidder to comply with all of the conditions of CDP 1-07-013 and to construct the project in accordance with the proposed and approved project description; and b) the specific requirement that the contractor and any employees, subcontractors, agents, or other representatives of the contractor or contractors who are responsible for constructing any portion of the project, shall undertake all related activities in full compliance with the project approved pursuant to CDP 1-07-013, including all terms and conditions imposed by the Commission in approving the permit. It shall be Caltrans' responsibility to ensure that the bidding documents contain general and special provisions necessary to fully and accurately incorporate all requirements imposed by the Commission or other state or federal agencies with regulatory authority over the project, including timelines for review of documents and other potentially limiting measures that may affect construction scheduling and the timing of construction or other parameters of material interest to the participating parties. It shall also be Caltrans' responsibility to ensure that the winning bid for the construction of the proposed project is adequate to ensure that the selected contractor has taken into consideration and provided for the full cost of compliance with all requirements imposed by the Commission pursuant to the Commission's approval of CDP 1-07-013, as well as all requirements of other state and federal agencies. A copy of the adopted findings for CDP 1-07-013 shall be provided to Caltrans subsequent to final Commission action, and a complete copy of the adopted findings and final plans approved by the Executive Director shall be attached to the bidding documents by Caltrans for reference by potential bidders; and

B. After the contract is awarded, Caltrans shall ensure that the contractor(s), subcontractor(s), or other parties selected by Caltrans or otherwise designated to implement any portion of the project approved pursuant to CDP No. 1-07-013, are fully informed of, and continuously comply with, the obligations set forth in the adopted findings referenced in Subparagraph A above. Caltrans shall ensure that a complete copy of the adopted findings is maintained on the job site at all times and that each contractor undertaking any portion of the development authorized herein has a copy of the adopted findings upon execution of the contract for the subject project. Nothing in these provisions shall prevent the Commission from taking enforcement action against the contractor or subcontractor(s) for non-compliance with the terms and conditions of CDP 1-07-013, either individually or in addition to enforcement action against Caltrans for such non-compliance; and

C. All activities associated with performing the development authorized pursuant to CDP 1-07-013 shall at all times be undertaken in full accordance with the terms and conditions imposed by the Commission in conditionally approving CDP 1-07-013. It shall

be Caltrans' responsibility to ensure such compliance by any party to whom Caltrans assigns the right to construct or undertake any part of the activities authorized herein; this requirement does not relieve other parties of responsibility for compliance with the permit or immunize such parties from enforcement action by the Coastal Commission's enforcement program.

D. Any proposed changes to the approved project shall be reported to the Executive Director. No changes to the approved project shall occur without a Coastal Commission-approved amendment to CDP 1-07-013, unless the Executive Director determines that no amendment is legally required.

9. CONSTRUCTION RESPONSIBILITIES

A. In accepting the Commission's approval of CDP 1-07-013, Caltrans agrees that its representatives, agents, employees, contractors, and the contractor's agents, officers, and employees, or subcontractors shall comply with the following construction-related requirements for any portion of the proposed project that is located within the area that is subject to CDP 1-07-013:

- 1) No construction materials, debris, graded soils, or waste, chemicals or fuels shall be stored or placed within the Mad River corridor including streambeds or banks, or adjacent riparian areas, or other areas where it may enter the Mad River or other coastal waters, whether directly or indirectly, unless otherwise authorized specifically within these special conditions; and
- 2) No machinery shall be allowed at any time within the wetted channel of the Mad River corridor as defined in Special Condition 1, Subparagraph B, except the minimal use of machinery that shall be specifically authorized by the Executive Director annually for the purpose of installing and removing an approved temporary water crossing, initial water diversion, or the proposed new scour pool structure, and construction equipment such as cranes that are specifically authorized for project tasks that cannot be undertaken from the bridge decks overhead may be authorized within the dry gravel bars of the channel subject to all BMPs and fueling standards required to protect the waters of the river from contamination from leaks or spills from the equipment or associated hydraulic lines, and generators utilized within the corridor for pumps, etc., shall be fueled only by vegetable oil-based fuel which shall not be stored within the river corridor; generators may be re-fueled within areas of the corridor above the wetted channel if vegetable oil-based fuel is used, containment is provided, and any leaks or spills cleaned up immediately and if this practice is not prohibited by the Regional Water Quality Control Board, in which case generators must be swapped out and re-fueled at the designated fueling site; and
- 3) Staging and storage of construction machinery, materials, equipment, fuel, or any other material, or storage of debris or graded material, shall not take place within sensitive habitat areas or within the river channel except as specifically provided in these special conditions, and the perimeters of sensitive habitat areas shall be identified and marked in the

field by a qualified biologist prior to commencement of construction and re-identified as often as needed thereafter to continuously maintain the identification of sensitive habitat areas; and

- 4) Demolition of the existing bridge or roadbed shall not be undertaken through the use of explosives, and no portion of the bridge deck, in whole or in part, or other structures to be demolished may be dropped – or allowed to fall - to the ground below the demolition activities. All construction debris generated by demolition activities shall be captured from the deck of the existing bridges, even if this requires some traffic delays, rather than dropped to the river corridor for retrieval there. Visible amounts of concrete dust and small rubble shall not be released into the air or water during construction and dust suppression measures shall be implemented. Dust control via water spray shall be implemented cautiously so that excessive water contaminated by concrete dust does not drain into the banks, channel, or waters of the river. No portion of the demolition debris shall be allowed to enter any portion of the Mad River corridor whether wet or dry; and
- 5) All debris, materials, equipment, vehicles, staging and storage features, concrete washout areas, de-watering facilities, the fueling location, and any other material or temporary feature associated with project construction shall be removed immediately after project completion and the affected area returned to pre-construction conditions or restored in accordance with other special conditions set forth herein, as applicable; and
- 6) All waste material or excess graded material generated by demolition or construction shall be removed from the construction site and disposed of at a facility a) outside of the coastal zone with necessary permits and approvals to accept the material for disposal or recycling, and where final disposal of such material will not be placed within any riparian corridor or result in discharge of sediment or other pollutants into waters ultimately tributary to coastal waters, or b) inside the coastal zone at a facility demonstrated by Caltrans to the satisfaction of the Executive Director to have all necessary permits and approvals, including a coastal development permit, if required. All disposal associated with the debris generated by the subject project activities shall be tracked and documented by the resident engineer and permanent records kept with the project files and available on demand. Not less than thirty (30) days prior to commencement of activities that will result in debris or wastes subject to such disposal, Caltrans shall submit evidence to the Executive Director's satisfaction that proposed disposal activities are fully compliant with these requirements; and Caltrans shall keep complete written records of the kind, volume, and location of any disposal of materials generated by the subject project activities. A copy of these records shall be provided to the Executive Director within thirty (30) days of project completion; and
- 7) Fueling shall take place in a single designated offsite area that is set up to fully contain any potential spill without release outside of the designated area, and the designated area shall be equipped with all materials necessary to control and cleanup any spill that may occur. The designated area may not be located within the Mad River corridor from top of bank to top of bank, or within 100 feet from top of bank on either side of the river. Only equipment that cannot be readily relocated to the designated offsite fueling location may be fueled in other areas of the site (cranes, large tracked vehicles only) and these shall be re-fueled only by a California Department of Fish and Game-certified over-water re-fueler, in a manner authorized in accordance with all requirements of the Department of Fish and Game and the

Regional Water Quality Control Board, including but not limited to the requirement that such re-fueling be undertaken by a minimum of two crew members certified for such operations, with one on standby to shut off the flow of fuel and the other at the delivery point, in constant communication with each other, with full deployment of absorbent pads with sufficient capacity to absorb the maximum amount of fuel that could escape from the fueling hose before shutoff occurs in the event of equipment failure. No fueling of any kind may take place except during daylight hours and when visibility is sufficient for the re-fueling crew to maintain visual contact; and

- 8) Oil absorbent booms and/or pads shall be on site at all times during project construction. All equipment used during construction shall be free of oil and fuel leaks at all times, and where parked or operated within or over the river channel from top of bank to top of bank, oil pans or other containment materials or devices shall be continuously placed beneath such equipment to ensure that leaks that do arise will not enter the river environment. Vehicles or machinery cleared to enter the wetted channel, such as for construction of temporary crossings, shall be fully steam-cleaned, including the undercarriage, and inspected and verified to be free of leaks; and
- 9) Cement shall be prepared and poured in a manner that will prevent discharges of wet cement into coastal waters including, but not limited to, placement of measures such as catch basins, mats or tarps beneath the construction area to prevent spills or overpours from entering coastal waters; and
- 10) Rinsate from the cleaning of equipment, including cement mixing equipment, shall be contained and handled only in upland areas where drainage to coastal waters is fully prevented, and otherwise outside of any environmentally sensitive habitat area or wetland or buffers thereto; and
- 11) Reporting protocols and contact information for the appropriate public and emergency services/agencies in the event of a spill shall be prominently posted on site at all times; and
- 12) All forms that may be utilized for wet concrete pours shall be grout-sealed, the grout allowed to cure completely, and water-tested under the supervision of the fisheries or general biological monitor and the resident engineer, to ensure complete seal before any wet concrete or other chemical treatments may be applied to the forms, and no wet concrete pours within or above the river channel from top of bank to top of bank, including within de-watered coffer dams, shall occur unless the fisheries biological monitor is present. The general biological monitor may relieve the fisheries biological monitor from time-to-time as may be necessary for activities that are not directly over or adjacent to the wetted channel but the fisheries biological monitor shall be present for the majority of the monitoring of these activities; and
- 13) No vegetation removal, including clearing, grubbing, limbing, trimming, or other disturbance of existing vegetation may occur between March 1 and August 31 of any year unless a qualified biologist provides a survey undertaken to the satisfaction of the Executive Director not less than ten (10) days prior to proposed commencement of such activities, demonstrating conclusively that no birds are nesting in the area that would be affected, and the results of the survey have been provided to the Executive Director's satisfaction not less than five (5) days prior to proposed commencement of such activities; and

14) Exclusionary netting proposed to prevent nesting by bridge-nesting birds in the year that demolition of either bridge is proposed shall be fully installed before March 1 of the year the subject demolition is scheduled. If the netting is not installed on this schedule, no further netting shall be allowed after March 1 unless a qualified biologist determines that no bridge-nesting bird species are present, and such determination shall be made not more than twenty-four (24) hours prior to installation of the netting. The netting shall be installed under the supervision of a qualified biologist who shall verify and report to the Executive Director that the netting was properly installed and, the date of installation. No netting shall be left partially open or torn such that birds may become entangled or trapped in the netting. If netting shifts or tears, the biological monitor shall immediately report this to the Resident Engineer and to the contractor and ensure that repairs are immediately made. Netting shall not be left in place for more than one season on the same bridge; and

B. All project activities shall be undertaken at all times in full compliance with these requirements. No changes to these requirements may be approved without an amendment to CDP 1-07-013, unless the Executive Director determines that no amendment is legally required.

