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MEMORANDUM

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Date: February 8, 2012

To: Commissioners and Interested Parties

From: Charles Lester, Executive Director
Robert Merrill, District Manager – North Coast District
Melanie Faust, Coastal Program Analyst – North Coast District

Subject: Addendum to Commission Meeting for Thursday, February 9, 2011
North Coast District Item Th 20b, CDP No. 1-11-039 (Caltrans)

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1. Staff Note

Caltrans has submitted new information concerning the proposed project description since the staff report was published and submitted to the Commission and interested parties on January 26, 2012. Staff met with Caltrans staff to discuss the changes and the staff recommendation on January 31 and in a telephone conference on February 7, 2012. Staff has determined, and Caltrans has agreed in principal, that some revisions of the recommended special conditions are necessary as explained and set forth below. In addition, relevant changes to the findings that are made necessary by the changes to the special conditions have been identified below, but similar changes are also intended throughout the findings if not identified specifically below in the limited time available to prepare the addendum. The changes involve the start date of the project, the sequence of hinge repairs, and the need for hydroacoustic monitoring of the waters near the location of demolition at Hinge 8, as described below. Substantive information in the staff notes set forth in this addendum are hereby incorporated by reference into the findings.

2. Caltrans submits new information and clarifications

Changes in funding; resultant changes in schedule

After the staff report was released, Caltrans staff met with Commission staff (January 31) and explained that funding Caltrans was relying on to begin construction in 2012 was in jeopardy; Caltrans staff therefore requested that the previously proposed start date and other special condition references to project commencement in 2012 be revised accordingly.

Later, in a follow-up telephone conference on February 7, Caltrans staff clarified that only supplemental funding that would have allowed construction to begin in 2012 had been eliminated, and that programmed funding for the project remains secure. Caltrans staff expressed a high degree of confidence that despite the initial delay, the project's ultimate funding from the State Highway Operation and Protection Program (*SHOPP*) would be released in July 2012. However, Caltrans staff also explained that due to the delay of funding until July, the required bidding cycle and contractor selection process could not be completed for approximately three to six months after that, eliminating any option for a 2012 start date. For these reasons, project commencement is not possible before 2013 and a number of changes to the staff report and recommended special conditions are necessary to reflect this information.

Reduced setback of demolition activities from the river

Caltrans staff also advised Commission staff during the January 31 meeting of revision of the proposed minimum setback distance from Hinge 8 (the hinge closest to the river, on the north side of the bridge) to the water's edge. Caltrans had previously proposed a minimum setback of 190 feet between Hinge 8 and the wetted channel, and the special conditions recommended by staff reflected that. In addition, the acoustician retained by Caltrans based modeling of the project's hyroacoustic impacts (sound pressure produced by the project that could affect threatened salmonid species and other fish and aquatic species) on the 190-foot minimum setback. Caltrans stated that the correct distance is a 140-foot minimum setback, reducing the previous buffer by 50 feet.

Caltrans staff also reported that the Caltrans consulting acoustician had re-calculated the project's hydroacoustic safety levels based on the revised 140-foot setback, and determined that the new setback would be protective of aquatic species.

3. Revised sequence of hinge repair locations

Based on the new information received from Caltrans, staff suggested and Caltrans agreed that the construction schedule be revised to commence with Hinge 8 in the first season, which would now be delayed until 2013. Previously, Caltrans had proposed and the staff recommended that repairs commence with Hinge 2 at the south end of the bridge.

Caltrans proposed, and the staff recommends, that the second construction year be reserved for Hinge 11, the most northerly hinge location. Caltrans explained that completing both northerly hinge locations before moving to Hinge 2 on the south side of the bridge would enhance the efficiency of the contractor's work and reduce overall project complexity and site disturbance.

Finally, Caltrans proposed, and the staff recommends, that the third construction year of the three successive hinge repair seasons conclude with the repair of Hinge 2.

Hydroacoustic monitoring – new recommended special condition

In light of the new information about reduced setback distances at the Hinge 8 location, and because the Hinge 8 location is the closest to the river of the three hinges proposed for

demolition and repair, staff conferred with the Commission staff ecologist about the project changes. In response, the Commission staff ecologist recommended that the special conditions be revised to include confirming hydroacoustic monitoring during the hinge demolition activities at Hinge 8, but that monitoring of the other demolition locations would not be necessary if the Hinge 8 hydroacoustic monitoring did not indicate any concerns.

The Commission staff ecologist noted that his recommendation is based in part on the reduced setback acknowledged by Caltrans, but also because there exists substantial uncertainty in the models of the acoustic impacts of pile-driving, and the uncertainties are increased by the additional extrapolation of the consulting acoustician of hoe-ram battering impacts derived from modeled assumptions about pile-driving.

The Commission staff ecologist also noted that at least two Caltrans bridge projects on the north coast have produced surprisingly high sound levels during pile driving and hoe ram battering demolition activities, and that the measured underwater sound levels have exceeded the modeled levels submitted by Caltrans' consulting acousticians – significantly, on occasion. Pertinent examples include the Ten Mile River Bridge replacement project on Mendocino County Highway 1, where impact hammer driving of support piles exceeded permit limits, and where hoe-ram battering during demolition of the old bridge support piles exceeded limits established by NOAA Fisheries. Test-pile driving on the Mad River Bridges replacement project (currently under construction) unexpectedly – and substantially – exceeded the levels Caltrans' consulting acousticians predicted. For these reasons, despite the submittal by Caltrans of additional information pertaining to the Klamath Hinge Repair acoustic modeling that suggests demolition may be undertaken with a high margin of safety for aquatic species, the Commission staff has determined (and a new recommended special condition set forth below requires) confirming hydroacoustic monitoring as well as the requirement that project activities stop if the limits set forth in the condition are exceeded.

Staff further notes that the hydroacoustic limits set forth in the pertinent special condition are the most recent interim limits established in 2008 by the Fisheries Hydroacoustic Working Group, which includes Caltrans, NOAA Fisheries, US Fish and Wildlife Service, California Department of Fish and Game, and the U.S. Federal Highway Administration. Therefore, the recommended special condition merely confirms that the sound levels of the proposed project are compliant with the levels that Caltrans and these agencies have agreed are protective of protected fish. The science of hydroacoustics, and impact assessment of related impacts on sensitive species will undoubtedly continue to evolve with continued research and the acquisition of field data, but the limits set forth in the permit reflect the best current understanding and agreement of these parties. The Commission staff ecologist has determined that the dual metric criteria established by the working group in 2008, are protective of sensitive aquatic species.

For these reasons, staff has added an additional recommended special condition for hydroacoustic impact limits and monitoring, set forth below. The new special condition is numbered 5, replacing the previous special condition 5 (State Lands Commission) which has been deleted as shown below, as State Lands Commission staff have verified on February 2, 2012 that no lease or other SLC review is necessary for the subject project. Special Condition 11 has also been revised as shown below to incorporate the setback limits, measuring provisions,

and biological monitoring requirements associated with the new recommended requirement for a hydroacoustic monitoring program.

Change in repair sequence will cause a minor delay in restoration in one area

The revised repair sequence requested by Caltrans and recommended by staff would, as noted above, start with Hinge 8 on the north side of the bridge, closest to the river's edge, in 2013, followed by Hinge 11 in 2014 (also on the north side), and finally by Hinge 2 (on the south end of the bridge) in 2015. The sequence proposed previously by Caltrans and recommended by staff called for repair of Hinge 2 the first season, and either Hinge 8 or 11 in the following two years, at the contractor's discretion.

The change in the order of hinge repairs will delay the repair and restoration of the Hinge 2 area, including replanting of the small area of after-the-fact riparian ESHA (0.05 acres) cleared during summer of 2011, as discussed in the staff report. However, the revised schedule will also put off until February of 2014 the additional clearing of riparian ESHA (approximately 0.17 acres) necessary to establish the complete Hinge 2 work area.

Commission staff has considered the delay in the restoration of the small area of after-the-fact vegetation removal associated with this project's requirements. Staff has also considered the potential for accelerated completion of Hinge 8 and 11 repairs earlier than previously anticipated, which will correspondingly ensure accelerated progress on the substantial ESHA restoration that is proposed for that part of the project area. In this manner, compensatory restoration will be accelerated, and ESHA impacts will be postponed somewhat, neutralizing the residual effects that might otherwise accrue toward the delay in restoring the after-the-fact area associated with the overall Hinge 2 work area.

For all of these reasons, staff has determined that there would not be a significant additional temporal loss of ESHA if the order of hinge repairs is revised as proposed, and that there may even be benefits to accelerating restoration and enhancement of habitat areas associated with the northerly hinge locations while delaying further impacts at Hinge 2. More importantly, commencing construction with Hinge 8 will enable a limited hydroacoustic monitoring schedule focused on the demolition activities at that hinge repair location (the hinge repair location closest to the waters of the Klamath River). If the monitoring confirms Caltrans' present estimates that hydroacoustic impacts at levels of concern will not be produced by the Hinge 8 demolition, then the hydroacoustic monitoring could be terminated after the Hinge 8 demolition is completed. This schedule thus affords the most protective as well as the most efficient combination of scheduled activities and monitoring requirements.

4. Revisions to all pertinent references in the findings will be revised to reflect the following changes to the recommended special conditions, in accordance with the new information explained above. To the extent that time has allowed, some changes are shown below. The information set forth above is hereby incorporated by reference into the recommended findings of the staff report dated January 26, 2012.

The pertinent changes to the recommended special conditions, and to the findings to the extent possible to show in the time remaining before publication of the addendum, are set forth below (new text is shown in **bold underline**; deleted text is shown in ~~strike-through~~:

Staff report page 1 ("Project Description" paragraph):

> … commencing in ~~2012~~ **2013.**

Staff report page 3, sixth full paragraph:

> Demolition would be undertaken by battering the bridge structure with a hoe-ram attached to the arm of an excavator, at locations set back a minimum of ~~190~~ **140** feet from the ~~active~~ **wetted** channel of the river at its closest location to the subject demolition site (**specific setback measurements are described in Special Condition 11)**. Caltrans prepared a hydroacoustic analysis indicating that provided the demolition is undertaken a minimum of 190 feet from the wetted channel, no harmful physic effects on aquatic species would result from the estimated sound pressure levels generated by the project. **In accordance with Caltrans revised proposal (January 31, 2012), the setback limit has been revised to 140 feet; Caltrans has submitted an addendum to the hydroacoustic analysis indicating that demolition performed with a 140-foot setback will not produce sound levels within the river that reach the limits that have been established as protective of aquatic species.**

Staff report page 4, second paragraph:

> Caltrans estimates that with the proposed repairs, the life of the bridge (constructed in 1965) will be extended by an additional 25 years from ~~2012~~ **the completion of the proposed repairs**, and possibly longer.

Staff report page 4. third paragraph:

> Limited construction schedule, three years
>
> Caltrans has weighed various constructability concerns since submitting the pending permit application last fall, and informed Commission staff ~~by letter dated January 23, 2012~~ **in a teleconference on February 7, 2012** that the agency's deliberations have been resolved in favor of a three-year schedule, limiting repairs to one hinge per season, June 15 – October 15 annually, **for three consecutive years,** commencing ~~in 2012~~ **2013** with Hinge ~~2~~ **8** (~~at~~ **on** the ~~south~~ **north** end of the bridge) **followed by Hinge 11 at the most northerly end of the bridge in 2014, and concluding with the repair of Hinge 2 on the south end of the bridge in 2015**. ~~The contractor eventually selected by Caltrans would be allowed to determine which repair of the remaining two hinges (both at the north end of the bridge) would be repaired in 2013 and 2014.~~

Staff report page 10, SUBSTANTIVE FILE DOCUMENTS:

Add four items:

Memorandum from David Buehler, P.E., to Steve Croteau (Caltrans), dated February 1, 2012, received February 6, 2012 by Commission staff, providing a 4-page addendum to previous hydroacoustic analysis, and titled: "Klamath Bridge Hinge Repair Underwater Noise Analysis- hoe ram energy revision and concurrent demolition operations."

Memorandum from Fisheries Hydroacoustic Working Group, to Applicable Agency Staff, dated July 12, 2008, regarding Agreement in Principle for Interim Criteria for Injury to Fish from Pile-Driving Activities.

CDP 1-06-022 (Ten Mile River Bridge, Caltrans)

CDP 1-07-013 (Mad River Bridges, Caltrans)
Staff report page 24, second full paragraph:

> The project area is situated within California's northern coastal forest, with the topography of the area consisting of steep mountains and river flats. The climate is defined as Mediterranean, characterized by wet winters and dry summers. The Western Regional Climate Center data for Klamath Station indicates that the project vicinity receives 80 inches of rain per year and experiences average annual low and high temperatures of 45 and 61 degrees Fahrenheit, respectively. Due to the high rainfall and flashy conditions of the Klamath watershed, Caltrans proposes to undertake the subject construction activities (other than vegetation removal for site preparation, and the implementation of exclusion measures for bird and bat species using the areas of the bridge subject to demolition and replacement) during the June 15 - October 15 non-rainy season for three consecutive years commencing in ~~2012~~ **2013.** One of the three hinges would be repaired in each season, starting with Hinge ~~2~~ **8** at the ~~south~~ **north** end of the bridge. The project schedule is designed to guard against the potential for the active river channel to reach the temporary bridge support areas.