10. EROSION CONTROL AND REVEGETATION PLAN

A. PRIOR TO ISSUANCE OF CDP 1-07-013, Caltrans shall submit for the review and approval of the Executive Director, a final combined Revegetation and Erosion Control Plan for all areas disturbed by construction, or subject to restoration after removal of the retired bridges and roadbed, within the area subject to CDP 1-07-013, including disturbance necessary to construct bridge abutments and shoulders, temporary and relocated access roads, and approved staging, fueling, and concrete washout areas; and

B. The planting plan and revegetation and erosion measures, etc., associated with the implementation of the riparian wetland mitigation proposed on and offsite shall be included separately in the pertinent final plans and subject to the review and approval of the Executive Director; and

C. Revegetation:

1) The plan shall provide for both temporary and permanent erosion control and revegetation utilizing only regionally appropriate or locally grown or collected native plant seeds or materials, except for areas being returned to agricultural use, which shall be replanted or reseeded as appropriate, in accordance with the existing vegetation or crop cultivated by the affected property owner;

2) All proposed plantings other than for the areas being returned to agricultural use shall be obtained from local genetic stocks within Humboldt County. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to

naturalize or persist on the parcel. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property.

3) The plan shall include a site plan to scale with a detailed planting plan, including the plan for planting of fourteen (14) Bishop Pines (*Pinus muricata*) required to replace the Monterey pines removed for construction of the southbound Central Avenue off-ramp.

4) Plantings shall be installed during the optimal season deemed best for plant survival and establishment, in the year following completion of construction.

5) All disturbed soils shall be secured by erosion control measures before and during the rainy season until sufficient cover and root mass ensures that erosion is fully controlled.

6) Weed control measures shall be implemented throughout the disturbed areas of the site subject to revegetation, for a minimum of four years following the end of construction, and annual removal of Himalayan blackberries shall be included in the weed control efforts; and

D. The applicant shall submit annual monitoring reports and photographs documenting the progress of revegetation of the site, and shall implement any adaptive management or replanting measures necessary consistent with these provisions to ensure that the site is successfully revegetated at the end of the fifth year after construction is completed; and

E. All revegetation implementation, including monitoring, adaptive management, and reporting, shall be undertaken or supervised by a licensed Landscape Architect or qualified biologist; and.

F. Erosion Control: The general erosion control measures shall be evaluated in the SWPPP pursuant to the provisions of Special Condition 12; however, the applicant shall be responsible for continuing the measures proposed in the SWPPP necessary to prevent erosion of any portion of the site that is disturbed during construction, for the full five years of monitoring required after completion of construction, even if the contractor has been previously released from this responsibility.; and

G. Livestock Crossing Erosion Control: The plan shall include a fenced cattle/equipment crossing corridor under the new bridges that is wide enough to allow farm equipment to cross beneath the bridges to access either side of the continuous agricultural parcel on the north side of the bridges. The crossing shall be designed to exclude cattle from the riparian wetland mitigation plantings and buffers approved by the Executive Director, and the crossing shall include mud and runoff control, water collection/drainage tiles/culverts/sediment basins/ vegetated swales or other similar measures in a combination sufficient to ensure that runoff from the crossing does not drain into the adjacent Mad River. The livestock crossing shall be wide enough for equipment but shall be designed to discourage the congregation of cattle for feeding/sheltering purposes that have created substantial erosion and the concentration of mud and manure beneath the existing bridges, within the Caltrans right-of-way. Caltrans shall include the management of these structures in the drainage management plan required in these special conditions, and shall coordinate maintenance of the structures with the owner of the agricultural lands; and

H. No placement of rip-rap or other stream alteration structures or measures are authorized herein for use as erosion control measures except as provided in the approved

project plans, which show rip-rap at the abutments of the bridges, well above the ordinary high water mark; and

I. Caltrans shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

11. DRAINAGE STRUCTURE FINAL PLAN; MAINTENANCE RESPONSIBILITY

A. PRIOR TO ISSUANCE OF CDP 1-07-013, Caltrans shall submit for the review and approval of the Executive Director, a final plan for drainage structure management in any area of the project that is subject to CDP 1-07-013, including maintenance of hard structures and vegetated swales or similar landscape features designed to capture, slow, and/or treat stormwater runoff, protect coastal water quality, and control erosion. The final plan shall include a maintenance schedule and statement of responsibilities. With acceptance of this permit, Caltrans agrees that should any of the project's surface or subsurface drainage structures fail or result in erosion, Caltrans shall be responsible for any necessary repairs to the drainage system and restoration of the eroded area, and such repairs or restoration shall be timely undertaken such that increased erosion or other adverse affects do not occur. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, Caltrans shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

12. WATER QUALITY PROTECTION PLAN/SWPPP

A. PRIOR TO ISSUANCE OF CDP 1-07-013, Caltrans shall submit a copy of all Best Management Practices and other measures that will be implemented through specific contract measures to protect the quality of coastal waters that may be affected by project activities undertaken in the area subject to CDP 1-07-013, for the review and approval of the Executive Director. The submittal shall show in site-plan view, to scale, the location and limits of all authorized staging and storage areas, the approved offsite fueling area, the location and limits of the concrete washout areas, and any other feature the Executive Director determines applicable to the protection of coastal waters.

B. PRIOR to COMMENCEMENT OF CONSTRUCTION, Caltrans shall provide to the Executive Director, a copy of the Storm Water Pollution Prevention Plan (SWPPP) subsequently prepared by the contractor selected by Caltrans. The plan shall be submitted for the review and approval of the Executive Director, who shall determine whether the plan adequately incorporates

the provisions of subparagraph A of this special condition. If the Executive Director determines that the SWPPP is not adequate for this purpose, neither pile driving or project construction, including grading, shall commence until all changes reasonably required by the Executive Director have been made by the contractor. Caltrans shall allow a minimum of thirty (30) days for the review of the SWPPP by the Executive Director, and such additional time as may be necessary for revisions required by the Executive Director.

C. Caltrans shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

13. GENERAL BIOLOGICAL MONITORING

In accepting the Commission's authorization of CDP 1-07-013, Caltrans accepts responsibility for ensuring compliance with all terms and conditions imposed by the Commission. All activities that are undertaken within a 100-foot setback from the top of each bank of the Mad River, from top of bank to top of bank, whether within or above the described area, shall be subject to the requirements of this monitoring condition; however, specific additional requirements have been established for the Fisheries Biological Monitor in Special Conditions 5 and 7 above:

A. Qualifications, areas of duty of monitor: Caltrans shall ensure that a qualified biologist with significant field experience in the ecology of the animal species, migrating birds, and rare and sensitive plants that may occur within or adjacent to the project area is selected subject to the approval of the Executive Director, for monitoring project activities with the potential to affect such species in areas of the Mad River that may be affected by the project. The monitor should be acceptable to the California Department of Fish and Game, NOAA Fisheries, and the U.S. Fish & Wildlife Service as applicable, shall observe project activities undertaken within the area subject to CDP 1-07-013 adjacent to the Mad River corridor during all activities with the potential to adversely affect sensitive habitat, species, or water quality, and shall monitor and ensure compliance with CDP 1-07-013 during such activities until the project is fully completed. If there is any question as to whether a specific project activity requires monitoring, the question shall be directed to the Executive Director for resolution; and

B. Education of on-site personnel: Prior to commencement of construction, the monitor shall provide copies of and brief all on-site personnel on the requirements of all project authorizations, including requirements related to the protection of sensitive habitat and species, and of water quality, and shall provide additional copies and conduct additional briefings as new field personnel join the project, or as the monitor may determine to be additionally necessary, to ensure that all personnel understand and fully implement the applicable requirements; and

C. Non-compliance: First notification and required action by site supervisor: The monitor shall immediately report any non-compliance with permit conditions to the Resident Engineer or other designated site supervisor and shall both log the incident in the monitoring

notes and document the incident in writing with photographs. Within 24 hours the monitor shall provide an oral report of the incident to the Executive Director of the Coastal Commission followed by a written report detailing the incident. If the monitor observes any potentially adverse impacts to sensitive species, habitat, or water quality, the monitor shall immediately notify the Caltrans Resident Engineer ("site supervisor"), the Resident Engineer's designated substitute, or other site supervisor designated by Caltrans, and the site supervisor shall order the immediate cessation of any activities contributing to the reported non-compliance. If the site supervisor is uncertain about the compliance status of certain activities, the site supervisor shall nonetheless require cessation of such activities if the monitor identified any compliance concern about them. Resolution of any questions of intent or interpretation of any condition is reserved for the Executive Director or the Coastal Commission. Nothing in these requirements shall relieve the site supervisor from additionally monitoring the compliance with permit conditions of any party authorized to perform work on Caltrans' behalf and intervening to address or prevent non-compliance whether or not observed by the monitor; and

D. Further Notification and Remedial Action: Immediately notifying the Resident Engineer or other designated site supervisor, the monitor shall additionally notify Caltrans' designated District 1 Environmental Unit Construction Liaison ("liaison") or the liaison's designated representative of any incident of non-compliance with the requirements of this permit. In addition, if for any reason the usual Caltrans site supervisor is unavailable, Caltrans shall ensure that the liaison has the authority to order the immediate cessation of any activity identified by the liaison or the monitor to be potentially non-compliant with the requirements of this project authorization, and Caltrans shall ensure that this authority is clearly understood by all parties undertaking any activities on the subject site. The designated site supervisor or liaison shall not allow the project activities of concern to recommence until the state and regulatory agencies (which may include: California Department of Fish and Game, Regional Water Quality Control Board, Coastal Commission – North Coast District Office, NOAA National Marine Fisheries Service, U.S. Fish and Wildlife Service, Army Corps of Engineers) with applicable authority have been notified and have had an opportunity to advise Caltrans of any remedial action or additional project authorizations that may be necessary, and such project authorizations have been obtained and such remedial action has been fully implemented, to the satisfaction of the liaison, monitor, and the consulting agency or agencies; and

E. Monitor to verify SWPPP compliance reports: The monitor shall evaluate for accuracy and completeness all Storm Water Prevention Plan (SWPPP) Best Management Practices compliance reports, typically prepared by the contractor chosen by Caltrans, and when the monitor is unavailable, the Caltrans site supervisor shall evaluate the reports for accuracy and completeness and the results shall be recorded in the engineer's daily records; and

F. Record-keeping, preservation, reporting: The monitor-- and to the extent the liaison observes site conditions and activities, the liaison--- shall keep detailed field notes of all observations, including biological and physical environmental baseline observations daily, and shall document in writing with supporting photographs - any instance of potential non-compliance, including any instance of sediment or other discharge into the Ten Mile River

corridor or other coastal waters, or areas that may drain to these waters, as shall the site supervisor. The monitor shall additionally record a professional estimate of any adverse impact on sensitive habitat, species or water quality that any instance of potential non-compliance imposes. The monitor and liaison shall individually retain copies of all notes, logs, and photographs, descriptions of any remedial actions taken in the event of non-compliance or accident, and copies of the records and photographs of the monitoring biologists shall be permanently preserved and retained by Caltrans with the project records. The monitor and liaison shall additionally submit a complete copy of these materials to the Coastal Commission's North Coast District Office quarterly upon commencement of construction. The monitor and liaison shall additionally ensure and document that rainy season protective measures are fully in place to control erosion and thereby prevent the discharge of sediment to coastal waters, before the onset of rainy season annually October 15, and that the implemented measures perform adequately, until construction is completed.

G.. Additional Responsibility and Authority: Nothing in these requirements shall relieve the Caltrans site supervisor or designated substitute, or the liaison, from additionally monitoring the compliance with project conditions of any party authorized to perform work on behalf of Caltrans within the area subject to CDP 1-07-013, and intervening to address or prevent non-compliance whether or not observed by the monitor. Caltrans shall ensure that a site supervisor is continuously available on-site or by telephone for the monitor's benefit, however if the site supervisor is unavailable for any reason, in accepting this project authorization, Caltrans shall authorize the liaison or the liaison's designated representative to order immediate cessation of any project activity that the monitor or liaison determine may be non-compliant with the requirements of the coastal development permit. In such cases, the responsibilities of the liaison shall be the same as the site supervisor pursuant to subparagraphs (c) and (d) above. Caltrans shall inform, in writing, all contractors working on the project of such designated, and at times delegated, authorities and ensure that all contractors understand and abide by the authority of the Caltrans site supervisor or his/her designated representative, the liaison, and the monitor.

14. SITE INSPECTIONS

Coastal commission staff, and other agency staff that the Coastal Commission staff may coordinate site visitation with, shall be authorized to enter the site at any time to observe project activities without prior notice. Caltrans shall ensure that a minimum of two sets of protective gear are available on site at all times (including hard hats, goggles, safety vests, and high visibility rain gear, etc., such as Caltrans deems necessary for the safety of site visitors). If activities are underway that could cause a hazard to site visitors, the site supervisor or designee shall require that these activities be temporarily suspended as soon as practicable, for a reasonable amount of time to allow safe site inspection by Commission and agency staff, and the site supervisor or designee shall accompany staff during such site visits.

15. AUTHORIZED DEVELOPMENT ONLY; PERMIT AMENDMENT REQUIRED

All activities associated with the development authorized herein shall be undertaken in continual conformance with the approved project description and with the terms and

conditions of approval of the permit. Any proposed changes to the approved project shall be reported to the Executive Director. No changes to the approved project shall occur without a Coastal Commission-approved amendment to the coastal development permit, unless the Executive Director determines that no amendment is legally required.

16. PROTECTION OF FUTURE PUBLIC ACCESS

PRIOR TO ISSUANCE OF CDP 1-07-013, Caltrans shall submit written verification that Caltrans agrees to protect and provide continued public access for pedestrians and casual bicyclists, across the new 8-foot-wide, Americans With Disabilities Act-compliant corridor on the eastwardmost side of the northbound Mad River Bridge across Route 101, and to protect and provide continued bicycle access to the 10-foot-wide paved shoulders adjacent to the traffic lanes on each bridge and off-ramp within the subject project area. Any change to these access amenities for pedestrians and/or bicyclists would require an amendment to CDP 1-07-013 and such amendment would not be accepted for processing unless accompanied by a proposal to provide equivalent or superior alternative, ADA-compliant facilities for pedestrian and bicycle crossings of the Mad River on Route 101.

17. FINAL DESIGN

WITHIN ONE YEAR OF COMMISSION APPROVAL OF CDP 1-07-013, Caltrans shall submit a complete application for an amendment of CDP 1-07-013 to incorporate a final Design Plan for bridge rails, signage, fencing, lighting features, and pedestrian corridor landings, for all areas of the project subject to installation of these elements. No architectural lighting shall be included, and only the lighting necessary to meet traffic safety standards shall be included. Minimal safety lighting and/or emergency call boxes at the pedestrian landings may be included, provided the fixtures would not cast light into nearby habitat areas or be visible off-site. The Design Plan shall incorporate the lowest profile, most visually permeable designs feasible for these features, consistent with safety requirements and the overall aesthetic designs of the bridge. The final design plan shall include a wildlife permeable design for off-bridge elements, such as fencing within the right-of-way so that wildlife use of the corridor traversing the Mad River is not restricted. The plan shall include final design features, landscaping elements with low-profile, locally native plants, and erosion control measures, for the pedestrian landings developed north and south of the northbound bridge. Any future changes to the final Design Plan Plan approved by the Commission shall require a further amendment of CDP 1-07-013, unless the Executive Director determines that no amendment is legally required.

18. IMPLEMENTATION OF WETLAND MITIGATION PLAN

A. PRIOR to ISSUANCE OF CDP 1-07-013, the applicant shall submit a final plan for the review and approval of the Executive Director, for all wetland mitigation on and off-site, providing full 1:1 mitigation for wetland impacts on site at the Mad River and for an additional 3:1 mitigation for wetland impacts at the Mad River site, to be implemented off-site at the "Old Samoa Parcel." The mitigation on site shall provide for wetland creation at a 1:1 ratio to wetland loss. The 3:1 mitigation at the off-site location may involve

enhancement of seasonal wetlands to riparian vegetation. The final plan shall include physically and ecologically compatible, to-scale restorative grading and planting plans appropriate for the Mad River setting and for the mitigation goals of the off-site mitigation location, and shall include a monitoring and adaptive management program, performance standards sufficient to adequately evaluate progress of the mitigation project, success criteria, milestones, reporting schedules (reports should be submitted at least once per year commencing by January 1 of the first year after construction is completed), quarterly hand-weeding schedules for the first two years after planting, and as needed to prevent the invasion of the mitigation area with non-native species thereafter, and erosion control measures to ensure site stability during the establishment of plantings. Monitoring shall be required for a minimum of five (5) successive years after the initial plantings are installed, and shall continue thereafter for a minimum of three (3) years after success criteria are fulfilled without additional adaptive management measures. If no adaptive management is required after year two following initial installation of the plantings, then the monitoring could be terminated after the fifth successive year of monitoring. However, monitoring, adaptive management, and continued monitoring, etc., shall continue until the applicant demonstrates to the satisfaction of the Executive Director that the success criteria have been fulfilled and the wetland mitigation habitat is self supporting and stable.

B. The final wetland mitigation plan shall include standards and methods necessary to ensure that the hazardous wastes (lead-contaminated wastes) identified by Caltrans in the location of the proposed restorative grading to achieve wetland mitigation standards on the Mad River project site have been fully remediated and that all soils and subsoils or areas draining to the subject wetland creation site ("3-parameter") are free of lead contamination and that no biologically or environmentally significant levels of any contaminants remain that could adversely affect the habitat value of the mitigation site. The final plan shall include a requirement that Caltrans verify that achievement standards set forth in the plan have been fully achieved and implemented upon completion of restorative grading but before installation of any plantings and before commencement of any structural construction or pile-driving on-site. The plan shall also include the requirement that if remediation cannot be fully achieved and implemented prior to commencement of any pile driving or other structural development, the applicant shall submit a revised remediation plan and no pile driving or other structural development shall commence at the site without a CDPA approved by the Commission.

C. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

19. AREA OF ARCHAEOLOGICAL SIGNIFICANCE

If cultural remains are discovered, excavation or other ground disturbance shall cease and shall not re-commence until an archaeological plan has been reviewed and approved by the Executive Director. Construction that may further affect the cultural remains may not recommence until an amendment to this permit is approved by the Commission.

20. FINAL PLANS

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-07-013, Caltrans shall submit for the review and approval of the Executive Director two copies of final revised to-scale project plans, including two copies of reduced plans. The plans shall show the final proposal for ADA-compliant pedestrian features, other than aesthetic treatments such as guard rails that will be separately approved, and ensure that the 10-foot-wide paved shoulders are available for bicycle use throughout the project; and

B. Caltrans shall undertake all development in accordance with the approved final plans and with the terms and conditions of CDP 1-07-013. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

21 ASSUMPTION OF RISK

A. By acceptance of Commission approval of CDP 1-07-013, Caltrans acknowledges and agrees: (i) that the site of the proposed Mad River Bridge project including relocated elements of Route 101 to the point of conformity with the existing highway, and the proposed new pedestrian landings on the north and south ends of the pedestrian corridor on the eastward side of the northbound bridge, may be subject to hazards from seismic events, liquefaction, storms, floods and erosion; (ii) to assume the risks to employees and assigns of Caltrans, including contractors and subcontractors and their officers, agents, and employees, and to the public utilizing the proposed project during and after construction, and to the property that is the subject of this permit of injury and/or damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense against such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

22 FUTURE DEBRIS EXPOSURE DUE TO RIVER SCOUR OR EROSION

In accepting the Commission's approval of Coastal Development Permit 1-07-013, Caltrans agrees that if any subsurface debris, such as remnant pilings or portions of the abandoned bridge abutments or other components of the existing bridge that are not fully excavated and removed should become exposed in the future due to river scour or streambank erosion, Caltrans accepts responsibility for undertaking timely removal of such debris, so as to avoid hazards to coastal visitors, streambank erosion, and adverse visual impacts in the Highly Scenic river corridor. Removal of such debris shall require a new coastal development permit.

23 AGRICULTURAL MITIGATION

A. PRIOR TO ISSUANCE OF CDP 1-07-013 the applicant shall purchase and transfer to the California Coastal Conservancy ("Conservancy") Assessors Parcel Number 500-152-003-000 located on Old Arcata Road, within the City of Arcata, and further identified in Exhibit 1, totaling approximately 2.8 acres, and shall pay into an interest bearing trust fund established by the Conservancy for this purpose, subject to a Memorandum of Understanding (MOU) to be executed by the Conservancy and the Executive Director of the Commission for the purpose of preserving and managing the land in perpetuity for community-supported organic agricultural use, funds in an amount necessary to fund capital improvement costs and on-going operational costs associated with implementing and managing the stewardship of the subject parcel to fully realize the high-productivity, community-supported organic agricultural use of the site, as soon as possible, including, but not limited to such related expenses for improvements such as perimeter deer fencing, construction of raised planting beds, installation of a greenhouse, soil amendments, potting and vegetable processing areas, installation of irrigation systems, insurance and maintenance costs, signage, a tool bank and secure tool storage, etc. All interest earned shall be payable to the account. The terms and conditions of the MOU shall ensure that the parcel is preserved in perpetuity exclusively for the purpose described herein, and that the stewardship funds are managed and distributed in accordance with the objective of securing maximum productivity and protection of the agricultural use and solely for that purpose. The draft MOU shall be submitted for the review and approval of the Executive Director prior to its execution; and

B. Prior to transfer of the property to the Coastal Conservancy, the applicant shall ensure that the subject property is free of any contamination that would interfere with the intended agricultural use of the property, and verify that the site does not contain any significant known cultural resources that might significantly limit the intended agricultural use;

25. A. PRIOR TO ISSUANCE OF CDP 1-07-013 the applicant shall provide evidence to the Executive Director's satisfaction that all necessary air quality permits and approvals have been obtained, and that the applicant has a dust management plan in place, with performance standards and monitoring and reporting provisions adequate to prevent emission from the site of elevated levels of fine particulate, including concrete dust, demolition debris, or paints or aerosols, etc.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

26. A. PRIOR TO ISSUANCE OF CDP 1-07-013 the applicant shall submit a final plan for the review and approval of the Executive Director for the excavation, storage and disposal of lead-contaminated soils on site. The plan shall include a map showing where the excavated contaminated soils would be stored if not shipped to a hazardous waste facility immediately after excavation and BMPs applicable to ensuring that contaminated soils cannot migrate from the storage area either through wind-blown dust or runoff from rain water or excessive dust suppression misting. The plan shall include chain-of-custody

procedures for tracking by the applicant of the contaminated materials from excavation to final disposal. The plan shall include provisions that prohibit the re-mixing of the contaminated soils with other materials so as to dilute the lead content to lower levels; and

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

II. FINDINGS

The Commission finds and declares as follows:

A. Overview

Project Setting

The proposed project would construct a pair of new highway bridges and other related improvements on Highway 101, at the crossing of the Mad River. The proposed project is located in Humboldt County, between the City of Arcata to the south and the community of McKinleyville to the north of the bridge, on State Route (SR) 101, between postmiles (PM) 89.1/90.4. The Mad River is tributary to the Pacific Ocean, approximately two miles downstream from the river crossing. (See Exhibits 1 and Exhibits A and B)

The land uses surrounding the project site are large parcels of land designated and zoned exclusively for agriculture, with 60-acre minimum parcel sizes. Humboldt County planning documents, prepared as background for the pending update of the County's General Plan, indicate that the lands surrounding the Mad River contain some of the richest soil in the County. The project site is within the coastal plain, adjacent to the marine terraces of McKinleyville.