Staff report page 27, first full paragraph:

> Because the remaining three hinges are located over dry land during typical summer/early fall conditions, Caltrans devised a plan to undertake repairs from the bridge deck and via separate access points at the north and south ends of the bridge. Caltrans proposes to repair the hinges on a three-year schedule, commencing with Hinge ~~2~~ **8** at the ~~south~~ **north** end of the bridge in ~~2012~~ **2013**, and then repairing Hinge ~~8~~ ~~and~~ Hinge 11 (**also** at the north end of the bridge) in **2014. Hinge 2 at the south end of the bridge would be repaired last, in 2015.**~~either order, in 2013 and 2014~~ By relying on one-way traffic control and staging work off the bridge deck, Caltrans would avoid the need to install a temporary detour bridge crossing of the river, or the installation of temporary access roads (which would have required the removal of at least two acres of additional wetland vegetation, compared with the 0.55 acres of the subject proposal, according to Caltrans). A temporary bypass bridge would require pile-driving to install the necessary support structures within the river channel. Pile-driving has the potential to produce hydroacoustic impacts harmful to aquatic species, including numerous threatened and endangered fish that inhabit the Klamath River.

Staff report page 30, "Construction Schedule" section:

The project would be completed between June 15, ~~2012~~ **2013** (other than **the February 1 – March 1** vegetation removal necessary for site preparation before the onset of annual nesting season and installation of bridge exclusion measures **associated with the work area of that year's demolition and repair**, work nearest the active river channel would not commence before June 15 in any construction year) and October 15, ~~2014~~ **2015**, according to Caltrans. **Final restoration plantings on the north side of the bridge would be installed during the rainy season of the year after the repairs of Hinges 8 and 11 are completed, and final restoration plantings on the south side of the bridge would be installed during the rainy season of the year following completion of repairs at Hinge 2, presently scheduled for completion by October 15 of 2016.** Each hinge would be repaired in a single construction season, commencing with Hinge ~~2~~ **8** at the ~~south~~ **north** end of the bridge. The construction season could not be extended beyond October 15 in any construction year due to the hazards posed by rapidly rising waters in the Klamath, and the substantial difficulty of removing temporary supports and implementing erosion control measures in disturbed project areas.

Caltrans proposes to repair Hinge ~~2~~ **8** during the first construction season (~~2012~~ **2013**). ~~This schedule will ensure that the sensitive habitat at Hinge 2, which includes some after-the-fact removal, would be restored as soon as possible.~~**followed by Hinge 11, and finally by Hinge 2, on the south side of the bridge. The locations of Hinges 8 and 11,** ~~The other two hinges,~~ as explained below, presently have significant areas of non-native invasive species in the proposed work areas. ~~Caltrans proposes to repair Hinge 8 and Hinge 11 in 2013 and 2014~~ **2014 and 2015**, ~~though the order of repair has not been determined (Caltrans explains that it would be left to the eventually-selected contractor's discretion which of the two northerly hinges to repair first).~~ The hinges could not be repaired simultaneously without additional hydroacoustic impact analysis and hydroacoustic monitoring would be required to ensure protection of aquatic species during demolition; Caltrans indicates that it would be less expensive, and the schedule more reliable for timely annual completion (to avoid riverine hazards with the onset of the annual rainy season) to construct only one hinge repair per season.

Staff report page 31, third full paragraph:

In keeping with these considerations, Caltrans proposes and the special conditions require that each hinge be repaired in a single, separate June 15-Oct.15 construction season, commencing in ~~2012~~ **2013** and ending in ~~2014~~ **2015**. Caltrans has explained that this limitation is designed in part to ensure that key, incremental work milestones are completed within the pertinent time limits of a dry season construction window and to ensure that disturbance of bridge nesting/roosting habitat used by bird and bat species occurs on only one side of the river at a time. In addition, according to Caltrans staff, the total work required by the proposed project could not with certainty be completed in a single construction season without impermissibly doubling up the demolition activities and potentially increasing the risk of hydroacoustic impacts, as well as increasing the risk of significant disturbance to bridge nesting/roosting migratory birds and bats. Caltrans therefore determined that ~~to avoid hydroacoustic monitoring/~~combined demolition

locations **would not be proposed,** ~~complications, increased impacts to birds/bats using the bridge for seasonal roosting/nesting, and to avoid hazards posed by rainy season conditions should repairs take longer than anticipated at any hinge,~~ **and that** construction would be undertaken one hinge per season during the restricted dry season window of each **of three consecutive** years**, commencing in 2013**.

Staff report page 33: revise the following bulleted items to provide the clarification:

- All personnel and equipment **within the Klamath River corridor** would be required to remain within ~~upland~~ **the authorized work** areas and outside of **other** wetlands at all times during project activities;
- A revegetation plan using a Caltrans-approved seed mix would be prepared to restore the excavated areas to the current conditions following project completion, including measures to ~~salvage, temporarily store, and replace~~ **restoratively grade and re-contour** excavated topsoil;
- Construction activities would be scheduled to occur in the dry season to prevent runoff and sedimentation into adjacent wetland and ~~slough areas~~ **river channel areas**;
- All proposed project activities, including excavation and equipment/vehicle staging and storage, would remain within the ~~proposed upland~~ **authorized** work areas **within the Klamath River corridor, and within other authorized areas** contained within the Caltrans right-of-ways and **designated public service facility areas** ~~adjacent gravel access road~~;

Page 40, fifth paragraph, item (b) is clarified as follows:

Construction responsibilities:

The Commission attaches **Special Condition 1** to further ensure the protection of water quality and adjacent ESHA from construction-related impacts. This condition outlines general construction standards and responsibilities that must be adhered to. These include but are not limited to (a) conducting the authorized work only during the dry season period of June 15 through October 15; (b) delineating the limits of the work areas prior to the commencement of construction to limit the potential area affected by construction and ensure that all wetland areas **that are not part of the authorized work areas identified by ESHA fencing** are avoided during construction; (c) maintaining all motorized equipment used at the project site in proper working condition and free of drips and leaks;

Changes to Recommended Special Conditions:

The following revisions are hereby made to the pertinent parts of the recommended special conditions which commence on page 13 of the staff report dated January 26, 2012:

1. Construction Standards & Responsibilities.

Construction-related standards and responsibilities shall include, but shall not be limited to, the following requirements and best management practices (BMPs):

(A) The repair activities authorized by CDP 1-11-039 shall be undertaken between June 15 through October 15 annually, except as otherwise specified in the special conditions of CDP 1-11-039, and in accordance with the following requirements:

1. Hinge ~~2,~~ **8,** located on the ~~south~~ **north** end of the Klamath River Bridge, shall be repaired during the first construction season commencing June 15, ~~2012~~ **2013**and ending October 15, ~~2012~~ **2013** as proposed by Caltrans; Hinges ~~8 and~~ 11 and 2 on the north **and south** end of the Klamath River Bridge**, respectively,** shall be repaired during the June 15 – October 15 work window in ~~2013 and in 2014~~ **2014 (Hinge 11) and 2015 (Hinge 2)** ~~, one hinge in each season, in either order~~; and

2. All proposed and approved revegetation measures ~~applicable to the south end of the project area~~ shall be implemented no later than the end of the rainy season of the year following the **repair of each hinge; and** ~~Hinge 2 repairs (south end), by April 15, 2014; and~~

3. ~~All proposed and approved revegetation measures applicable to the north end of the project area shall be implemented no later than the end of the rainy season of the year following completion of the north end construction (by April 15, 2016); and~~ **Erosion control re-seeding with approved mix shall be implemented immediately following site disturbance each season to stabilize and condition soils in preparation for the following year's restoration plantings; and**

4. Night lighting shall be restricted to the end of the bridge where hinge replacement activities are underway, and **may be used** in the approved staging areas as needed, **and at the traffic control and flagging locations, traffic control personnel stations, and at public service areas for waiting motorists and site personnel,** and all lighting shall be minimized, shielded, and directed downward **and away from sensitive habitat areas including occupied nests on the bridge and previously identified bat roosting locations and riparian corridor habitat outside of the active work area** to the extent possible consistent with safety and adequate work progress; and

5. Refueling where spillage could reach the active channel, percussive demolition activities, or placement of wet construction materials with the potential to spill or run off into the active channel, shall not be undertaken during rainy weather or fog, or at night due to visibility limitations that would compromise adequate site monitoring or the implementation of emergency response measures; and

6. Disturbance associated with vegetation removal, grading, placement of bird/bat exclusion measures, demolition, or other construction-related activities shall be limited to the authorized active repair area of the subject bridge for that season except as otherwise specified herein; and

7. Site preparation activities such as vegetation removal and the placement of exclusion measures on the bridge that must be completed before nesting season commences may be undertaken prior to the annual construction season commencing on June 15, and shall be undertaken under the direct, continuous supervision of a qualified Caltrans biologist; and

…

(F) On-site refueling activities that pose a risk of fuel spill to coastal waters shall be limited to **heavy equipment on the bridge such as** cranes **that cannot be readily relocated for fueling, and to equipment that must be lowered to the work area by a crane (such as bobcat, excavator, or fork-lift)** ~~and stationary drill rigs while in place on temporary work pads adjacent to, or draining to, the live channel, or within 100 feet of the top-of-bank of the river channel,~~ and shall be subject to the following requirements:

1. Refueling activities shall be limited to daylight hours and weather conditions with sufficient visibility to ensure visual contact between the valve operator and the operator of the fuel discharge connection device; and

2. An additional worker shall be stationed at the shutoff valve at all times during refueling; and

3. The hose nozzle shall be contained in a bucket or other containment device when being moved between the fuel truck and the equipment to be refueled; and

4. Absorbent pads shall be placed beneath the fill tube and fuel tank to catch any drips or spilled fuel; and

5. Spill kits shall be maintained in close proximity to the refueling locations and shall be employed immediately in the event of a fuel spill.

…

(J) All stock piles **of debris** ~~and construction materials~~ shall be covered, enclosed on all sides, shall be located as far away from the river or tributaries to the river as possible, and shall not be stored in contact with the soil **and all construction materials shall be stored within the project area in a manner that protects soils within the work areas, and the waters of the river from discharge**.

…

(S) Demolition activities relying on percussive impact techniques (such as battering with a hoe ram) shall only be undertaken when the nearest waters of the Klamath River channel are at least ~~190~~ **140** feet away from the impact point **(the pertinent setback distance shall be determined in accordance with the requirements set forth in Special Condition 11)** and shall be limited to daylight hours and weather conditions permitting visual monitoring of the Klamath River for a minimum distance of 300 feet up and down river, as measured from the nearest edge of the bridge deck. A qualified Caltrans biologist shall be on site continuously to monitor riverine habitat during all demolition activities deploying percussive techniques. The monitor shall direct that the Caltrans site supervisor stop work immediately if marine mammals are present and demolition activities shall not re-commence until marine mammals have moved more than 300 feet from the bridge deck, or as otherwise authorized by a NOAA Fisheries biologist, and with the consent of the Executive Director. The biological monitor shall log all marine mammal sightings and behavioral observations, and provide weekly copies

of the daily biological monitoring logs to the Executive Director and to NOAA Fisheries and other agencies requesting copies.

~~**5. State Lands Commission Review**~~

~~**Prior to commencement of construction,** the applicant shall submit to the Executive Director, a written determination from the State Lands Commission that:~~

~~(A) No State lands are involved in the development; or~~

~~(B) State lands are involved in the development and all permits required by the State Lands Commission have been obtained; or~~

~~(C) State lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.~~

Replace deleted Special Condition 5 with new Special Condition 5 (all new, not shown in strike-thru and underline)

5. Hydroacoustic Impact Limits and Monitoring for Demolition of Hinge 8

A. Demolition activities at Hinge 8 (location generally shown in Exhibit 3 of the staff report dated January 26, 2012) authorized by CDP 1-11-039 shall not produce sound exposure or sound pressure levels within the waters of the Klamath River in excess of either component of the dual metric exposure criteria listed below. Each strike of the hoe-ram or other impact-based demolition equipment deployed during the subject activities shall be counted, measured, and logged by the hydroacoustic monitor, the biological monitor, and retained in the permanent project records.

DUAL METRIC EXPOSURE CRITERIA:

1) SEL-accumulated:
The SEL-accumulated threshold shall be defined as an accumulated Sound Exposure Level (SEL) at or above 183 dB re one micropascal squared-second, measured and calculated in accordance with the simple summation procedure where Total SEL = Single Strike SEL + 10log(number of strikes), based on real-time hydroacoustic monitoring and calculation methods set forth in the monitoring plan required herein.

2) Peak SPL:
The Peak SPL shall be defined as the peak sound pressure level (SPL) at or above 206 dB re one micropascal from any single-impact strike of the hoe-ram against the bridge structure, based on real-time hydroacoustic monitoring as set forth in the monitoring plan required herein.

B. By July 1, 2012, or within such additional time as the Executive Director may authorize for cause, Caltrans shall submit a Hydroacoustic Monitoring Plan for Bridge Demolition

(hereinafter, "Plan") to the Executive Director for review and approval. Demolition shall not commence until the Executive Director has approved the final Plan incorporating any changes that the Executive Director may require, and the hydroacoustic monitoring program required by the final Plan is fully implemented.

At a minimum the Plan shall include the following:

1) A Caltrans employee authorized to direct the contractor undertaking demolition shall be on site during all demolition activities. Active demolition shall not commence until hydroacoustic monitoring personnel and equipment are deployed in accordance with the requirements of the final approved Plan and the Caltrans biological monitor is on-site and has verified that the hydroacoustic monitoring program is ready to commence. All demolition activities that may produce sound exposure or sound pressure levels within the water column of the Klamath River shall only be undertaken at Hinge 8 while hydroacoustic monitoring is continuously undertaken. The Caltrans biological monitor shall be on site during all hydroacoustic monitoring; and

2) In the event of an exceedance of either criterion of the dual metric exposure criteria, all pertinent demolition operations shall be immediately stopped and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pertinent demolition operations and the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the demolition operations to conformance with the duel metric exposure criteria;

3) If the return to demolition operations after the implementation of the additional measures discussed in Subparagraph (2) above results in an exceedance of either criterion of the dual metric exposure criteria, demolition operations shall be stopped immediately and shall not re-commence until or unless the Commission approves an amendment to CDP 1-11-039 that proposes substantial changes to the proposed project that are deemed by the Executive Director to offer a high likelihood of success in preventing further exceedance of the dual metric exposure criteria.

4) Hydroacoustic monitoring shall be implemented during all active demolition activities at Hinge 8, however activities that support demolition but could not transmit sound through the bridge structure or substrate (such as staging, grading, equipment setup) may be undertaken without hydroacoustic monitoring; and

5) The Plan shall describe a program of hydroacoustic monitoring capable of continuous assessment of the compliance of pertinent Hinge 8 demolition activities with the dual metric exposure criteria set forth above, including the plan for and maps of proposed hydrophone and personnel deployment, specified fixed and mobile locations for hydrophone placement (which shall include locations across a proposed transect at specified representative distances on the north, south and mid-river areas, as well as randomized mobile locations) and at a representative and adequate selection of locations up to 300 feet up and down-river from the bridge crossing of the river on a real-time

basis, including the number, location, distances, and depths of hydrophones (which shall be located in waters of at least one meter in depth), and associated monitoring equipment and personnel, the method of translating monitoring data into real-time direction, and the method of conveying critical data to the Caltrans site supervisor; and

6) Provide for continuously counting and recording demolition "strikes" in a manner that enables the time of each strike, the number of strikes, the length of time of any cessation of demolition within a work day, the peak sound pressure and other measures of sound energy per strike, or other information necessary to assess conformance with the dual metric criteria set forth above, and to otherwise adequately implement the Plan; and

7) Provide for daily logging of the hydroacoustic monitoring results by the Caltrans biological monitor, and daily submittal of summary reports to the Executive Director for the first week of demolition and weekly thereafter, unless non-compliance occurs or the Executive Director requests a different notification schedule. Non-compliance shall be reported immediately to the site supervisor, to the biological monitor and to the Executive Director. Any exceedance of the dual metric criteria shall be logged in the permanent project records, and in the biological monitoring reports; and

8) Provide procedures and contact information for notifying all pertinent parties of any failure to comply with the limits of the dual metric criteria, including the requirement that work stop immediately and not resume until the Executive Director authorizes resumption of work or until an amendment of CDP 1-11-039 is authorized by the Commission, unless the Executive Director determines that no amendment is legally required; and

9) Provide for submittal to the Executive Director of a final written hydroacoustic monitoring report prepared by the consulting acoustician within thirty (30) days after completion of Hinge 8 demolition. The report shall include but is not limited to the providing the hydrological monitoring data, any changes or problems with the field monitoring Plan, compliance with the dual metric criteria set forth above, and description of and assessment of efficacy of any adaptive measures that were implemented in the demolition activities as the result of the monitoring, or of any field adjustments of the monitoring Plan itself. The final report shall include an assessment of the monitoring plan and recommendations for changes or additions to future monitoring efforts. The final plan shall calculate the hydroacoustic impacts that would have been produced by the pile-driving of 24-inch concrete piles at the same Hinge 8 locations that were monitored, and compare the modeled acoustic impacts of the concrete piles, the predicted acoustic impacts of the Hinge 8 demolition, and the actual measurements taken during the demolition activities. The report shall include a reconciliation of these comparative modeled and measured sound levels and recommendations for adaptation and/or improvement of future demolition modeling efforts, if applicable.

C. Project activities shall be conducted at all times in accordance with the provisions of the final approved Plan and in accordance with any additional plan(s) for hydroacoustic monitoring that the Executive Director may require and authorize pursuant to the provisions of this special

condition. Any proposed changes to the final approved Plan(s) shall be reported to the Executive Director. No changes to the final approved Plan(s) shall occur without an amendment to CDP 1-11-039 unless the Executive Director determines that no amendment is legally required.

Special Condition 11 is hereby revised as follows:

11. Project Activity Limitations, Schedule, Biological Monitoring Plan

(A) Demolition activities (such as striking the existing bridge structure with a hoe ram or crane extension) shall only be undertaken when the location of the demolition point of impact on the structure is at least ~~190~~ **140** feet from the nearest location of the wetted channel of the river. **The pertinent setback distance shall be determined in the field as follows: From the closest point of the pertinent hinge repair area to the river, find the closest vertical bridge support (pier) toward the wetted channel; then find the point where that pier intersects the ground beneath the bridge; from the point of pier intersection with the ground at the edge of the pier closest to the river, measure horizontally to the nearest edge of the wetted channel. For purposes of this measurement, the wetted channel shall be defined as the point where the waters of the river have reached the highest elevation during the previous 24 hours. This distance shall be maintained at a minimum of 140 linear feet (pier to channel, as described herein). The elevation of the active channel may be lower (further from) this point at any given time due to the continuous fluctuations of tidal influence on the river elevations and the influence of seasonally fluctuating watershed hydrology; however, the controlling measurement remains the location of the wetted channel closest to the demolition site on a 24-hour basis. The pertinent measurements shall be made under the supervision of the Caltrans biological monitor, and recorded in the biological monitoring reports and in the permanent project records of the resident engineer.**

(B) Demolition activities shall be limited to daylight ~~daylight~~ hours and weather conditions permitting visual monitoring of the Klamath River for a minimum distance of 300 feet up and down river, as measured from the nearest edge of the bridge deck. A qualified biologist shall be on site continuously to monitor riverine habitat during all demolition activities deploying impact/battering or other sound-pressure-generating techniques. The monitor shall request, and the Caltrans site supervisor shall ensure that noise-generating activities stop immediately if marine mammals enter the 300-foot area up or downstream from the bridge. Once stopped, project activities shall not re-commence until marine mammals have moved more than 300 feet from the bridge deck, or as otherwise authorized by a NOAA Fisheries biologist, and in consultation with the Executive Director. The biological monitor shall log all marine mammal sightings and behavioral observations, and provide weekly copies of the daily biological monitoring logs to the Executive Director and to NOAA Fisheries and other agencies requesting copies.

(~~B~~**C**) Activities undertaken within the floodplain of the river shall be limited to June 15 – October 15, annually, except as provided in Section (~~C~~**D**) below. Hinge repair shall be undertaken one hinge location per season, commencing ~~at the southern end of the bridge (Hinge 2) in the first construction year. In the second and third construction years, either Hinge 8 or Hinge 11 may be selected for that year's repairs, as determined by the~~

~~permittee.~~ **with Hinge 8 repairs on the north side of the bridge in the first construction year (2013), followed by Hinge 11 repairs in the second construction season (2014), and finally by Hinge 2 repairs on the south side of the bridge during the third construction season (2015).** Vegetation removal, grading, or other site disturbance shall be limited to the work area associated with the forthcoming season's repairs only (multiple **hinge work areas** ~~locations~~ shall not be cleared or graded in advance).

~~(C)~~**D.** Excepted activities that may be undertaken within the floodplain outside of the June 15 – October 15 time period shall be limited to:

1. February 1 – March 1 for site preparation such as vegetation removal that does not require grading, and the placement of bird/bat exclusion measures annually;
2. June 15-Nov.15 annually for placement of deck sealant, with a 3-day dry weather forecast commencing from the date of sealant application, or as may be extended by the Executive Director for cause;
3. October 16 – June 15 annually, erosion control and revegetation measures that must be undertaken during the rainy season.

~~(D)~~**E.** **Prior to commencement of construction,** Caltrans shall submit a plan for biological monitoring by a Caltrans biologist or a qualified biologist retained by Caltrans (not retained by the Contractor), subject to the review and approval of the Executive Director. The monitoring plan shall include the monitoring schedule, logging and reporting provisions, and other **information or monitoring** measures **deemed** necessary **by the Executive Director** to ensure that project activities that may affect environmentally sensitive habitat areas and/or water quality are adequately monitored for compliance and for the purpose of identifying adaptive management measures for real-time resolution of compliance concerns that may arise during construction. **The biological monitoring plan shall also include provisions for the Caltrans biological monitor to be on site during the demolition activities at Hinge 8 that are subject to hydroacoustic monitoring, and shall assist the Caltrans site supervisor in coordinating project activities with the hydroacoustic monitoring program requirements.**

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Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 1-11-039

APPLICANT: California Dept. of Transportation (Caltrans)

AGENTS: Kevin Church, Engineer/Project Manager
Steven Croteau/Environmental Planner

PROJECT LOCATION: Klamath River Bridge, Highway 101, Del Norte County, south of the town of Klamath, 20 miles south of Crescent City, (between Post Miles 4.04 and 4.42).

PROJECT DESCRIPTION: Caltrans proposes to repair three deteriorating hinges supporting the Klamath River Bridge and three 25-ft.-long sections of the bridge affected by construction, within the 2,080-ft.-long bridge. Work in the floodplain would be limited to June 15 - Oct. 15 annually, for three years, one hinge replacement per year, commencing in 2012. Work includes clearing vegetation and grading three 84 ft. x 110 ft. (9,240 sq. ft. or 0.21 acres per area) level work areas within the seasonally dry floodplain (up to 80 cu. yds. total grading per hinge location, with no import, export, or stockpile). Project includes placement and removal of temporary foundations and forms, demolition and replacement of the concrete surrounding the existing rebar (retained) within each hinge, and the replacement and re-sealing of each deck section. Demolition would be undertaken by battering the bridge structure with a hoe-ram attached to the arm of an excavator, a minimum of 190 feet from the wetted channel of the river. No access to the waters of the river, de-watering, or permanent fill of wetlands is proposed. No permanent increase in impervious surfaces would result; bridge rails and other visible features of the bridge would be reused or replaced in kind. Disturbed areas would be recontoured and seeded for erosion control immediately after construction; planting with native species would be completed during the rainy season of the following calendar year. One-way traffic control and up to 20 overnight bridge closures distributed over three seasons would be required. No alternate routes are available.

STAFF RECOMMENDATION: Staff recommends that the Commission **approve** the proposed repair and maintenance project, subject to eleven (11) special conditions. **Motion and Resolution: page 12**. Special conditions commence on page 13.

COMBINED JURISDICTIONAL REVIEW: Section 30601.3 of the Coastal Act 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 from a local government with a certified LCP. In this case, the Del Norte County Board of Supervisors adopted a resolution and both the applicants and the County submitted letters 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 legal 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.

STAFF SUMMARY

Bridge repair; permit required

The proposed project includes essential repairs to deteriorating bridge hinges presently supporting the Klamath River Bridge, Highway 101, Del Norte County. The repair locations arise in environmentally sensitive habitat areas and thus the proposed activities are not exempt from the requirement that Caltrans obtain a coastal development permit for the proposed work.

In considering a permit application for a repair or maintenance project pursuant to the above-cited authority, the Commission reviews whether the proposed method of repair or maintenance is consistent with the Chapter 3 policies of the Coastal Act. The Commission's evaluation of such repair and maintenance projects does not extend to an evaluation of the conformity with the Coastal Act of the underlying existing development (the installation of the Klamath River Bridge within wetlands) and in this case whether the purpose of the fill associated with the currently proposed repairs is consistent with the allowable uses for wetland fill under Section 30233 of the Coastal Act.