The existing bridges offer sweeping views toward the coast and across the wide swath of pasture bottomlands that characterize the area. The lands surrounding the proposed project contain large flat parcels farmed for hay or grazed directly by dairy or beef cattle. A goat dairy farm is located east of the bridge. The immediate views from the bridge are of the river and of the surrounding fields and pastures dotted with distant barns and farmhouses, some of historic significance.

The river banks west of the bridges contain mature willows, alder, and water birch. Some trees are of specimen size. Stands of mature cottonwoods east of the bridge would be avoided. The project would require the removal of vegetation along the west side of the southbound bridge on both the north and south banks.

A stand of fourteen mature Monterey pine trees will be removed adjacent to the southbound Central Avenue on-ramp. Caltrans proposes to replace the trees with a native species such as Bishop Pine (*Pinus muricata*) that would mature to the same mass as the existing pines.

The loss of the mature trees would have an adverse visual impact during the time required for growth of new plantings; however, construction of the bridges on the new western alignment will require the removal of one billboard. The billboard slated for removal is located on the northwest bank of the Mad River immediately south of the southbound onramp. This billboard would not be relocated or replaced elsewhere on the parcel because billboards are not a permitted use on the agriculturally-zoned parcel. Thus, the removal of the billboard will be a permanent benefit to visual resources and will therefore help to off-set the visual

impacts caused by removal of the trees. The proposed plantings of Bishop Pines would eventually diminish the visual impacts of the tree removal as well.

State and federally listed threatened or endangered fish species are found in the Mad River, including coho and Chinook salmon, and steelhead trout. Coastal cutthroat trout, a state species of special concern, may be present. Adult salmonids are known to seek refuge in a deep scour pool at one of the piers of the southbound bridge that is within the river channel. Caltrans proposes to construct a replacement scour pool on the west side of the new bridges, within the Caltrans right-of-way, during the first year of construction, before September 15.

No federal- and state-endangered plant species have been identified in the project area. Nesting by migratory birds will be excluded by installation of exclusionary netting under the decks of the existing bridges during the nesting seasons of the two years (alternated during the total four-year construction period presently estimated by Caltrans) during which the existing bridges will be demolished and removed. The exclusionary netting is proposed to ensure that the bridges can be removed on schedule, which must be coordinated with narrow in-stream construction windows (June 16 – October 14 annually) protective of fish species. The bridges are not used extensively by bridge nesting species according to multiple biological surveys conducted by the applicant's biologists during the appropriate summer nesting seasons, and the existing bridges do not contain openings that bats can enter, so no bat roosting occurs on the bridges.

The proposed project would occur primarily in a previously developed area along Highway 101. Caltrans indicates that cultural remains are not anticipated within the project area. Nevertheless Caltrans is committed to stop work and undertake additional consultation should cultural resources be discovered during construction.

Project Background

The California Department of Transportation (Caltrans) proposes to construct two new replacement bridges at the Highway 101 crossing of the Mad River. Caltrans has determined that the Mad River Bridges are structurally deficient in that neither the northbound nor southbound bridge meet current scour (due to excessive erosion at pier footings), seismic or geometric guidelines. Replacement of the structures is proposed to prevent further degradation of the bridges and to increase highway safety in this key link of the North Coast transportation system.

The proposed project footprint covers a total area of approximately 20 acres overall, and includes a section of existing roadway, as well as portions of adjacent lands. Right-of-way acquisition has been required, including the conversion of 3.4 acres of productive agricultural lands with prime soils, and a residence at the southwest bridge abutment will either be relocated or demolished.

The Mad River bridges consist of two separate bridges carrying two lanes of traffic each north and southbound on Highway 101 between the community of McKinleyville and the City of Arcata to the south, in Humboldt County. The first bridge crossing the Mad River at this location was a covered wood structure constructed in the early 1900's replacing the ferry

system of the late 19th century that provided access across the river. The roadway was converted from a county road to a state highway in 1921 and Caltrans replaced the wooden bridge with a steel truss structure in 1929. The bridge carried both north and southbound traffic until a separate southbound bridge was constructed in 1958 as part of the US Route 101 freeway bypass of McKinleyville. That same year, the northbound bridge was restriped to provide two traffic lanes to accommodate the new alignment. The southbound bridge was seismically retrofitted in 1987. No seismic retrofitting of the northbound bridge has ever been performed. Since 1987, only minor maintenance work activities have occurred on both bridges. The bridges remain in service today.

Caltrans has determined that the northbound and southbound Mad River Bridges are both structurally and seismically deficient. The piers and footings are being undermined by river scour that may be related to upstream gravel removal operations according to Caltrans. The riverbed beneath the northbound bridge has been reduced in elevation by about 15 feet since construction in 1929 and by about 6 feet since construction of the southbound bridge in 1958. Finally, lanes, shoulders, and on- and off-ramp features are all substandard. The geometrics of the current intersection of the Highway 101 and Route 200 (North Bank Road) also fail current geometrics standards and design guidelines. Caltrans indicates that the north and southbound structures have been listed in the Structure Replacement and Improvement Needs (STRAIN) report since 1991 targeting bridge replacement by 1994/1995.

Collision data collected by Caltrans between 1997 and 2002 shows that accident rates at the project site are 2.36 times the state average. While no fatal collisions occurred during that period, 42 collisions occurred. Approximately one-third of the collisions occurred in the Central Avenue off-ramp/Route 200 intersection area. The majority of these broadside collisions resulted from unsafe driving practices, but Caltrans also determined that poor sight distance at these junctures contributed significantly to the accidents.

Specific Project Description

The new bridges will be cast-in-place (CIP) concrete box girder bridges. The bridges will be about 750 feet long, and each bridge will have two 12-foot-wide traffic lanes, a 5-foot-wide inner shoulder and a 10-foot-wide outside shoulder. The new northbound structure will also include an additional 8-foot-wide pedestrian walkway.

Each bridge is wider at the north end to accommodate new takeoff points for merge and exit lanes at the Route 101 intersection with Route 200. The new merge and exit lanes will be moved onto the bridged portion of the highway, to accommodate an improved geometric design. This change increases the overall width of the crossing, however, because the merge and exit lanes are presently incorporated mostly within the highway footprint off the bridge. The new design will significantly improve the safety of driver transitions by reducing the tight lane change exits that presently contribute to accidents at these locations.

The southbound bridge varies from 42.3 feet at its south end to 57.5 feet at its north end. The northbound bridge varies from 51.2 feet at its south end to 86.8 feet at its north end. At the widest combined point, including a gap between the bridges, Caltrans estimates that the overall outside to outside deck will be about 152 feet wide at the northern end. By

comparison, Caltrans estimates that the combined width of the two existing bridges totals about 90 feet in width at the widest (northern) part of the combined bridges (Caltrans staff personal communication May 30, 2007).

The existing bridge has four piers within the banks of the river, below the level of ordinary high water, covering a total area of approximately 810 square feet. The proposed bridges will have three piers apiece within the river (for a total of thirteen seven-foot-diameter piles within jurisdictional waters) resulting in permanent fill for an area of approximately 510 square feet.

Construction and demolition activities for the project will occur in the river and within and adjacent to freshwater wetlands found along the south bank of the river. The project includes new fill of coastal waters (for new bridge piers). The old bridge piers will be removed, resulting in a net reduction of area of fill in the channel of about 300 square feet.

Caltrans presently proposes that mitigation for permanent wetland impacts will occur on-site at a ratio of 1:1 and offsite at a ratio of 3:1, for a 4:1 total mitigation ratio. The project will also generate temporary impacts on wetlands (defined by the Commission's staff biologist as effects lasting less than a year). Mitigation for temporary impacts includes removal of all construction and demolition materials, implementation of revegetation and erosion control plans, and restoration of all disturbed areas to pre-project conditions. Final plans for wetland mitigation will be provided and success criteria for wetland restoration will not be met until a minimum three-year period with no remedial actions is achieved.

Approximately 124,000 cubic yards of total grading will be required for the project. Caltrans estimates that of approximately 19,638 cubic yards of cut, about 4,850 cubic yards will be used for fill on site and about 14,800 cubic yards would be exported and disposed in a manner that Caltrans proposes to leave to the discretion of the subsequently selected contractor. Approximately 90,000 cubic yards of total fill will be placed, including the 4,850 cubic yards of material re-used from cut and approximately 85,000 cubic yards of imported fill. An undetermined amount of the material to be exported is lead-contaminated and requires hazardous waste disposal.

According to Caltrans staff (May 30, 2007), all hazardous waste issues investigated in the project site have been found to be insignificant except Aerially Deposited Lead (ADL). A preliminary site investigation in June 2005 found ADL on the project site. The investigation did not cover all areas of known contamination however, only those where lead contaminated soils will be removed (in the northeast quadrant of the site).

4-year Construction Period

Caltrans indicates that construction is expected to require at least four years, but two-way highway traffic will continue unaffected throughout most of the construction period.

Bicyclist and Pedestrian Amenities

Bicyclists are allowed to use the existing bridges, but the narrow shoulders make the crossing dangerous for bicyclists. The new bridges will remain available for bicyclists, who may use the 10-foot-wide paved shoulders. Bicyclists may also use the separated 8-foot-wide pedestrian corridor that will be included on the east side of the northbound bridge (and separated from traffic by a guardrail). Pedestrians will be able to safely cross the new bridge and enjoy views to the east of the Mad River, for the first time. The pedestrian crossing leads to landings at each end of the bridge.

Bridge Rail Designs

Caltrans originally proposed bridge rails that included 8-foot-high picket type outer rails along the pedestrian corridor of the northbound bridge to accommodate horses in the pedestrian corridor; however, the proposal to allow horses within the pedestrian corridor has since been dropped due to safety issues associated with the combining horses, pedestrians, bicyclists, and adjacent high speed freeway traffic. Caltrans later proposed ST-10 or ST-20 type outer rails, topped with bike rails. Caltrans also recently proposed architectural lighting treatments along the pedestrian corridor.