The staff recommends that the Commission approve the proposed project subject to eleven (11) recommended special conditions, commencing on page 13, below. The staff has determined that the special conditions, if imposed by the Commission and implemented by the applicant, would ensure that the proposed activities would be undertaken in a manner consistent with the requirements of the Coastal Act.

Project description

The proposed project includes the repair of three deteriorating hinges presently supporting the Klamath River Bridge. The hinges are three 25-foot-long sections of bridge joining sections of the 2,080-foot-long box girder bridge. The concrete within the hinged connections of the bridge is deteriorating as indicated by cracking, and doesn't meet current seismic standards. The proposed work would remove the aging concrete and reconstruct the hinges to meet current

bridge design and seismic standards, and would increase the life expectancy of the bridge. The existing hinges are approximately six inches wide; the new hinge sections would be approximately two feet wide, providing a much stronger bridge connection.

Proposed work at each hinge includes building temporary foundations and forms, demolishing and rebuilding the concrete portion of each hinge with added rebar reinforcement, and replacing and resurfacing the affected portion of the deck in each affected section of the bridge.

At each hinge, an overall work area 84 ft. x 110 ft. in size (9,240 sq. ft. or 0.21-acre) would be graded flat within seasonally dry areas of the floodplain. Work in the floodplain would be limited to June 15-Oct.15, annually, for three years, one hinge repair per season.

Caltrans has explained that the proposed schedule was ultimately determined by the risk of scour to temporary bridge support structures from a rising river, in addition to the risks to equipment working within the floodplain after the onset of the annual rainy season, makes the construction schedule critical. Caltrans indicates that many factors raise uncertainty about the time required to complete each hinge (for example, curing the new concrete to the required standards could take at least four weeks), and since extending time into the rainy season would cause even greater risks due to potential changes in the Klamath River, a one-hinge-per season schedule extending over three years is necessary.

The work site at each hinge would be staged by cranes operating off a closed lane on the bridge deck above. The cranes would lift and lower heavy equipment and materials into each of the three work areas as needed. This method eliminates the need for grading in new access roads, and eliminates at least two acres of wetland vegetation clearance that would otherwise be necessary. Establishment of the three work areas requires removal of approximately 0.50 acres (total) of wetland vegetation in the areas proposed for grading. Each area requires up to 80 cubic yards of grading, including recontouring (240 cu. yds. total, overall), with no import, export, or stockpile required.

After grading is completed within each work area, a 1,600 sq. ft. temporary pad would be constructed to support the bridge while the associated hinge is out of service. After repairs are made, each work area in turn would be recontoured and replanted for temporary erosion control then revegetated during the rainy season of the following calendar year. Caltrans botanists have explained that initial stabilization with erosion control seeded mixture is necessary the first rainy season before the permanent planting of nursery stock is advised. Although this delays the plantings to the following year, the biologists have found that this sequence better protects the soils of the site and produces better long-term results.

Demolition would be undertaken by battering the bridge structure with a hoe-ram attached to the arm of an excavator, at locations set back a minimum of 190 feet from the active wetted river channel of the river at its closest location to the subject demolition site. Caltrans prepared a hydroacoustic analysis indicating that provided the demolition is undertaken a minimum of 190 feet from the wetted channel, no harmful physical effects on aquatic species would result from the estimated sound pressure levels generated by the project.

No access to the waters of the river, de-watering, or permanent fill of wetlands is proposed. No pile-driving by impact hammer or vibratory installation methods is proposed. No permanent increase in impervious surfaces would result from project activities; bridge rails and other visible features of the bridge would be reused or replaced in kind.

Caltrans estimates that with the proposed repairs, the life of the bridge (constructed in 1965) will be extended by an additional 25 years from 2012, and possibly longer.

Limited construction schedule, three years

Caltrans has weighed various constructability concerns since submitting the pending permit application last fall, and informed Commission staff by letter dated January 23, 2012 that the agency's deliberations have been resolved in favor of a three-year schedule, limiting repairs to one hinge per season, June 15 – October 15 annually, commencing in 2012 with Hinge 2 (at the south end of the bridge). The contractor eventually selected by Caltrans would be allowed to determine which of the remaining two hinges (both at the north end of the bridge) would be repaired in 2013 and 2014. All three of the subject bridge hinges are located over portions of the Klamath River floodplain that are typically dry during the active construction season. Caltrans would prefer to reduce the number of years that project disruptions would occur, but has identified concerns about bridge safety due to unpredictable river conditions at the onset of the rainy season as the most significant determinant of the schedule. By undertaking a single hinge repair per season, Caltrans would preserve a significant margin of safety in the construction schedule, and reduce other project costs that would arise as the result of alternative demolition schedules.

Therefore, as the project is now proposed, all construction activities would be limited to the dry season (June 15 – October 15) annually, for three years, with one hinge repair location per season, with two exceptions: 1) both the above-ground vegetation removal for site preparation, and the placement of each season's bird/bat exclusion measures would be completed before March 1 annually; 2) if time does not permit sealing the repaired section of the bridge deck by October 15 of any construction year, deck sealant may be applied through November 15, with a dry weather forecast of three-day minimum, or longer with Executive Director approval. In addition, Caltrans biologists note that post-construction revegetation plantings would be installed during the rainy season of the calendar year following completion of each hinge repair to better ensure appropriate soil conditions and plant survival.

Traffic control, periodic delays to motorists

Work requires one-way traffic control and up to 20 overnight bridge closures distributed over the three construction seasons. Caltrans staff explains that a far-reaching public notification process will be undertaken each season, and notice will be provided a minimum of two weeks in advance of each overnight closure to minimize inconvenience experienced by motorists. Electronic displays will warn travelers heading north or south in the direction of the construction, turn-back will be possible, and motorists who choose to park at the construction location and wait out a closure will have access to portable

toilets and bottled drinking water during long lasting bridge closures. No alternate routes are available.

Caltrans indicates that if emergency vehicles require bridge access, the crane outriggers can be pulled immediately, allowing use of the bridge within minutes. Caltrans also indicates that bicyclists and pedestrians would be able to use the bridge without interruption and that recreational river use will not be impaired at any time during project construction (the hinge repair areas are located over seasonally dry land, demolition debris will be contained, and no construction would occur over the area of the bridge above the active wetted channel).

Special conditions protective of river habitat

The special conditions include measures to protect coastal water quality, wildlife, fisheries, environmentally sensitive habitat areas (ESHA), and cultural resources, limit the potential for hydroacoustic impacts to aquatic species inhabiting the Klamath River, and ensure adequate mitigation for the unavoidable, temporal loss of wetland habitat within the Klamath River corridor. The provisions of the special conditions emphasize erosion control during and after construction, and the revegetation of disturbed areas with appropriate native species. The revegetation planting palette calls for the use of specially selected locally native species expected to mature at heights below twenty feet. Caltrans executive staff advises that vegetation that does not exceed twenty feet in height adjacent to the bridge will not require future vegetation trimming; therefore the replanting plan has been specifically designed to increase the ecological value of the restored habitat by eliminating the need for recurring future maintenance disturbance that would otherwise occur.

Bridge used by birds, bats

Caltrans biologists have determined that migratory bird and bat species rely on the hollow interior areas of the existing bridge as well as outer portions of the deck, for nesting and roosting during the spring and summer seasons. Construction must be undertaken within the June 15 – October 15 season annually, while the floodplain is dry in the work areas. Therefore, avoiding the nesting and roosting season of the migratory species is not possible. The majority of the bridge area, including the sections over water most favored by birds and bats, will however remain available for habitat use during construction.

Caltrans has devised a protective plan to exclude birds and bats from (only) the sections of the bridge that would be disturbed during each year's repair schedule. The exclusion measures, such as injecting foam fill into bridge cavities (to exclude bats) and placing fabric over the outer bridge ledges (to prevent swallows from constructing nests there) would be installed between February 1 and March 1 of each construction year, only at the portion of the bridge scheduled for repair that season. All exclusion measures would be removed each season after work on the deck and hinges is complete. The recommended special conditions require that a qualified Caltrans biologist supervise the installation of the exclusion measures and perform periodic inspections to ensure that birds and bats do not become entangled.

Caltrans has also provided evidence at the request of Commission staff that the new bridge hinges and repaired sections will provide equal or superior nesting and roosting habitat compared with the existing conditions.

Preventing demolition impacts; staging off bridge

Caltrans proposes to demolish the concrete surrounding the deteriorating hinges through the use of a hoe-ram (a jackhammer-type device attached to the arm of an excavator). Excavators and other heavy equipment would be lowered by cranes from the bridge deck down to the ground next to the bridge. The highway lane used for the crane operations would be closed, and one-way traffic control would therefore be required for most of the construction period each year. On some nights of each construction season, the entire bridge would be closed for up to seven hours (up to 20 such closures may be required during the three years of construction, according to Caltrans).

Concrete and other debris would be captured and properly disposed under the supervision of Caltrans. Demolition would only occur over dry land, and Caltrans would not limit access by coastal visitors to the river channel at any time during project activities.

Demolition activities raise other concerns: battering the concrete bridge with a hoe-ram has the potential to generate harmful sound pressure levels within the nearby river. (the bridge structure "rings" with sound when struck by the hoe-ram). Sound waves caused by the impact of a hoe-ram-- even from an impact location on dry land – may propagate through the structure's underground supports, into the substrate, and laterally into the adjacent riverbed, rising into the water column above.

Sound pressure within the river may cause direct physical injury to fish (that is, hydroacoustic impacts may produce "barotrauma" in vulnerable species). An interagency work group (including USFWS and NMFS), primarily addressing effects to west coast ESA-listed fish, has provided interim criteria for what level of noise caused by pile driving will cause direct physical injury to fish. Specific criteria for impact-based demolition have not been devised.

Caltrans prepared a hydroacoustic impact analysis for the subject project at the request of Commission staff, based on the translation of hoe-ram battering impacts during demolition into approximations of sound pressure otherwise associated with pile-driving of concrete piles. Based on a demolition scenario occurring at only one location at a time, the report concluded that the project would not produce hydroacoustic impacts approaching the interim criteria if the demolition point of impact was located at least 190 feet from the nearest saturated soils of the wetted channel.[1]

[1] Caltrans has notified Commission staff that completing the project on an accelerated schedule would require demolition at more than one of the three hinge locations at the same time. The hydroacoustic impact analysis has not evaluated the effects of simultaneous demolition; moreover, the site-specific conditions may vary from those relied on by consulting acoustician. In addition, Hinge 8 at the north end of the bridge is the hinge closest

Acoustic impacts may also affect marine mammals, producing behavioral effects at lower thresholds than those known to cause biological effects in fish. To ensure that marine mammals are protected during demolition activities, the special conditions recommended by staff require that qualified biologists monitor the river area during demolition to ensure that marine mammals do not approach the construction site. This extra measure is necessary even though there will not be direct pile-driving, or percussive demolition sound impacts high enough to harm fish in the river waters, because marine mammals have been shown to exhibit adverse behavioral changes at sound pressure thresholds lower than those believed to harm fish. Whether long-term effects occur in marine mammals exposed to lower levels of sound pressure is not well understood, therefore avoiding behavioral impact thresholds is considered a prudent protective measure.[2]

Caltrans additionally notes that the three-year schedule eliminates the need to undertake demolition at multiple hinge locations simultaneously. The schedule therefore minimizes the potential for amplified acoustic impacts that would call for hydroacoustic monitoring during construction activities. Caltrans does not propose pile-driving (via impact hammer or vibratory hammer installation techniques) for any portion of the proposed project, therefore hydroacoustic monitoring would not otherwise be called for.

Affected wetland habitat

Caltrans proposes to grade a work area measuring 84 feet x 110 feet (0.21 acres) at each hinge repair location (see Exhibit 8 for an illustration of the Hinge 2 work area). Up to 80 cubic yards of grading (overexcavation to produce a level work area, and restorative grading

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to the wetted channel location typical of summer low flow conditions. In light of these factors, Commission staff has advised Caltrans staff that if Caltrans decides to seek a future amendment of CDP 1-11-039 to compress the construction schedule (for example completing Hinges 8 and 11 in the summer of 2013) after the repair of Hinge 2, staff would require hydroacoustic monitoring results from the Hinge 2 year, and additional (favorable) hydroacoustic analysis of simultaneous demolition of Hinges 8 and 11 to support such an application. In addition staff advised Caltrans of the likely additional recommendation that real-time hydroacoustic monitoring be undertaken during the revised demolition activities.

[2] Marine mammals are not common near Klamath River Bridge crossing, which is located almost two miles upstream from the mouth of the Klamath. Occasionally harbor seals and California and Stellar sea lions swim upriver as far as the bridge. In late June of 2011, however, a 45-foot female Gray whale and her 15-foot calf entered the river and occupied the area near the bridge for almost two months. The whales entered the river during their northward journey from breeding grounds in Baja California to Alaska. Observers spotted what they believed to be the calf swimming to sea on July 23, and scientists said at the time that the calf was probably mature enough to survive the journey to Alaska. Biologists' efforts to encourage the adult whale to return to the sea failed, and the whale remained near the bridge until it died on August 16. Humboldt State University marine biologist Dawn Goley has since determined that a fungal infection of the whale's skin was the likely cause of the whale's death.

to recontour the site after work is completed) would be required to prepare and restore each work area.

Each established work area would be surrounded by ESHA-fencing installed under the supervision of a Caltrans biologist. The fencing would restrict construction disturbance to authorized areas. All equipment and materials would be lowered into the work areas by cranes operating off the bridge deck. No new access roads would be required.

Two of the three repair locations (Hinges 8 and 11 at the north end of the bridge), although delineated as wetlands, are substantially overgrown by non-native invasive species, particularly the thick bramble patches typical of Himalayan blackberry stands on the north coast. Hinge 8 includes an informal access road through the sandy area near the bridge, and wetlands delineated in that area total only 0.17 acres.

The third repair location (Hinge 2 at the south end of the bridge) is vegetated on the west side by a dense stands of mature willows. Tree form willows near the bridge in the Hinge 2 area mature to approximately 40 feet in height, with multi-stemmed trunks of 5 or 6 inches in diameter.

After-the-fact vegetation removal at Hinge 2

Caltrans advised Commission staff in a letter dated November 10, 2011 that on August 22, 2011 a Caltrans tree crew trimmed approximately 0.05 acres of mature willows within the proposed Hinge 2 work area without benefit of a permit. A total of 0.21 acres of clearing is proposed, including the after-the-fact vegetation removal, for the Hinge 2 work area.

Additional vegetation outside of the Hinge 2 work area but on the south side of the river, adjacent to and under the bridge, was also trimmed according to the Caltrans report. The additional vegetation removal was not required for the hinge repair project. Commission staff has recommended that Caltrans staff submit a separate coastal development permit application for the additional vegetation removal that is not part of the pending application. Caltrans staff indicates that preparation of the application is in progress.

Revegetation requirements

Caltrans has submitted a restoration plan that generally proposes to offset the project's impacts to the 0.21 acres of high quality willow wetland habitat impacted at Hinge 2 by restoring the highly degraded Hinge 8 and 11 work areas (where there is little native plant cover and the areas are dominated by invasive species), as well as the 0.79-acre additional area between Hinges 8 and 11, with a select palette of locally native species chosen to provide high quality wetland habitat that won't require future trimming/habitat disturbance. Caltrans has also provided written assurance at the request of staff that no future maintenance trimming will occur where vegetation adjacent to the bridge does not exceed twenty feet in height (except for approved programs to remove invasive, non-native species required by the restoration plan).

The restoration plan would mitigate the project's impacts at Hinge 2 by restoring Hinge 8 and 11 to high quality native habitat, and adding the 0.79 additional acres of restored habitat area between the Hinges 8 and 11. Based on this assessment of relative value of existing habitat areas, compared with post-construction restored areas, 0.21 acres of high quality existing habitat impacted by the project would be mitigated by the proposed approximately 1.3 acres of wetland habitat Caltrans proposes to restore. The addition of the area between Hinges 8 and 11 ensures that the mitigation achieves an effective ratio of at least 3:1 based on an assessment of pre-disturbance habitat values. The total of all delineated wetlands that would be affected (including wetlands with low quality present habitat value at Hinges 8 and 11) is approximately one-half acre. The total area that would be restored to high quality wetland habitat in accordance with Caltrans' proposal would be approximately 1.3 acres. Thus the gross-acreage ratio is slightly less than 3:1. Caltrans staff has noted that although the worst-case clearing and grading could equal approximately 0.5 acres of wetlands, the actual impacts are likely to be less than that. The restoration plan commitment of full restoration and enhancement of approximately 1.3 acres to high quality wetland habitat will be implemented regardless of whether the actual disturbance footprint proves to be less than 0.5 acres of wetland impacts.

While the Commission staff ecologist supports the mitigation plan proposed by Caltrans in general, several recommendations for revisions to the draft restoration plan resulted from his review. Recommended additions and changes to the plan include (and have been incorporated into the recommended special conditions):

- Both the plant palette and planting plan (Appendix A of the plan), and the success criteria should be organized according to revegetation areas. The quantity of plants, for example, should be specified for each area.
- More than one habitat type is specified for most areas. If these habitat areas are not coextensive, then the actual mosaic of habitats should be shown as polygons on a map.
- Rather than expressing success criteria in terms of percent survival, express these criteria as the actual number of plants that are to be present. This will automatically include any natural recruitment.
- Success criteria should include criteria for percent ground cover for each vegetation stratum.
- The success criterion for exotic species should be no more than 10% absolute cover rather than relative cover.
- Coyote bush should be removed from the planting palette for Hooker's Willow Riparian habitat or ecologically justified.
- Add the following language: "Final monitoring for success shall take place after 5 years or after 3 years with no remediation or maintenance other than weeding, whichever is longer."
- Add the following language: "If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is required.

Caltrans has additionally verified (by letter dated December 14, 2011) that if the hinges are repaired as proposed, the anticipated remaining service life of the Klamath River Bridge is expected to be at least 25 more years. For this reason, complete replacement of the bridge is not expected to occur in the near future, which would otherwise limit the ecological value of the proposed restoration.

The staff notes that although vegetation removal will occur within the wetland areas adjacent to the bridge, no permanent conversion of wetland habitat to transportation use is proposed. The footprint of the bridge will be unchanged after the proposed repairs are completed.

Cultural resources

Caltrans recognizes that the proposed project site is located within the lands of the Yurok tribe. For this reason, the site has special cultural significance and Caltrans has included the Yurok Tribe/Caltrans National American Graves Protection and Repatriation Act Plan of Action in the proposed project description. Caltrans staff emphasize that no cultural resources were observed within the area comprising the proposed project footprint during archaeological surveys performed during environmental review. However, the plan was prepared at the request of the Yurok Tribe in the event that human remains are nonetheless discovered during excavation activities. A tribal monitor will be present during earthmoving operations. Caltrans acknowledges in proposing the inclusion of the Plan in the project description that if additional excavation or grading necessary to recover or otherwise protect archaeological or any other identified resource needs to be performed beyond the project's currently proposed footprint, then Caltrans would not only halt work upon discovery of cultural remains, but would also wait to resume work until the Commission's Executive Director determines whether an amendment to the permit would be required, and such an amendment has been obtained.

SUBSTANTIVE FILE DOCUMENTS:

1. "Bird and Bat Exclusion and Protection Plan for the Klamath River Bridge Hinge Replacement Project" dated December 2011, prepared by Caltrans biologist Carol Wilson, B.S., M.S., Wildlife Biology, Humboldt State University, submitted by Caltrans on December 15, 2011 (**Exhibit 5**).

2. "Bat Surveys at the Klamath River Bridge, 2009 – 2011" prepared by Carol Wilson, Caltrans biologist (see above), undated attachment to "Bird and Bat Exclusion and Protection Plan" (above).

3. Additional project description information concerning the effects of vegetation removal at the subject site, prepared by Caltrans biologist Clare Golec, B.A., Botany, Humboldt State University at the request of Commission staff, dated November 10, 2011 and submitted by cover letter of Dana York, Senior Environmental Planner, Caltrans on November 10, 2011.

4. "Klamath River Bridge Hinge Replacement Project Revegetation, Mitigation and Monitoring Plan" dated November 2011, prepared by Caltrans biologist Clare Golec (see above), submitted by Caltrans on November 29, 2011 (**Exhibit 4**).

5. Letter dated December 14, 2011 from Mark Suchanek, Deputy Director, Caltrans District 1, to Coastal Commission staff, received on December 19, 2011, revising project description to include 0.790 acres of additional coastal wetland restoration and enhancement (mitigation) within the bridge corridor, including

map of additional area, and proposing limitations on future maintenance activities within the bridge corridor (**Exhibit 7**).

6. "Klamath River Bridge Hinge Replacement Project, Initial Study with Negative Declaration" dated May 2011, prepared by Caltrans, under the direction of Steve Croteau, Associate Environmental Planner, submitted by Caltrans October 6, 2011.

7. "Natural Environmental Study (NES) Addendum, Klamath River Bridge Hinge Replacement Project," dated April 15, 2011, prepared by Carol Wilson, Caltrans biologist (see above), submitted by Caltrans October 6, 2011.

8. "Natural Environmental Study (NES) Klamath River Bridge Hinge Replacement Project, " dated September 2010, prepared by Carol Wilson, Caltrans biologist (see above), submitted by Caltrans October 6, 2011.

9. "Delineation of Coastal Zone Wetlands for the Klamath Bridge Hinge Project," dated April 2011, prepared by Carol Wilson, Caltrans biologist (see above), submitted October 6, 2011.

10. "Preliminary Jurisdictional Determination for the Klamath Bridge Hinge Project," dated May 2011, prepared by Carol Wilson, Caltrans biologist (see above), submitted October 6, 2011.

11. "Klamath Bridge Hinge Repair Underwater Noise Analysis" dated March 28, 2011 prepared by David Buehler, P.E., consulting engineer/acoustician retained by Caltrans, submitted as a Memorandum to Steve Croteau, Caltrans (see above), submitted by Caltrans October 6, 2011.

12. Clarification memorandum regarding "Klamath Bridge Hinge Repair Underwater Noise Analysis" dated January 12, 2012 pursuant to request of Commission staff, prepared by David Buehler, P.E., consulting engineer/acoustician.

13. "Historic Property Survey Report" dated April 7, 2010 prepared by Sara Atchley Thomas, M.A., Registered Professional Archaeologist (RPA), submitted by Caltrans October 6, 2011.

14. "Plan of Action for the Treatment of Native American Cultural Items During Construction of the Klamath River Bridge Hinge Replacement Project," prepared November 2010 pursuant to the Native American Graves Protection and Repatriation Act, and signed by Charlie Fielder, Caltrans District 1 Director and by Thomas O' Rourke (signed for), Chair, Yurok Tribal Council, both dated November 15, 2010, submitted by Caltrans October 6, 2011.

15. Letter dated December 12, 2011 prepared by Kevin Church, Caltrans project manager, adding the Yurok Tribe/Caltrans National American Graves Protection and Repatriation Act Plan of Action (NAGPRA POA) to the Klamath River Bridge hinge replacement project description.

16. Caltrans internal Memorandum dated September 20, 2011 by Todd Lark, Caltrans Project Engineer, regarding Klamath River Bridge Hinge Replacement Project, Bridge Hinge Demolition/Reconstruction Plan (constitutes a portion of the project description), submitted by Caltrans October 6, 2011.

17. Letters from Kevin Church, Caltrans project manager, regarding effect of repairs on anticipated lifespan of the Klamath Bridge, bird and bat nesting/roosting habitat on the repaired bridge, and information concerning cultural resource evaluation for the project location, dated December 12, December 14, and December 14, 2011, respectively, and received by Commission staff on December 15, 2011.

18. Caltrans internal Memorandum dated September 20, 2011 prepared by Todd Lark, project engineer, containing "Erosion Control, Grading, Drainage and Water Pollution Control Plan," received by Commission staff on October 6, 2011. (**Exhibit 6**)

19. Revised project description and various clarifications submitted by Caltrans, January 23 and 24, 2012. (including Hinge 2 vegetation removal clarifications – **Exhibit 8**)

EXHIBITS:

(Note: colored versions of exhibits are only available in on-line versions: see the Coastal Commission website, www.coastal.ca.gov)

Exhibit 1. Regional Map.

Exhibit 2. Map of Project Vicinity

Exhibit 3. Aerial Photos - Key Project Locations & Site Plan View, General Project Plan, and Hinge Repair Plan Detail.

Exhibit 4. Revegetation Plan, and Addendum to Revegetation Plan. Exhibit 4b

Exhibit 5. Bird and Bat Exclusion Plan

Exhibit 6. Preliminary Erosion Control and Water Quality Protection Plan

Exhibit 7. Letter from Caltrans dated December 14, 2011 revising project description to include 0.790 acres of additional coastal wetland restoration and enhancement (mitigation) within the bridge corridor, including map of additional area.

Exhibit 8. Map clarifying location of after-the-fact vegetation removal at Hinge 2 work area.

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION

Staff recommends that the Commission adopt the following resolution:

MOTION FOR APPROVAL:

I move that the Commission approve Coastal Development Permit No. 1-11-039 pursuant to the staff recommendation.

Staff recommendation of approval:

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 with Conditions:

The Commission hereby **APPROVES** a coastal development permit for the proposed development and adopts the findings set forth below on grounds that that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen

any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgement. This 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. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

3. 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.

4. 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. Construction Standards & Responsibilities.