A conceptual rendering of the bridge rails and lighting elements most recently suggested by Caltrans is shown in Exhibit C, which shows a reduced height for the pedestrian side rail feature. Caltrans has since withdrawn from present consideration any specific proposal for the bridge rails and lighting, has agreed to remove the architectural lighting (but must keep the traffic lighting required by safety standards), and has further requested that a final plan for bridge rail designs be submitted to the Commission for final review and approval as a permit amendment within one year from Commission approval of CDP 1-07-013. This sequence would allow Caltrans to consider the new rail design that has been conceptually developed for the Ten Mile Bridge (CDP 1-06-022), which was similarly conditioned to allow the applicant a full year after Commission review and approval for preparation of a final bridge rail design (the submittal is due by mid-June of 2007).

Agricultural Lands. The proposed project requires an expansion of Caltrans' right-of-way north and south of the Mad River to accommodate the westward shift and widening of the bridges and ramp features. To that end, Caltrans has purchased some of the required acreage and is in the process of acquiring the remainder. The lands needed contain some of the most productive soils in the County, associated with the alluvial plain of the Mad River. At least two acres of the lands required for the project on the north side of the river are designated prime agricultural lands and have soil ratings that qualify as prime. The additional 1.4 acres of agricultural land required south and west of the highway may also have prime soils. A total of 3.4 acres of agricultural land will be permanently converted to highway use by Caltrans.

Caltrans proposes to purchase and transfer to the Coastal Conservancy a 2.8-acre parcel adjacent to Old Arcata Road, near the Sunny brae neighborhood within the City of Arcata.

The proposed mitigation site is zoned for agriculture, is of a reasonably similar size to the acreage lost to the Mad River Bridges project (small agricultural parcels situated in a manner that affords appropriate agricultural stewardship, within a reasonable proximity to the

affected area, and in or close to the coastal zone, are extremely rare), and is at risk of conversion to residential use (the listed for sale as a potential estate "dreamhome" site), and water and sewer services have become available within the past year.

The proposed mitigation site shares a border with the Arcata Educational Farm, a two-acre community-supported farm and teaching garden where Humboldt State University holds organic agriculture classes. The farm is located within the 3.5-acre Bayside Park owned by the City of Arcata. The park was set aside by the City primarily for agricultural use themes, according to City staff. Thus, joint stewardship of the mitigation parcel may be feasible and the use of the site for agriculture has already proven compatible within the surrounding residential neighborhood.

B. Public Coastal Access and Recreation

The Coastal Act provides the following:

Section 30210. In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211. Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212.

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

- (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,
- (2) Adequate access exists nearby, or,

. . .

- (c) Nothing in this division shall restrict public access nor shall it excuse the performance of duties and responsibilities of public agencies which are required by Sections 66478.1 to 66478.14, inclusive, of the Government Code and by Section 4 of Article X of the California Constitution.

Section 30213. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred

Section 30214.

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

- (1) Topographic and geologic site characteristics.
- (2) The capacity of the site to sustain use and at what level of intensity.
- (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
- (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

(b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution .

. .

Caltrans proposes to replace the existing bridges that carry highway traffic across the Mad River on Highway 101 for safety reasons, as stated above. The bridges have outlived their design lives, are structurally and seismically deficient, and are being undermined by scour of the riverbed that has lowered the stream channel beneath the bridges as much as fifteen feet in one area, since 1929. All alternatives to the project considered by Caltrans include replacing the bridges with new, wider bridges that incorporate current safety standards. Only the “no project” alternative would preserve the existing bridges. However, if the bridges are left in place, one or both will eventually fail.

The Highway 101 Bridge over the Mad River is approximately two miles inland from the ocean, but is the first, or western-most, road crossing of river. In addition, the next crossing of the river is approximately two miles further upstream from the Highway 101 Bridge. Thus, failure of the Highway 101 Bridge would severely impede the ability of the public to access the coast on opposite sides of the river. In addition, this portion of Highway 101 is classified as a Principal Arterial on the National Highway System. This segment of highway serves interregional and interstate traffic and provides the key transportation gateway for local residents and visitors traveling to a wide variety of coastal access and recreation destinations along the northern California coast. Coastal access opportunities would be severely compromised if the bridge replacements did not occur and the bridges were allowed to fail.

In addition to protecting the integrity of the highway link provided by the bridges, the proposed project would include significant public coastal access amenities. The Coastal

Trail is not located within the proposed project site, but this section of Highway 101 is designated as the Pacific Coast Bike Route. The widened shoulders and separate pedestrian pathway proposed on the new bridges would significantly enhance safety for bicyclists using the Pacific Coast Bike Route which would provide a safe pedestrian crossing of the bridges for the first time.

Caltrans proposes to construct a pedestrian crossing on the east side of the northbound bridge (see conceptual illustration in Exhibit C). The crossing would be eight feet wide and would be tied to landing areas at each end of the bridge. Caltrans proposes to complete the pedestrian walkway, and to install the guard rail separating pedestrians from the paved shoulder and traffic lanes, outer pedestrian rails, and other safety features, by the end of the construction period. Caltrans staff confirmed on the request that Caltrans proposes to construct the bridge corridor in a manner that will be fully compliant with the requirements of the Americans with Disabilities Act. Caltrans states that the ADA requires that the pedestrian corridor on the bridge be a minimum of five feet in width, to accommodate wheelchair access. Caltrans also confirmed on request that Caltrans will open the pedestrian corridor to the public by the end of the construction period and that the corridor would remain open permanently.

The pedestrian corridor would not only provide a safe pedestrian link between the outskirts of Arcata and McKinleyville, but would also give pedestrians significant separation and protection from traffic. These features would make it possible for people walking across the bridge to enjoy the eastward views of the Mad River corridor. Aesthetic issues associated with the final design of the rails and other features are discussed in the visual resources section below.

The southbound (coastal side) Mad River Bridge will not have a pedestrian corridor. The proposed bridges will increase the paved width of the bridge crossing significantly, and Caltrans determined that it was not feasible to put the pedestrian corridor on the west side of the crossing or to incorporate a crossing on each side of the corridor due to ingress and egress issues that would have required, among other things, acquisition of additional lands from property owners. Caltrans determined that the landings at each end of the bridge could be better accommodated within Caltrans' existing right of way (the bridge alignment is shifting to the west).

Special Condition 16 requires Caltrans to permanently protect and provide permanent public access for pedestrians and non-motorized vehicles on the proposed pedestrian crossing on the eastward side of the northbound Mad River Bridge crossing. The condition also requires Caltrans to permanently provide access to the 10-ft.-wide paved shoulders on the bridge decks for access by bicyclists. The Commission finds that Special Condition 16 will ensure that public coastal access amenities included in the applicant's proposal will be provided consistent with the pertinent policies and provisions of Chapter 3 of the Coastal Act.

Conclusion

The Commission finds that as the proposed bridge replacement project as conditioned will (a) maintain a critical crossing of the Mad River for providing coastal access to the coastline

in the local area, (b) maintain an essential link in the Pacific Coast Bike Route and the key interregional and interstate highway serving the North Coast that provides bicycle and vehicular coastal access to the coastline in the broader region, (c) include a separated pedestrian walkway that will provide safe pedestrian access across the bridge for the first time, and (d) greatly improve safety for bicyclists that use the bridge, the proposed project, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act concerning public coastal access and recreation.

C. Visual Resources

The Coastal Act provides the following:

Section 30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The proposed bridge replacement will remove the unmatched pair of aging bridges and replace them with a unified design for bridge rails and other features. The new bridges will have a significantly wider total area of bridge and ramp deck, and will make it more difficult for drivers to gaze directly down onto the river and its banks. However, the new northbound bridge will have an 8-foot-wide pedestrian corridor that will for the first time offer safe crossing to pedestrians who could enjoy the eastward river views from the bridge deck.

Temporary visual resource impacts will occur during construction due to cut and fill earthwork, vegetation removal, and the presence of equipment in the construction and staging areas. These impacts would be adverse in the short-term, but long term restoration will occur through re-planting with locally native plant materials and stock (except where agricultural operations otherwise occur, and these will be planted in accordance with the property owner's agricultural use).

In addition, the large billboard in the pasture immediately west of the southbound bridge will be permanently removed to make room for the new bridges, and Caltrans purchased the development rights to the billboard. Caltrans and Humboldt County staff have evaluated whether a replacement billboard could be installed by any surrounding agriculturally-zoned property owners and have determined that billboards are not an authorized use on agricultural lands. Therefore, the removal of the billboard will be a permanent benefit to the visual resources of the project setting.

Caltrans has not proposed final designs for bridge rail, lighting, and signage features, but has agreed to remove architectural lighting that was initially proposed along the walkway. This

will reduce the potential light pollution of the night sky, and minimize the illumination of habitat areas near the bridge.

The Commission has raised concerns in the past about the aesthetic features of guard rails and other highway barrier structures. To better address these concerns and to resolve design issues that have delayed final bridge rail design selections by Caltrans headquarters, Caltrans has withdrawn any specific guard rail design (though the most recent conceptual design for the northbound bridge/pedestrian corridor is shown in Exhibit C) from consideration and requests instead that a final design plan be submitted as an amendment to CDP 1-07-013, within a year following Commission approval.

The coastal development permit granted for the Ten Mile River Bridge on Highway 1 in Mendocino County (CDP 1-06-022) similarly was conditioned upon the bridge railing design being submitted as an amendment to the permit. The primary benefit of the extra time for that review was the opportunity that was afforded for Caltrans and the Commission's bridge rail design ("Road's Edge") subcommittee to evaluate a variety of design options that meeting criteria set forth by the Commission in advance.

The Road's Edge subcommittee may be available to review the options for the rails and other aesthetic features of the final Mad River Bridges design or, if not, additional time for further review by Caltrans and Commission staff would be provided by the extended schedule, and a further public hearing would be required, allowing the Commission to receive public input on the final designs as well. One issue that remains to be determined is the height of the rail on the outermost edge of the bridge. To afford pedestrian users the best possible views, including looking down on the river corridor, a lower bridge rail would be preferred. However, contemporaneous use of the pedestrian corridor use by bicyclists may warrant a higher bike rail than would be required for a pedestrian corridor alone. Such tradeoffs between aesthetics, visual permeability, and safety that would be better resolved with more time to develop options than is presently available. The additional time would not delay other aspects of the project, as the railing is a feature that can be added on to the bridge deck after the deck is constructed. The Commission finds that in light of the benefits afforded by additional time for design and operational considerations that may affect the rail choices for the Mad River Bridges, Special Condition 17 is appropriate to allow Caltrans to submit in the form of an amendment to CDP 1-07-013, within one year after Commission approval of the permit final design plans that meet the criteria set forth by the Commission in Special Condition 17.

Therefore, the Commission finds that as the proposed project, as conditioned will (a) require final rail and other aesthetic features of the bridge be submitted as an amendment to CDP 1-07-013, (b) protect permanent public access to the pedestrian corridor viewing opportunities, (c) protect bicycle access to the 10-ft-wide paved shoulders on each bridge where coastal views are available to bicyclists on the Pacific Bike Route, (d) require the restoration and replanting of all disturbed areas following completion of construction, and (e) will remove without replacement an existing billboard that blocks coastal views and is not compatible with the character of the surrounding area, the project as conditioned will protect views to and along scenic coastal areas and be compatible with the character of the area consistent with Section 30251 of the Coastal Act.