Construction-related standards and responsibilities shall include, but shall not be limited to, the following requirements and best management practices (BMPs):

(A) The repair activities authorized by CDP 1-11-039 shall be undertaken between June 15 through October 15 annually, except as otherwise specified in the special conditions of CDP 1-11039, and in accordance with the following requirements:

   1. Hinge 2, located on the south end of the Klamath River Bridge, shall be repaired during the first construction season commencing June 15, 2012 and ending October 15, 2012 as proposed by Caltrans; Hinges 8 and 11 on the north end of the Klamath River Bridge shall be repaired during the June 15 – October 15 work window in 2013 and in 2014, one hinge in each season, in either order; and

   2. All proposed and approved revegetation measures applicable to the south end of the project area shall be implemented no later than the end of the rainy season of the year following the Hinge 2 repairs (south end), by April 15, 2014; and

   3. All proposed and approved revegetation measures applicable to the north end of the project area shall be implemented no later than the end of the rainy season of the year following completion of the north end construction (by April 15, 2016); and

4. Night lighting shall be restricted to the end of the bridge where hinge replacement activities are underway, and in the approved staging areas as needed, and all lighting shall be minimized, shielded, and directed downward to the extent possible consistent with safety and adequate work progress; and

5. Refueling where spillage could reach the active channel, percussive demolition activities, or placement of wet construction materials with the potential to spill or run off into the active channel, shall not be undertaken during rainy weather or fog, or at night due to visibility limitations that would compromise adequate site monitoring or the implementation of emergency response measures; and

6. Disturbance associated with vegetation removal, grading, placement of bird/bat exclusion measures, demolition, or other construction-related activities shall be limited to the authorized active repair area of the subject bridge for that season except as otherwise specified herein; and

7. Site preparation activities such as vegetation removal and the placement of exclusion measures on the bridge that must be completed before nesting season commences may be undertaken prior to the annual construction season commencing on June 15, and shall be undertaken under the direct, continuous supervision of a qualified Caltrans biologist; and

(B) Bird and bats exclusion measures shall be installed on the bridge between February 1 and March 1 of the forthcoming construction season commencing June 15 of that year, and shall be placed only on the end of the bridge subject to hinge repair during the forthcoming construction season. Exclusion measures shall be removed completely at the end of the pertinent season's construction activities or by October 15, whichever occurs first.

(C) **Prior to the commencement of construction**, the limits of the work areas and staging areas shall be delineated in cooperation with a qualified Caltrans biologist, limiting the potential area affected by construction and minimizing impacts to wetlands and other ESHA during construction. All vehicles and equipment shall be restricted to pre-established work areas and established or designated staging areas.

(D) All motorized equipment used at the project site shall be maintained in proper working condition and shall be free of drips and leaks of coolant and petroleum products.

(E) A spill prevention and clean-up kit shall be available on-site for immediate use in case of an accidental spill. Equipment or vehicles operated adjacent to or on the bridge deck above the Klamath River shall be limited to those immediately necessary to complete project work, and shall be checked and maintained daily to prevent leaks. All other vehicles, including those vehicles for the convenience of site supervisors, shall be parked in the approved staging areas away from the river.

(F) On-site refueling activities that pose a risk of fuel spill to coastal waters shall be limited to cranes and stationary drill rigs while in place on temporary work pads adjacent to, or draining to, the live channel, or within 100 feet of the top-of-bank of the river channel, and shall be subject to the following requirements:

1. Refueling activities shall be limited to daylight hours and weather conditions with sufficient visibility to ensure visual contact between the valve operator and the operator of the fuel discharge connection device; and

2. An additional worker shall be stationed at the shutoff valve at all times during refueling; and

3. The hose nozzle shall be contained in a bucket or other containment device when being moved between the fuel truck and the equipment to be refueled; and

4. Absorbent pads shall be placed beneath the fill tube and fuel tank to catch any drips or spilled fuel; and

5. Spill kits shall be maintained in close proximity to the refueling locations and shall be employed immediately in the event of a fuel spill.

(G) All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day and in a manner that prevents access by wildlife.

(H) The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, asphalt and paint scrapings, and other demolition or day-to-day construction wastes, which shall be stored separately from any lead or other contaminated soils or debris designated for hazardous waste disposal. Hazardous wastes shall be clearly marked and staged for proper removal and disposal within the staging areas away from the river, or elsewhere outside of the coastal zone where approved and permanently documented in the project files by the Caltrans resident engineer in charge of the project.

(I) Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required; if the disposal location is outside of the coastal zone, the Caltrans resident engineer responsible for the project shall document in the permanent project records that the contractor has disposed of the debris or other construction wastes at a properly licensed disposal site or recycling facility.

(J) All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away from the river or tributaries to the river as possible, and shall not be stored in contact with the soil.

(K) Machinery and equipment shall be maintained and washed off-site in confined areas specifically designed to control runoff. The applicant shall store, utilize, and dispose of thinners and solvents or other chemicals used in project activities in a manner that is consistent with applicable local, state, and/or federal laws and, under no circumstances shall they be discharged into coastal waters, or into septic, sanitary or storm sewer systems.

(L) The discharge of any hazardous materials into any receiving waters shall be prohibited. Concrete or other construction substance washouts shall not be undertaken at any location where runoff or rinsate may reach coastal waters. The Caltrans monitoring biologist and resident engineer shall identify and document in the permanent construction records the appropriate use of suitable facilities for these purposes.

(M) No fill of wetlands is authorized by this permit except as specified for temporary pad construction and for restorative grading for the purpose of site restoration after repairs are completed; no construction or fill, access by materials or equipment, or other discharge of any material within the waters of the Klamath River is authorized by this permit approval.

(N) Adequate stocks of stormwater runoff and erosion control barrier materials shall be kept onsite and made available for immediate use. Appropriate erosion, sedimentation, and runoff control devices shall be installed around all work areas and staging areas **prior to commencement of construction** and shall be maintained throughout the duration of construction activities, and inspected weekly by a Caltrans biologist, in addition to other inspections that may be routinely made by Caltrans or the Caltrans contractor, with inspection results included in the biologists' monitoring logs.

(O) If rainfall is forecast during the time construction activities are being performed, any exposed soil areas shall be promptly mulched or covered with plastic sheeting and secured with sand bagging or other appropriate materials before the onset of precipitation;

(P) Any and all debris resulting from demolition or construction activities, and any remaining construction material, shall be removed from the project site within 24 hours of completion of the project. Any debris accidentally discharged into coastal waters shall be recovered immediately and disposed of properly.

(Q) Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity.

(R) Upon completion of construction activities and prior to the onset of the rainy season, all disturbed areas shall be restored in accordance with the requirements specified in the approved plan required pursuant to Special Condition No. 2.

(S) Demolition activities relying on percussive impact techniques (such as battering with a hoe ram) shall only be undertaken when the nearest waters of the Klamath River channel are at least 190 feet away from the impact point and shall be limited to daylight hours and weather conditions permitting visual monitoring of the Klamath River for a minimum distance of 300 feet up and down river, as measured from the nearest edge of the bridge deck. A qualified Caltrans biologist shall be on site continuously to monitor riverine habitat during all demolition activities deploying percussive techniques. The monitor shall direct that the Caltrans site supervisor stop work immediately if marine mammals are present, and demolition activities shall not re-commence until marine mammals have moved more than 300 feet from the bridge deck, or as otherwise authorized by a NOAA Fisheries biologist, and with the consent of the Executive Director. The biological monitor shall log all marine mammal sightings and behavioral observations, and provide

weekly copies of the daily biological monitoring logs to the Executive Director and to NOAA Fisheries and other agencies requesting copies.

(T) Prior to the commencement of the bridge repair activities authorized by this permit, the permittee shall ensure that all on-site workers and contractors understand and agree to observe the standards for work outlined in this permit and in the detailed project description included as part of the application submittal and as revised by these conditions.

2. <u>Final Erosion Control and Water Quality Protection Plan.</u>

(A) **<u>Prior to commencement of construction</u>**, Caltrans shall submit for the review and approval of the Executive Director, a final Erosion Control and Water Quality Protection Plan based on the preliminary conceptual erosion control plan prepared by the Caltrans North Region Division of Landscape Architecture in a Caltrans Memorandum dated August 19, 2010 prepared by the North Region Division of Landscape Architecture and in accordance with the "Water Quality Assessment" dated August 10, 2010 prepared by Miguel Villicana, Caltrans NPDES Storm Water Coordinator, North Region Office of Environmental Engineering, and with the project description components and mitigation measures included in the "Erosion Control, Grading, Drainage and Water Pollution Control Plan dated September 20, 2011 prepared by Todd Lark, Project Engineer. (See Exhibit 6). The final plan shall be prepared by a licensed civil engineer with substantial training and experience in erosion control and water quality engineering principles and practices. The final plan shall additionally incorporate all of the pertinent requirements of Special Condition 1 set forth above, and shall include the requirement that an as-built plan showing all post-construction Best Management Practices implemented at the end of the final construction season be submitted to the Executive Director within thirty (30) days after completion or by November 15 of the final construction year. The required final report shall additionally document the stabilization of all disturbed soil areas, the backfilling and recontouring of excavation areas to return the areas to pre-project conditions, and the removal of all temporary BMPs from the project site, as proposed in the approved plan. If the report documents that any of the BMP measures identified in the plan failed to meet the objectives of stabilizing soils and returning disturbed areas to pre-project conditions following completion of construction, the permittee shall submit a revised or supplemental site-specific erosion and sediment control plan to compensate for those portions of the original plan that did not meet the post-construction plan objectives. Water quality (SWPPP or other) inspection reports shall be made timely available to Commission staff upon request.

(B) All project activities shall be conducted in accordance with the final Erosion Control and Water Quality Protection Plan approved by the Executive Director. Any changes to the final plan shall require an amendment of CDP 1-11-039 unless the Executive Director determines that no amendment is legally required.

3. <u>Revegetation and Monitoring Plan.</u>

(A) All project activities shall be undertaken in accordance with the "Klamath River Bridge Hinge Replacement Project Revegetation, Mitigation and Monitoring Plan" dated November 2011, and attached hereto as Exhibit 4, subject to the following changes which shall be

incorporated into a final plan submitted for the review and approval of the Executive Director **prior to commencement of construction**:

- Both the plant palette and planting plan (Appendix A), and the success criteria should be organized according to revegetation areas. The quantity of plants, for example, should be specified for each area.
- More than one habitat type is specified for most areas. If these habitat areas are not coextensive, then the actual mosaic of habitats should be shown as polygons on a map.
- Rather than expressing success criteria in terms of percent survival, express these criteria as the actual number of plants that are to be present. This will automatically include any natural recruitment.
- Success criteria should include criteria for percent ground cover for each vegetation stratum.
- The success criterion for exotic species should be no more than 10% absolute cover rather than relative cover.
- Coyote bush should be removed from the planting palette for Hooker's Willow Riparian habitat or ecologically justified.
- Add the following language: "Final monitoring for success shall take place after 5 years or after 3 years with no remediation or maintenance other than weeding, whichever is longer."
- Add the following language: "If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the permittee shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is legally required.

(B) Upon submittal of the final monitoring report, pursuant to the final revegetation, mitigation, and monitoring plan approved by the Executive Director, the Executive Director shall determine whether the restoration project has been successful, in part or in whole, based on the approved success criteria. If the Executive Director determines that the restoration project has been unsuccessful, the permittee shall submit within ninety (90) days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is required.

(C) Any changes to the approved "Klamath River Bridge Hinge Replacement Project Revegetation, Mitigation and Monitoring Plan" shall require an amendment to CDP 1-11-039, unless the Executive Director determines that no amendment is legally necessary.

4. Protection of Archaeological Resources

(A) A monitor from the Yurok Tribe shall be present during all earth moving operations. If an area of historic or prehistoric cultural resources or human remains are discovered during the course of the project, all construction shall cease and shall not recommence except as provided in subsection (B) hereof, and a qualified cultural resource specialist shall analyze the significance of the find.

(B) A permittee seeking to recommence construction following discovery of the cultural deposits shall submit an Archaeological Plan for the review and approval of the Executive Director.

1. If the Executive Director approves the Archaeological Plan and determines that the Archaeological Plan's recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, construction may recommence after this determination is made by the Executive Director. The Executive Director shall consider among other things, any additional excavation or grading necessary to recover or otherwise protect the discovered cultural deposits would be performed beyond the disturbance area footprint of the approved project, in making such a determination.

2. If the Executive Director determines that the changes to the proposed development or mitigation measures necessary to undertake the proposed Archaeological Plan are not *de minimis*, construction shall not recommence until after an amendment to this permit is approved by the Commission.

(C) The applicant, in preparing construction bidding documents for the subject project, shall include provisions requiring bidders to acknowledge and address potential construction schedule delays that may arise if discovery of cultural resources occurs during project activities. In accepting Coastal Development Permit 1-11-039, the applicant acknowledges and agrees that Caltrans/contractor project delivery schedules may be delayed to process an amendment made necessary by the discovery of historic or cultural resources during project activities.

5. State Lands Commission Review

Prior to commencement of construction, the applicant shall submit to the Executive Director, a written determination from the State Lands Commission that:

(A) No State lands are involved in the development; or

(B) State lands are involved in the development and all permits required by the State Lands Commission have been obtained; or

(C) State lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

6. Bird and Bat Exclusion and Protection Plan

(A) All project activities shall be undertaken in accordance with the "Bird and Bat Exclusion and Protection Plan for the Klamath River Bridge Hinge Replacement Project" dated

December 2011, submitted by Caltrans on December 15, 2011 and attached hereto as Exhibit 5, and as required herein.

(B) All bird and bat exclusion measures selected shall be pre-approved and installed under the supervision of a qualified Caltrans biologist between February 1 and March 1 annually, and shall be limited to the location of the single hinge area scheduled for repair during the following construction season. Exclusion measures shall be removed upon completion of that season's construction activities or by October 15, whichever occurs first. All exclusion measures shall be checked daily for the first three days after initial installation, by a qualified Caltrans biologist, to ensure performance of the measure, and to ensure that no entrapment of birds or bats has occurred. If the measures are not performing adequately, or entrapment occurs, removal and release of trapped birds or bats shall be undertaken immediately by a qualified Caltrans biologist, and necessary repairs or adjustments implemented and monitored daily for an additional three days. The exclusion measures shall thereafter be inspected at least weekly, and shall be timely adjusted or repaired and replaced as necessary under the supervision of a qualified Caltrans biologist as needed to protect wildlife. During construction activities taking place near the exclusion areas, exclusion measures shall be adjusted to clear the area where demolition will remove a portion of the bridge and the areas of the bridge on each side of the demolition location will remain subject to exclusion measures until demolition is completed. The exclusion measures shall be checked daily by a Caltrans biologist during the active demolition and at least weekly thereafter until removed.

(C) Except as specified in Special Condition 6, any changes to the approved "Bird and Bat Exclusion and Protection Plan for the Klamath River Bridge Hinge Replacement Project" (Exhibit 5) shall require an amendment to CDP 1-11-039, unless the Executive Director determines that no amendment is legally necessary.

7. <u>Evidence of Final State and Federal Authorizations and Approvals; Notifications of Bridge Closures</u>

(A) **<u>Prior to commencement of construction</u>**, Caltrans shall submit evidence to the satisfaction of the Executive Director (including copies of the pertinent final documents) that final approvals or authorizations of all state and federal agencies with review authority over the subject project have been received by Caltrans, including but not limited to authorizations by the California Department of Fish and Game, State Lands Commission, NOAA Fisheries, Yurok Tribal Water Quality Division, and the Army Corps of Engineers. The applicant shall inform the Executive Director of any changes to the project required by any state or federal agency. Such changes shall not be incorporated into the project unless the applicant obtains a coastal development permit amendment, unless the Executive Director determines that no amendment is legally required.

(B) Caltrans shall ensure that public notification or road closures shall be undertaken in accordance with the plan submitted by Caltrans on January 19, 2011, including the provision of such notice not less than two weeks before any bridge closure lasting more than two hours, and the provision of bottled water and

portable toilets on site for stranded motorists during any bridge closure lasting more than two hours.

8. <u>Construction Responsibilities;</u>

Caltrans, in accepting the benefits of CDP 1-11-039, agrees and accepts the following:

(A) Caltrans shall ensure that the relevant bidding documents and eventual contract 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 1-11-039 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 1-11-039, 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 1-11-039. A copy of the adopted findings for CDP 1-11-039 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. 1-11-039, including but not limited to such activities as vehicle re-fueling near coastal waters, are fully informed of, and continuously comply with, the obligations established through the provisions of the approved permit, including all standard and special conditions and the requirements of all final plans approved in accordance with the pertinent special conditions. 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 1-11-039, 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 1-11-039 shall at all times be undertaken in full accordance with the terms and conditions imposed by the Commission in conditionally approving CDP 1-11-039. 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.

9. Assumption of Risk

By acceptance of Commission approval of CDP 1-11-039, Caltrans acknowledges and agrees: that the Klamath River Bridge, including the bridge as repaired by the subject three hinge replacements and new segments of bridge and bridge surface treatments, may be subject to hazards from seismic events, tsunamis, 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.

10. Permit Expiration and Condition Compliance

Because some of the proposed development has already commenced, this coastal development permit shall be deemed issued upon the Commission's approval and will not expire. Failure to comply with the special conditions of this permit may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

11. Project Activity Limitations, Schedule, Biological Monitoring Plan

(A) Demolition activities (such as striking the existing bridge structure with a hoe ram or crane extension) shall only be undertaken when the location of the demolition point of impact on the structure is at least 190 feet from the nearest location of the wetted channel of the river. Demolition activities shall be limited to daylight daylight hours and weather conditions permitting visual monitoring of the Klamath River for a minimum distance of 300 feet up and down river, as measured from the nearest edge of the bridge deck. A qualified biologist shall be on site continuously to monitor riverine habitat during all demolition activities deploying impact/battering or other sound-pressure-generating techniques. The monitor shall request, and the Caltrans site supervisor shall ensure that noise-generating activities stop immediately if marine mammals enter the 300-foot area up or downstream from the bridge. Once stopped, project activities shall not re-commence until marine mammals have moved more than 300 feet from the bridge deck, or as otherwise authorized by a NOAA Fisheries biologist, and in

consultation with the Executive Director. The biological monitor shall log all marine mammal sightings and behavioral observations, and provide weekly copies of the daily biological monitoring logs to the Executive Director and to NOAA Fisheries and other agencies requesting copies.

(B) Activities undertaken within the floodplain of the river shall be limited to June 15 – October 15, annually, except as provided in Section (C) below. Hinge repair shall be undertaken one hinge location per season, commencing at the southern end of the bridge (Hinge 2) in the first construction year. In the second and third construction years, either Hinge 8 or Hinge 11 may be selected for that year's repairs, as determined by the permittee. Vegetation removal, grading, or other site disturbance shall be limited to the work area associated with the forthcoming season's repairs only (multiple locations shall not be cleared or graded in advance).

(C) Excepted activities that may be undertaken within the floodplain outside of the June 15 – October 15 time period shall be limited to:

1. February 1 – March 1 for site preparation such as vegetation removal that does not require grading, and the placement of bird/bat exclusion measures annually;
2. June 15-Nov.15 annually for placement of deck sealant, with a 3-day dry weather forecast commencing from the date of sealant application, or as may be extended by the Executive Director for cause;
3. October 16 – June 15 annually, erosion control and revegetation measures that must be undertaken during the rainy season.

(D) **Prior to commencement of construction,** Caltrans shall submit a plan for biological monitoring by a Caltrans biologist or a qualified biologist retained by Caltrans (not retained by the Contractor), subject to the review and approval of the Executive Director. The monitoring plan shall include the monitoring schedule, logging and reporting provisions, and other measures necessary to ensure that project activities that may affect environmentally sensitive habitat areas and/or water quality are adequately monitored for compliance and for the purpose of identifying adaptive management measures for real-time resolution of compliance concerns that may arise during construction.

IV. FINDINGS & DECLARATIONS:

The Commission hereby finds and declares as follows (and the information set forth in the staff summary is included by reference):

A. ENVIRONMENTAL SETTING

The site of the proposed project is the Highway 101 crossing of the Klamath River, in Del Norte County. The Klamath River Bridge is located just south of Klamath, an unincorporated

community located approximately 20 miles south of Crescent City. The project is located within the boundaries of lands comprising the Yurok Tribe reservation.
(See Exhibits 1 – 3.)

The Klamath River is the second longest river in California, originating from Upper Klamath Lake in Oregon, where it travels more than 250 miles before emptying into the Pacific Ocean, near Requa, California. Draining more than 15,000 square miles of area, the Klamath River (and its associated estuary, marine, tributary, wetland, and slough habitats) serves as vital habitat for state and federally endangered (and locally rare) Chinook salmon, coho salmon, steelhead trout, coastal cutthroat trout, green sturgeon, southern eulachon distinct population segment (DPS), tidewater goby and lamprey. Longfin smelt, currently in the process of being State-listed as threatened, was once considered abundant in the Klamath River Estuary, but the last record is of one smelt caught in March 2001. Northern red-legged frog, foothill yellow-legged frog, and southern torrent salamander are sensitive amphibian species with potential to occur in the area.

The project area is situated within California's northern coastal forest, with the topography of the area consisting of steep mountains and river flats. The climate is defined as Mediterranean, characterized by wet winters and dry summers. The Western Regional Climate Center data for Klamath Station indicates that the project vicinity receives 80 inches of rain per year and experiences average annual low and high temperatures of 45 and 61 degrees Fahrenheit, respectively. Due to the high rainfall and flashy conditions of the Klamath watershed, Caltrans proposes to undertake the subject construction activities (other than vegetation removal for site preparation, and the implementation of exclusion measures for bird and bat species using the areas of the bridge subject to demolition and replacement) during the June 15 - October 15 non-rainy season for three consecutive years commencing in 2012. One of the three hinges would be repaired in each season, starting with Hinge 2 at the south end of the bridge. The project schedule is designed to guard against the potential for the active river channel to reach the temporary bridge support areas.

Yurok ancestral lands

The project area is located within the ethnographic territory of the Yurok Tribe. Ancestral land of the Yurok Tribe extends from Damnation Creek (approximately 12 miles north of the Klamath River) to the Little River drainage basin (approximately 40 miles south of the Klamath River), and from the Pacific Ocean to the Klamath-Trinity River confluence vicinity to the east (approximately 25 miles inland). Currently the Yurok Reservation is composed of 63,035 acres and extends one mile on each side of the Klamath River from the river mouth to a distance of 44 miles upriver. The Yurok Tribe is the largest Native American Tribe in California, with nearly 5,000 enrolled members. The proposed project vicinity is considered sensitive for archaeological materials; Caltrans will ensure, and the special conditions require, that a Yurok cultural monitor or advisor is present during all ground-disturbing activities. Caltrans has also completed detailed surveys that indicate the discovery of such resources is highly unlikely within the areas proposed for bridge repair activities. Nevertheless, at the Yurok Tribe's request, Caltrans has prepared, and the Special Conditions address, a Native American Graves Protection Act and Repatriation Plan of Action, which outlines the steps to be taken in the event human burials and/or associated archaeological resources are discovered during construction consistent with permit requirements.

Klamath watershed; wetland habitat
Within the proposed project limits, the river corridor is approximately 650 feet wide, the topography is relatively flat (ranging from between zero and 40 feet above mean sea level), and the bridge is located approximately 3.5 miles upstream from the Pacific Ocean. The primary watersheds in the vicinity that drain into the river include the Hoppaw, Saugep, and Waukell creeks. The habitat along the river corridor in the bridge area consists mainly of mixed willow scrub, sandbar willow scrub, *Rubus* scrub, red alder, and perennial grassland. A mature gallery of north coast black cottonwood (*Populus balsamifera*) occurs along the south bank of the river.

All areas subject to project-related grading and/or vegetation removal have been delineated as coastal wetlands (with a minor exception where an existing access road traverses the Hinge 8 work area). The hinge repair areas on the north side of the bridge crossing are dominated by weedy species such as Himalayan blackberry, plantain, wild radish, and various non-native annual grasses. (See Exhibit 4.) Spring and summer plant surveys were conducted in 2009. The surveys were timed to coincide with the periods during which many of the special-status plants that have the potential to occur in the area were blooming and identifiable. In addition to surveying for special-status plants, an inventory of all plant species present at the site was recorded. No special-status plants were found during the surveys or expected to occur within the project limits, according to Caltrans biologists.

Bird species using bridge and project area
The project area is used by numerous bird species for foraging, roosting, and nesting. However, during repeated avian surveys and other visits to the bridge site by biologists over a period of three years (2009 – 2012), only two bird species (cliff swallows and European starlings) were observed using the bridge structure itself.

Since construction-related activities would only occur on one or two hinges at one end of the bridge or the other during any one season, long sections of the bridge (the bridge is 2,038 feet long, each hinge work location is 25 feet long) would remain available for swallows to nest (exclusion measures would only be applied in the areas of the bridge subject to direct hinge repair work).

The little willow flycatcher, a state and federal species of special concern, was observed on the south side of the river by Caltrans biologists over several seasons of field studies. Due to confirming observations, the flycatcher will be assumed present during their normal migratory period, and any vegetation scheduled for removal that could potentially be suitable for flycatcher nesting, would be removed outside of the breeding season (between September 1 and February 28). A Caltrans maintenance crew clear-cut mature willow habitat on the south end of the bridge on August 22, 2011. The vegetation removal was undertaken without the benefit of a permit. Caltrans biologists surveyed the affected area and determined that willow flycatcher habitat was likely not present in the disturbed area. The after-the-fact vegetation removal in areas that would have been cleared for the hinge repair project has been included in the pending coastal development permit application.