D. Conversion of Agricultural Lands; Cumulative Impacts

1. Coastal Act Policies

The applicable policies and provisions of Chapter 3 of the Coastal Act include the following:

Section 30241:

The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the area's agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

- (a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.
- (b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.
- (c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.
- (d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
- (e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.
- (f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

Section 30242:

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless:

- (1) continued or renewed agricultural use is not feasible, or
- (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

The Coastal Act defines "prime agricultural land" as land that meets one or more of the following, as referenced in paragraphs (1) through (4) of Section 51201(c) of the California Government Code:

- (1) a rating as class I or class II in the Natural Resource Conservation Service land use capability classifications;
- (2) a rating 80 through 100 in the Storie Index Rating; or
- (3) the ability to support livestock used for the production of food and fiber with an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture; or
- (4) the ability to normally yield in a commercial bearing period on an annual basis not less than two hundred dollars (\$200) per acre of unprocessed agricultural plant production of fruit- or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than five years.

In addition, Coastal Act Section 30250 requires consideration of the cumulative impacts of development (defined in Coastal Act Section 30105.5) as follows:

"Cumulatively" or "cumulative effect" means the incremental effects of an individual project shall be reviewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Section 30250 states in pertinent part:

- (a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources...

2. Background

a. Loss of Prime Agricultural Lands.

Section 30241 set forth above establishes measures designed to preserve prime agricultural lands to protect the area's economy, and establishes a series of measures to reduce conflicts between agricultural and urban land uses. Section 30242 also limits the conversion of agricultural lands. These policies provide for the protection of the maximum acreage and productivity of lands with prime agricultural soils.

Maintaining the maximum amount of prime land in agricultural use is of utmost importance in protecting the agricultural economy. The linkage between prime land production and local agricultural economy is directly stated in the first clause of Section 30241: "the maximum amount of Prime agricultural land shall be maintained in agricultural production . . . to assure the protection of the area's agricultural economy." This precept reflects the fact that the productivity of prime land is often a key economic factor in the overall agricultural viability of an area.

Caltrans has determined that the subject lands are considered prime agricultural land pursuant to the Coastal Act definition set forth above. The “Mad River Bridges Replacement Project, US Route 101, Negative Declaration and Initial Study” dated June 2005, prepared by Caltrans, states on page 17:

“... The soils within the project limits include Prime agricultural soils, identified in the Soils of Western Humboldt County, California, November 1965. Soils in the project vicinity are mapped as Ferndale 2 with a very small portion mapped as Ferndale 13. The Ferndale series are generally characterized as having medium texture, well-draining soils of recent alluvial origin. The Ferndale 2 soils have a high nutrient capacity and a favorable moisture holding capacity. The soils are rated 100 in the Storie Index, which is categorized as prime agricultural soils. The Ferndale 13 soils are located along the banks of the river and are of mixed textural composition. Most of these areas are subject to frequent annual flooding and the soil material ranges from deep to shallow, normally hummocky or channeled. This soil type is separate from riverwash because of the agricultural potential where flooding can be controlled. The Storie Index rates this soil as Variable.”

Therefore the Commission concludes that the lands in question are prime agricultural land as defined by the Coastal Act.

b. Impacts of Conversion of Agricultural Lands

Prime agricultural lands are the “engine” of a healthy agricultural economy and typically offer the most return on farming or ranching investment. As noted below in an article written by a Humboldt County farmer in April 2007, one acre of high quality bottomland pasture in Humboldt County, for example (which may not even have soils or other measures that qualify as “prime”) is worth 20 acres of rangeland in the hills. An acre of agricultural land with prime soils is potentially more productive than any other kind of open field agricultural property – particularly if irrigation is feasible.

The project proposed by Caltrans requires the permanent conversion of 3.4 acres of lands with prime soils in the Mad River floodplain. The lands are located along strips of the highway footprint and are needed to realign the highway toward the west when the Highway 101 bridges over the Mad River are replaced. The lands that would be converted are actively grazed by cattle, or farmed for forage, or both. Seasonal irrigation has been observed on the parcels on the northern end of the crossing, on both sides of the highway. Humboldt County planning documents indicate that the lands in the Mad River flood plain contain some of the richest soils in the County.

The “Negative Declaration” prepared by Caltrans in 2005 states on page 16:

“...US Census of Agriculture (1997) information indicates approximately 650,000 acres, or more than 25 percent of the total acreage in Humboldt County, was in agricultural use (excluding timber) in 1982. The county has experienced the loss of 3,000 to 5,000 acres of farmlands annually since 1964 due to conversion to non-agricultural uses.

Based on this information only, Humboldt County may have lost between 99,000 – 165,000 acres of agricultural land in the 33 years from 1964 to 1997. Put another way, by 1997, Humboldt County may have lost as much as 65,000 acres of agricultural lands – or as much as ten (10) percent of the agricultural lands that were in production only 13 years earlier. Considered still another way, the rates of agricultural land conversion in Humboldt County, as disclosed by the US Census of Agriculture data quoted by Caltrans in the “Negative Declaration”, suggest that, if persisting at the higher range of the rate of conversion, in the ten (10) additional years since the 1997 data was published, Humboldt County may have lost as much as 50,000 additional acres of agricultural land.

Considered in yet another way, as projected from the 5,000 acre/year rate of loss at the upper end of the range identified by Caltrans in the 2005 “Negative Declaration” – by 2007 Humboldt County may have lost as much as 215,000 acres of agricultural land since 1964. Of the 650,000 acres of agricultural land that Humboldt County claimed back then, fully one-third of these lands may have been converted to other uses.

The “Negative Declaration” also states (page 16):

“...Dairy farming and milk production is the largest industry in Humboldt County, with nursery, livestock, and field crop production following. Humboldt County dairies produce about one percent of the state’s total supply of milk. California is ranked number 1 for milk production in the United States.”

As noted above, the “Negative Declaration” established that Humboldt County has been losing as much as 5,000 acres of farm land per year since 1964. While a simple reading of these numbers might indicate that the loss of an acre or two of agricultural land here or there is insignificant, the trend toward conversion of agricultural lands is clearly significant and can best be explained by the cumulative losses of agricultural lands that are in finite supply and subject to increasing demand for conversion to residential and other use.

The “Agricultural Resources Report” prepared in August, 2003 by Humboldt County Department of Community Development Services as part of the Humboldt County General Plan Update, notes that of the applications for subdivisions processed by the County since 1985, 29% (152 applications) have occurred in an agricultural resource zone.

Humboldt County organic farmer John LaBoyteaux, writing on April 10, 2007 in the “Farmer’s Almanac” of the Eureka Times-Standard (www.times-standard.com), discussed his view on the adverse impacts of cumulative losses of agricultural land in Humboldt County at a time when agricultural enterprises appear to be experiencing new vitality and need more agricultural resources. The article indicates that Mr. LaBoyteaux has farmed in the Eel River Canyon since 1980, served five years on the Humboldt County Resource Conservation District, served as president of the Humboldt County Farm Bureau from 2004-2006, and currently chairs the County Williamson Act Advisory Committee:

... approximately one-third of the feed required by our dairy industry must be imported to Humboldt County. There is simply not enough available cropland to raise the needed feeds for this industry (\$42.5 million gross sales in 2005).

An acre of bottom-land pasture, including reclaimed tidelands, has a livestock carrying capacity equal to 20 or more acres of rangeland in the hills. (Carrying capacity is generally the number of cattle or cow/calf pairs that can be sustained on pasture or rangeland with little or no supplemental feeding.) Our beef and livestock industry (\$24 million gross sales in 2005) shares and sometimes competes for the same lands used for dairy or crop production.

Humboldt County's agriculture Industry supports and depends upon an infrastructure of support services, including material suppliers, equipment dealers, transportation providers, processors and marketers. The contribution of these businesses to the economy of Humboldt County and the employment of Humboldt County families is not reflected in the \$326 gross sales of agricultural products.

Humboldt County agriculture is much more, and it's expanding. Nursery production has moved ahead of dairy in gross sales. At the same time, there is a resurgence of dairy production through conversion to organic practices, which provides considerably greater return per unit of milk for the dairymen.

The Humboldt Creamery now sells premium organic ice cream nationally. Cattle ranchers delivering to new local brands such as Humboldt Grassfed and Eel River Organic are developing specialty markets for Humboldt beef. Cypress Grove Chevre distributes Humboldt Fog and other cheeses to every state in the country. Local produce is sold through 15 growing farmers markets throughout the county and retail outlets like Northcoast Coop, Eureka Natural Foods, Murphy's Markets, Ray's Markets and various smaller stores and restaurants.

About a dozen row-crop farmers export produce to regional markets in San Francisco and the Sacramento Valley. The Community Alliance with Family Farmers is linking local farms with schools and institutions to improve the quality of foods our children eat in school.

Unfortunately, a decreasing land base threatens the future of local small farms like mine and every other type of agriculture in Humboldt County. The Humboldt County General Plan Update, Agricultural Resources Report is quoted below.

The article points out that there is a tension between the trend in growth of the County's beef and dairy industries, and the finite supply of the pasture and forage lands to supply feed and pastureland forage for these industries. Humboldt County is now a net importer of hay needed to sustain the base of its agricultural economy. The article also notes that bottomland pasture is highly productive for grazing, and supports as many animal units as 20 acres of rangeland in the hills could.

The Humboldt County “Agricultural Resources Report” cited above states (p. 1-3)

“... The highly productive delta soils of the Mad River and the Eel River, north and south of Humboldt Bay respectively, provide the basis for significant agricultural resources....These regions can be characterized as prime agricultural soil, flood plains, deep loam soils ranging in sand and clay content... The cities of Arcata...and the unincorporated area of McKinleyville, are all located on prime agricultural soil. Proximity to market and soil quality spotlight all these regions as prime for small market farms, but land prices are high.”

The report further notes that issues associated with the agricultural lands near McKinleyville (the subject site is located just south of the southerly most extent of the unincorporated McKinleyville area) include:

“...Grazing diminished with the expansion of housing and mini-ranches. Protection of AE (Agriculture Exclusive) lands supports the opportunity for specialty ag enterprise and the steady growth of organic blueberries and nursery farms.

Thus, the Commission concludes that agricultural grazing or forage production lands in areas of prime soils, where irrigation is feasible (the subject properties have irrigation potential, and the hay fields cultivated north of the bridge crossing have been under irrigation during past site visits by staff), have very high value for the dairy and beef industries.

The proposed project would permanently convert 3.4 acres of these lands, with prime soils, to other non-agricultural use for the realigned highway and bridges. As noted above, these lands may have an equivalent value to almost 70 acres of upland rangelands. For every acre of grazing or pastureland lost, the local dairy and beef industries must import more hay from distant sources. As energy prices increase, the cost of transporting tons of hay from distant producers will rise. The share of feed costs represented by the transportation component will continue to rise. Thus, the value per acre of local grazing and pasturelands, which are in limited, and in declining supply due to increased pressure for subdivisions and other converted uses, will likely rise.

Thus, the Commission finds the loss of the subject 3.4 acres of prime agricultural land, while individually a small amount of land, nonetheless on a cumulative basis is significant and adverse within the meaning of the provisions of Section 30250(a) cited above

The Commission also finds, for the reasons discussed above, that the lands that would be permanently converted by the proposed project contain prime soils considered to be among the most productive in Humboldt County. The article excerpted above (LaBoyteaux 2007) noted that there is more demand for productive land among the small farmers in the County than the available supply can support. Moreover, the long term trends documented since 1964 clearly show that whether by conversion of small acreages or division of large ranches, a strong trend toward the cumulative loss of agricultural land exists in the County and may begin to limit the prospects for expansion of the agricultural economy.

c. Alternatives Considered

Caltrans has evaluated a range of alternatives for the highway project, including various alternative alignments. The project setting is surrounded by agricultural properties, however. The project traverses large agricultural parcels owned by a single owner on the north side of the Mad River and a single owner on the south side of the Mad River. Shifting the alignments only shifts the footprint of the project onto other areas of agricultural land with prime soils.

Caltrans had considered returning a portion of the lands within the footprint of the existing highway corridor in the project area to agricultural use after demolition and removal of the bridges and roadbed at the time the “Negative Declaration” was published in 2005. Since then Caltrans has determined that the better use of the right-of-way property would be for wetland mitigation on site. Therefore, the project will permanently convert all 3.4 acres of land needed for the proposed project without any on-site offsets to reduce the net acreage converted. Thus, the proposed project will unavoidably and permanently convert 3.4 acres of prime agricultural lands to non-agricultural (highway) use.

With regard to the first part of the Section 30250(a) test: Commission staff asked Caltrans staff in 2005 to explain why the “Negative Declaration” did not identify and evaluate an alternative to “recycle” the footprint of the existing bridges and highway alignment (which might have combined the bridges into a single bridge and reduced the footprint or eliminated one of the sets of piers in the channel of the Mad River).

Caltrans staff responded that the agency had considered that option in the very earliest stages of project development, but concluded that it would not be feasible because the high volumes of high-speed, through-traffic carried by Route 101 (which is an interstate freeway), including large commercial truck rigs, could not be safely accommodated during construction.

Caltrans determined that closing one bridge at a time and necking traffic lanes down to one lane in each direction during construction could back up traffic for miles at times, and would likely lead to a significant increase in stop-and-go or rear-end collision accidents. In addition, Caltrans considered that drivers seeking alternative routes to avoid delays would overwhelm other surface streets that were not designed to carry the increased volumes of traffic, displacing traffic hazard to other locations that might be even more dangerous.

Caltrans concluded that traffic delays and increased accident risks, when considered over the four-year construction period Caltrans believes will be necessary to complete construction, rendered that option unacceptable for safety reasons, and therefore infeasible. This alternative was therefore dropped by Caltrans before environmental review of the surviving alternatives commenced.

Caltrans developed a range of other potential alternatives, but all required that the highway footprint be realigned outside of the existing highway corridor and onto adjacent agricultural lands, either on the east or west side of the existing corridor. This is so in part because the right-of-way containing the highway footprint in this section of Highway 101 is relatively narrow.

d. Proposed Mitigation

Caltrans initially considered offsetting the loss of agricultural land from the project by returning lands recovered from highway demolition after the realignment and new bridges were constructed. However, that offset is no longer proposed. Caltrans also considered paying a fixed sum per acre into an in-lieu fee program in an amount of \$10,000 per acre, or \$34,000 for the overall impacts of the project on agriculture. Caltrans indicated in the “Negative Declaration” (p. 37) that:

“... Due to the difficulties of obtaining small parcels of land in the area, Caltrans will contribute funds to a land trust comparable to the market value (then 1 acre) being displaced. Caltrans will work with the County to identify an appropriate organization to receive the funds.”

However, paying an in-lieu fee in such a case is unlikely to yield mitigation of agricultural impacts. While it is possible to buy larger holdings of agricultural lands without development rights for that amount per acre, acquisition of such lands, even in a large mitigation ratio, would not automatically achieve mitigation because a net loss of acreage in agricultural use would still result.

Caltrans, in considering this information, has identified a relatively unique property with the potential to achieve true agricultural mitigation benefits. Caltrans has revised the proposed project description to offer mitigation via the purchase of a 2.8-acre parcel of land zoned agricultural but with high potential for residential conversion presently.

The proposed mitigation site offers several features that increase its potential value for agriculture. The small parcel is of a similar size (2.8 acres) to the agricultural lands that would be converted (3.4 acres) to construct the Mad River Bridges project. Caltrans noted in the “Negative Declaration” that one reason the agency wanted to pay an in-lieu fee was that locating small agricultural parcels suitable for mitigation is difficult. The parcel is located within the City of Arcata, immediately adjacent to the City of Arcata’s Bayside Park and Arcata Educational Farm (the Park is a 3.5-acre parcel and the Arcata Educational Farm uses about 2 acres of the total area. Within the past year water and sewer services have become available on the site and access issues concerning entitlements to use the driveway have been resolved.

Given its location, the site could be managed as an intensively farmed organic Community Supported Agricultural model and could possibly be jointly managed, or planned with, the Arcata Educational Farm. The proposed mitigation site shares a border with the Arcata Educational Farm, a two-acre community-supported farm and teaching garden where Humboldt State University holds organic agriculture classes. The farm is located within the 3.5-acre Bayside Park owned by the City of Arcata. The park was set aside by the City primarily for agricultural use themes, according to City staff. Thus, joint stewardship of the mitigation parcel may be feasible and the use of the site for agriculture has already proven compatible within the surrounding residential neighborhood.

The City's parcel, which is located between the proposed mitigation parcel and the neighboring Sunnybrae Middle School, could also provide an access link between the school, the City's Arcata Educational Farm, and the proposed agricultural mitigation site, further facilitating agricultural education.

The proposed mitigation parcel, if managed according to an appropriate stewardship arrangement and funded to ensure that costs for necessary improvements and ongoing overhead are covered so that there are no delays in implementing the mitigation due to the need to do extensive fundraising, etc.(especially in the beginning), could equal or perhaps even exceed the productivity of lands that will be lost (although larger in size, the lands required for the Mad River Bridges are grazed or hayed presently).

A further benefit of community-supported agriculture on the proposed site is that the food crops grown could be distributed directly to subscribers or the site could be accessed for community gardens by residents within walking or bicycling distance, thereby reducing the vehicle miles traveled – an indirect mitigation of the vehicle use associated with the highway bridges project – as well as a move in the direction of reducing greenhouse gas emissions associated with crop transportation from more distant locations.

The mitigation parcel is about one-half of an acre smaller than the amount of agricultural land that will be converted for the highway, and though that might seem insufficient, the unique features and context of the proposed mitigation site discussed above, increase the site's potential for intensive cultivation of organic produce under appropriate stewardship. Caltrans staff noted that the 2.8-acre parcel could be managed in such a way that it would become "prime-plus" in terms of comparative productivity.

Upon conclusion of the purchase process, Caltrans will transfer the agricultural mitigation property to the Coastal Conservancy and fund the agricultural stewardship trust for custodial management by the Conservancy (an MOU signed by the Conservancy and the Executive Director would be approved and executed in advance). Caltrans has not proposed a specific level of stewardship funding, i.e., ongoing operational costs or an amount to cover the cost of necessary capital improvements. The Coastal Conservancy staff has confirmed that the Conservancy would assist with the land transfer arrangements, which would include taking title to the property and assisting with the completion of the legal requirements associated with placing deed restrictions and affirmative agricultural easements on the mitigation parcel. The Conservancy has a long history of successful management of similar matters for land conservation and mitigation projects, including agricultural conservation projects.

3. Analysis

H. California Environmental Quality Act (CEQA)

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements 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 which the activity may have on the environment.

The Commission incorporates its findings on conformity with Coastal Act policies at this point as if set forth in full. 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. As discussed above, the proposed project has been conditioned so as to be found consistent with the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been made requirements of project approval. 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 may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

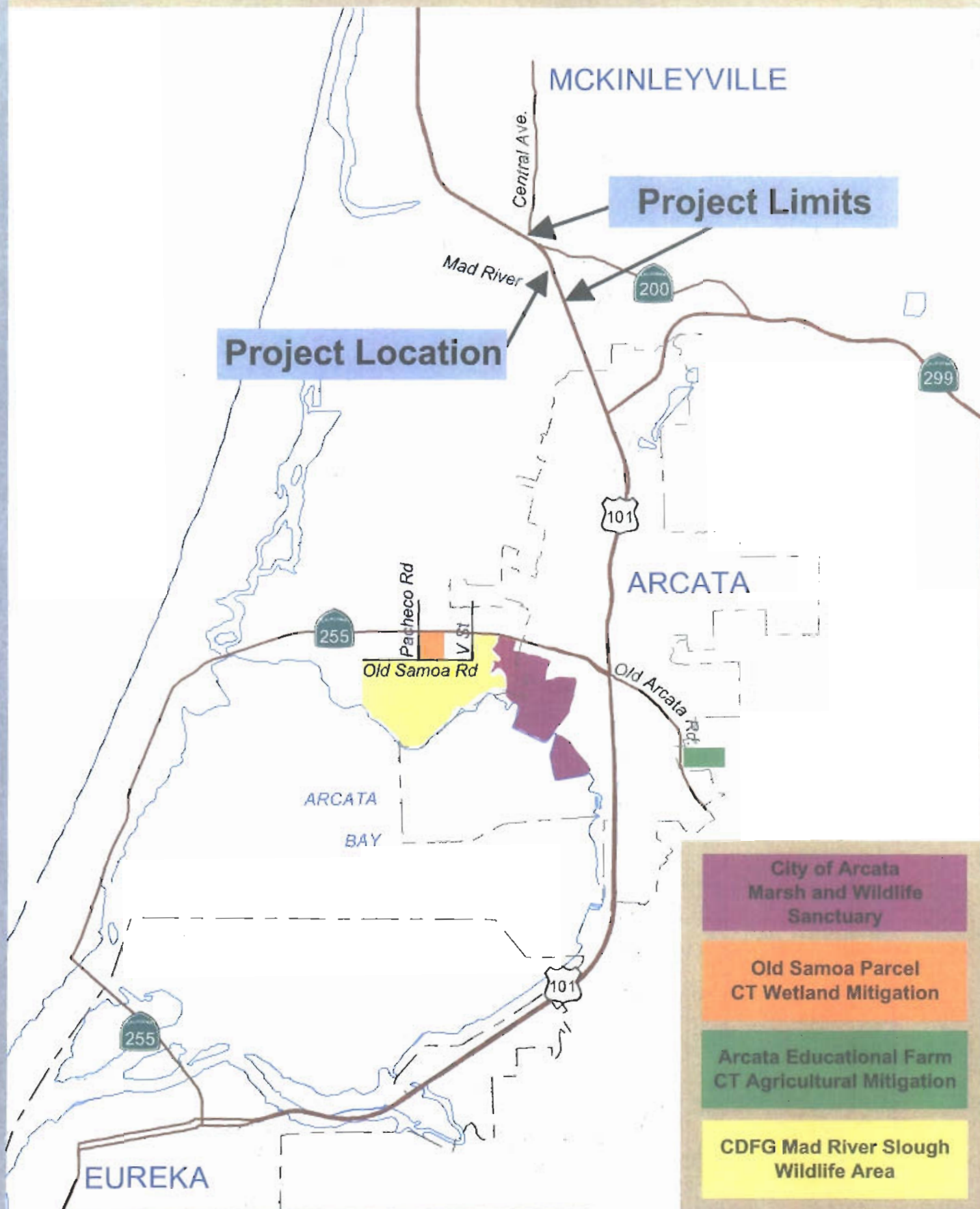
EXHIBIT 1

APPLICATION NO. 1-07-013 – California Department of Transportation

Page 1 of 7	LOCATION MAP AND MITIGATION FEATURES
Page 2 of 7	DETAILED MITIGATION FEATURES
Page 3 of 7	AERIAL PHOTO OF PROJECT LOCATION
Page 4 of 7	EXISTING MAD RIVER BRIDGES
Page 5 of 7	AERIAL PHOTO WITH AGRICULTURAL CONVERSIONS SHOWN
Pages 6 & 7 of 7	SERVICE STUDY AREAS NEAR PROJECT LOCATION

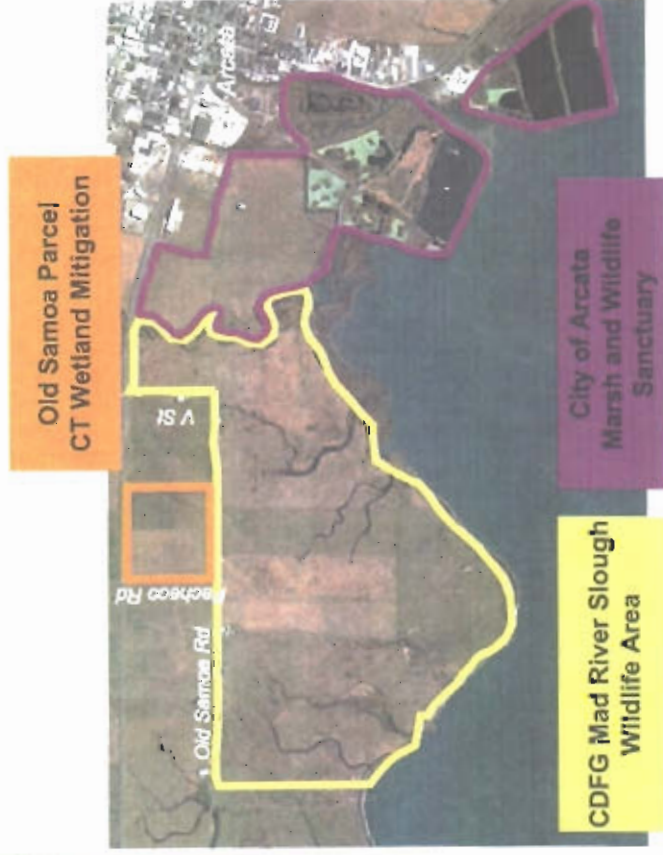


Mad River Bridges Replacement Project





Mad River Bridges Replacement Project





The Mad River **Bridges** project is located on U.S. Highway 101. The project is approximately 3 linear miles southeast of the mouth of the Mad River, and 4 $\frac{1}{4}$ river miles from the mouth.

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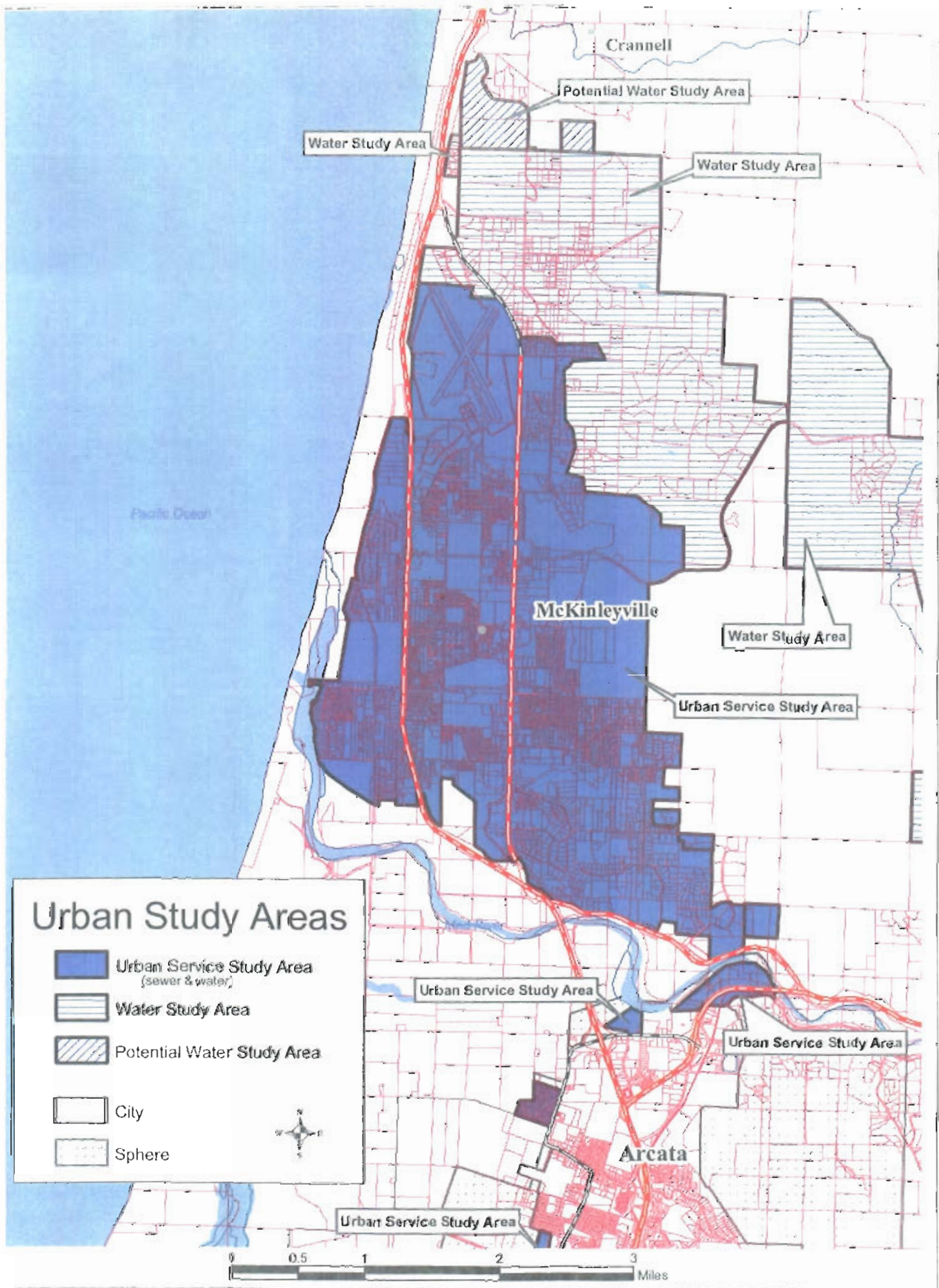
CALIFORNIA
COASTAL COMMISSION

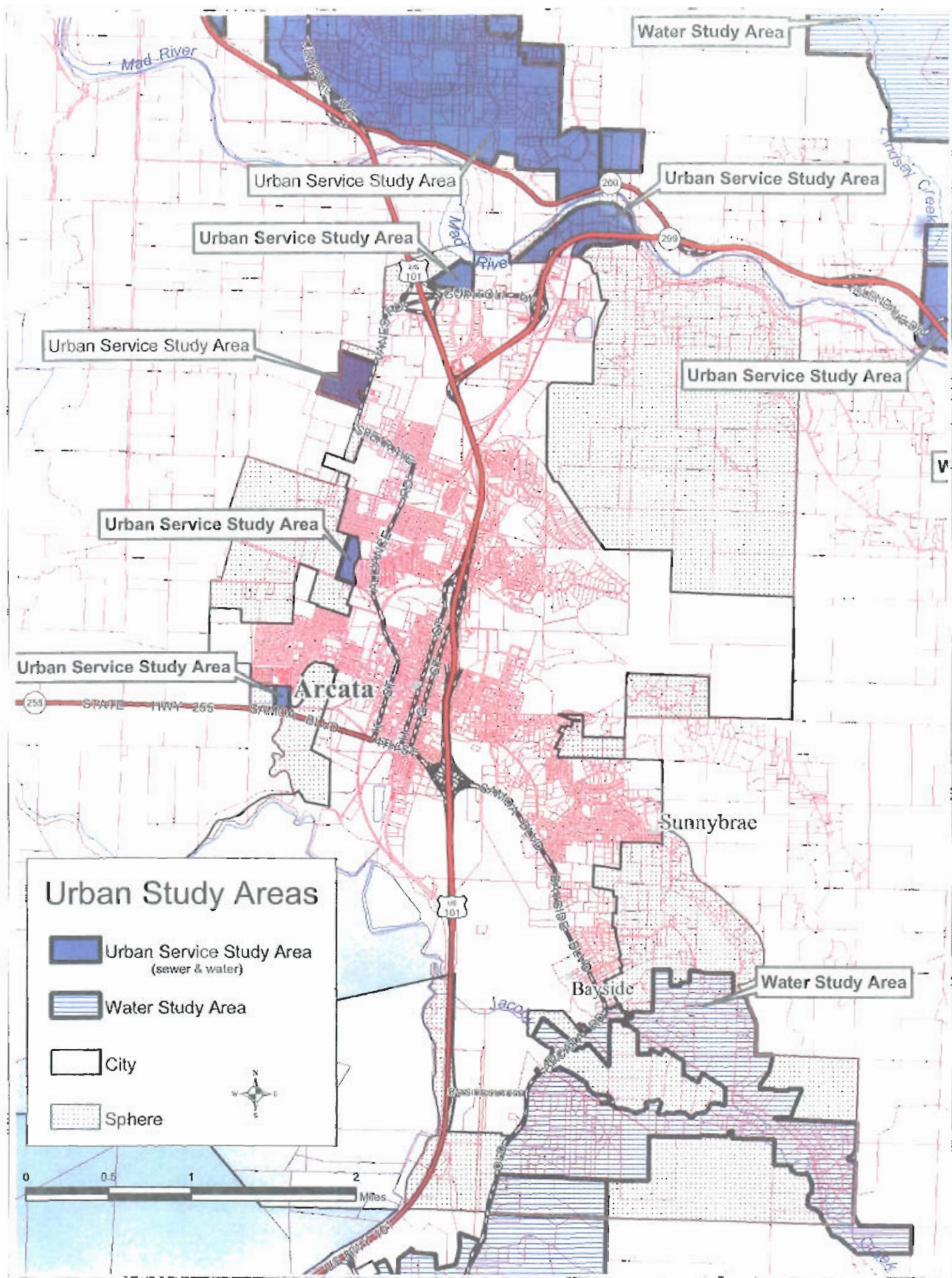


EXHIBIT "A" EA 296100
01-HUM-101-143.4/145.5
(PM 89.1/90.4)
SCALE: 1" = 500' SHEET 1 OF 1



--- Existing Agricultural Parcel Boundary
--- Agricultural Parcel Acquisition Boundary





A lengthy packet of additional exhibits is available upon request at the North Coast District Office, 710 E Street, Eureka, CA 95501 - telephone: (707) 445-7833) and will additionally be available at the public hearing.