Bat species using bridge
Caltrans biologists have also determined that at least five to six individual bats, and potentially more, use the bridge hinges as roosts. Possibly up to a few hundred bats use the interior of the box girders as day roosts and bats may also use the box girders as maternity colony roosts. Night roosting on the exterior of the bridge structure is also likely according to Caltrans biologists. Five species of bats have been positively identified as present in the vicinity of the bridge (Yuma myotis, California myotis, little brown myotis, hoary bat, and silver-haired bat). A sixth species, pallid bat, was identified as most likely being present; a seventh species, big brown bat, was identified as possibly being present. Caltrans has prepared a plan to exclude bats from the bridge areas affected by project construction, and a qualified Caltrans biologist would supervise all exclusion and/or removal measures. Caltrans notes that since only a limited segment of the bridge would be disturbed at any one time, the other bridge hinges would be available for roosting during construction. Additionally, there are several alternate roosting sites (large standing snags) in the vicinity of the bridge. (See Exhibit 5.)

Pacific fisher habitat not present
Pre-field investigation indicated that the Federal candidate listed Pacific fisher (*Martes pennanti pacifica,* Distinct Population Segment) could potentially exist in the project area. According to Caltrans biologists, on-site field investigations indicated that the area within the project limits does not contain suitable habitat for the Pacific fisher.

B. PROJECT DESCRIPTION

Caltrans proposes to replace three deteriorating hinges supporting the Klamath River Bridge, Highway 101, Del Norte County. The two-lane bridge was built in 1965. The bridge is 2,038 feet long and consists of twelve spans and four hinges that join the spans together. The original hinge seats are only six inches wide (replacement hinge sections will be approximately two feet wide). Caltrans inspectors have determined that the hinges are exhibiting signs of fatigue; bridge inspection reports have noted cracking at all four hinges since at least 2001, and earlier reports also indicated that the integrity of the bridge hinges has been a long-term concern.

The four hinges contained within the bridge are numbered Hinge 2, Hinge 5, Hinge 8, and Hinge 11. The numbers are assigned in accordance with Caltrans' system of describing the first bridge abutment as Abutment 1 (commencing at the southerly end of the bridge), the first pier as Pier 2 (there is no Pier 1), with hinges taking the number of the most southerly adjacent pier. Thus, Hinge 2 follows Pier 2; Hinge 5 follows Pier 5, etc. Hinges 2, 8, and 11 – the hinges presently proposed for repair – are located over dry land under typical summer low flow river conditions. Hinge 5 (reconstructed) is located over the active river channel under all river flow conditions.

Hinge 5 previously replaced
In the winter of 2006, Caltrans reported that the hinge at span 5 (Hinge 5) experienced significant rapid settlement, requiring the replacement of the hinge under emergency contract. Caltrans requested an emergency CDP from the Coastal Commission, which was approved. However, after the permit was issued and reported to the Commission, Caltrans decided not to

accept the conditions placed on the emergency permit, and constructed the repairs without signing the permit or implementing some of the conditions. The unpermitted activities thereafter became the subject of an investigation by the Commission's enforcement program, and eventually the matter was resolved through the settlement of third party litigation in consultation with the Commission's enforcement staff. The manner of resolution obviated the need to process a regular follow-up up coastal development permit for the subject repairs. Caltrans is seeking a regular coastal development permit for the remaining hinges that require replacement (Hinges 2, 8, and 11), and hopes to avoid allowing the hinges to reach the stage of failure that would require another emergency response.

Because the remaining three hinges are located over dry land during typical summer/early fall conditions, Caltrans devised a plan to undertake repairs from the bridge deck and via separate access points at the north and south ends of the bridge. Caltrans proposes to repair the hinges on a three-year schedule, commencing with Hinge 2 at the south end of the bridge in 2012, and then repairing Hinge 8 and Hinge 11 (at the north end of the bridge) in either order, in 2013 and 2014. By relying on one-way traffic control and staging work off the bridge deck, Caltrans would avoid the need to install a temporary detour bridge crossing of the river, or the installation of temporary access roads (which would have required the removal of at least two acres of additional wetland vegetation, compared with the 0.55 acres of the subject proposal, according to Caltrans). A temporary bypass bridge would require pile-driving to install the necessary support structures within the river channel. Pile-driving has the potential to produce hydroacoustic impacts harmful to aquatic species, including numerous threatened and endangered fish that inhabit the Klamath River.

Caltrans indicates that the tradeoff for avoiding pile-driving or construction of substantial areas of new access roads within wetlands, is that one-way traffic control for three summers and some all-night bridge closures will be necessary, adding delays for summer travelers and inconveniencing local residents. Nevertheless, substantial project cost savings will result from avoiding construction of a temporary bypass bridge, and potentially harmful effects on aquatic species such as endangered salmonids will also be avoided. In addition, at least two acres of wetland fill will be avoided by using the cranes on deck to lower equipment to the work sites, instead of grading in new temporary access roads.

Description of work

As proposed by Caltrans, work (other than preliminary site preparation such as vegetation removal that must be completed before the beginning of nesting season) will occur during the dry months of summer and early fall (June 15 – October 15) annually, for three consecutive years. This schedule will avoid most significant rainfall events and the attendant hazards (such as river scour of temporary support structures that are not designed for winter inundation) that a rising river would pose to the job.

The Caltrans project engineer provided the following general description of the proposed work in a memorandum dated September 20, 2011:

Site preparation:

1. Traffic control: A traffic signal system for one-way reversible traffic will be installed either on the bridge, or immediately to the north and south of the bridge. The signal system would be removed or covered over the winter non-construction period.
2. Temporary fencing will be placed at the hinge work area below the bridge, to delineate the allowable work area for the Contractor.
3. Night closures will be allowed for crane(s) to deliver grading equipment, compactors, generators, and temporary foundation cribbing and temporary steel supports and falsework for the bridge.
4. Temporary barriers and cones or delineators will be placed on the bridge to close one lane of the bridge, while half of the hinge of the other lane is replaced.
5. Vegetation will be removed from the hinge work area below the bridge, and will be lifted to the bridge and disposed of outside the project limits at an authorized greenwaste disposal facility as approved by Caltrans, to minimize the potential for contamination by non-native species. The portion of the area for the temporary foundations will be graded flat. The temporary bridge support foundations are expected to be approximately 20 feet by 40 feet wide, and two of these foundations will be required to support the bridge at each hinge repair location. The falsework and foundations are expected to be approximately 20 feet by 40 feet wide to support the concrete forms for the hinge replacement.
6. Each hinge repair area would require grading level a work area of approximately 84 feet by 110 feet (9,240 sq. ft. or approximately 0.21 acres) within the floodplain. The grading would total up to 80 cu. yards per work area (20 cu. yds. cut, 20 cu. yds. fill to level the area, then re-grade the area back to original site conditions after repairs are completed in the subject section of the bridge).
7. Fiber rolls, drainage inlet protection, concrete washouts, and gravel bag berms will be placed for storm water best management practices.

Construction:

1. Wood or precast concrete and steel cribbing will be placed on the ground below the hinge work area. Workers will access the work areas below the bridge by crane man lift. The cribbing to support the weight of the bridge will be approximately 20 feet by 40 feet. Additional cribbing will be placed adjacent to the temporary bridge support cribbing for the purpose of supporting the falsework for the forms for replacing the hinge segment of the bridge.
2. Steel pipe (or wide flange) temporary bridge support frames will be welded together, set on the cribbing, and lifted into position either by crane, or forklift from the ground. Shop drawings and calculations from the Contractor will be reviewed for approval by Caltrans Engineers. Lighter falsework supports will be placed on the adjacent cribbing foundation for the purpose of demolishing and casting of the segment of the bridge to be replaced.
3. The temporary bridge support frames will likely be tested for several days to ensure that the bridge will be supported without settlement. Steel beam(s) will be placed under the bridge, and hydraulic jacks placed between the beams and the support frames, and the supported sections of the bridge will be lifted slightly above the existing hinge seats. Settlement of the bridge will be monitored, and lifted repeatedly until no settlement is observed.
4. Falsework supporting the forms for the 25-foot-long segments of the bridge to be replaced will be constructed while the temporary bridge support is tested. After the steel framed

falsework is placed, a plywood or steel sheet deck will be placed on the falsework and immediately under the bridge, and will extend beyond the edges of the deck to provide access from construction workers as well as debris catchment. The deck material will be cut and fitted on the closed highway lane on the bridge. Construction equipment remaining within the hinge work areas below the bridge will likely be lifted from the work areas and either removed from the project limits or to the vehicle/equipment maintenance area(s) north or south of the bridge.

5. After the temporary bridge supports have been tested and are supporting the bridge, and the forms for the hinge replacements are in place, half of the hinges (where the bridge is closed to traffic) will be demolished. Segments of the metal tube railing will be removed from the closed half of the bridge (and re-installed after bridge portion is replaced). The segments of concrete barrier will be broken up with jack hammers or hoe rams and pushed onto the deck, where it will be promptly removed into dump trucks and removed from the project limits. The upper deck segments will be demolished with jackhammers or hoe rams, and debris can fall to the soffit (bottom slab of the bridge) below, and will be removed from both the deck and lower bridge soffit. The vertical walls forming the bridge will be broken up and removed from the bridge soffit. The bridge soffit will be broken up, with debris falling to the falsework/formwork supporting the soffit, and promptly removed. All concrete debris will be swept and/or vacuumed to allow for the reconstruction of the bridge hinge.

6. Steel reinforcing bars and form boards will be placed on the falsework/formwork to create a new soffit. The concrete will be poured or pumped into place for the new bridge soffit. The concrete trucks and pumping equipment will be directed to the concrete washout in the equipment maintenance area off of the bridge for cleanup. Any concrete falling to the ground will be removed. Next, the approximately 8-1/2 foot tall walls supporting the deck will be formed, reinforcing will be placed and the concrete poured. The walls of the short spans supporting the long spans will be installed first, as the walls of the long span will rest on those of the short span segment of the bridge. The forms will be removed from the wall construction, and plywood forms will be placed below the finished deck, reinforcing will be placed and the deck will be poured, and the metal rails previously removed will be reinstalled.

7. After the hinges of one side of the bridge have been replaced, the temporary railings and cones (delineators) will be relocated, and the demolition and re-construction procedure will be repeated for the other side of the bridge hinges (steps 5 and 6).

<u>Construction completion:</u>

1. After the each hinge is replaced, the temporary bridge supports will be lowered to allow the short spans of the bridge to support the long span segments of the bridge. The falsework materials will be removed by crane up to the deck and removed. The temporary support frames will be disassembled and cut as necessary to remove, and will be removed by crane from the bridge deck. The cribbing material will also be removed by crane. A small tractor will be lowered to the hinge work areas and the “flattened” temporary foundation areas will be re-graded and re-contoured to conform to the pre-construction slopes. The grading equipment will be removed. The fiber rolls and temporary fencing will be removed by crane. The hinge work areas will then be re-planted.

2. The temporary barriers and cones/delineators will be removed, and the signal system will be removed.

3. The bridge will be swept clean, and soffit drains will be temporarily sealed, striping will be removed and a methacrylate deck sealant be placed onto the deck surface. This work will occur under flagging traffic control. New stripes will be placed on the bridge.
4. The construction equipment, temporary seals on the soffit drains, and the remaining storm water management items will be removed from the project to complete the construction work.

Service life of existing bridge extended by repairs
Caltrans states that the proposed project would replace the remaining cracked and aging hinges at post mile R4.09 (Hinge 2), R4.29 (Hinge 8), and R4.39 (Hinge 11) to extend the service life of the bridge, to prevent damage to the remainder of the structure and to conform to current hinge design and construction practices. The replaced hinges will be significantly wider and stronger than the original hinges. Hinge replacement includes application of methacrylate to the new deck surface after construction to seal and extend the life of the bridge. Bridge rails and other visible features of the bridge would be re-used or replaced in kind to match the existing bridge. The repairs may extend the service life of the bridge indefinitely; Caltrans engineers have estimated that repairs will provide a minimum of at least an additional 25 years of service life for the bridge.

Construction schedule
The project would be completed between June 15, 2012 (other than vegetation removal necessary for site preparation before the onset of annual nesting season and installation of bridge exclusion measures, work nearest the active river channel would not commence before June 15 in any construction year) and October 15, 2014, according to Caltrans. Each hinge would be repaired in a single construction season, commencing with Hinge 2 at the south end of the bridge. The construction season could not be extended beyond October 15 in any construction year due to the hazards posed by rapidly rising waters in the Klamath, and the substantial difficulty of removing temporary supports and implementing erosion control measures in disturbed project areas.

Caltrans proposes to repair Hinge 2 during the first construction season (2012). This schedule will ensure that the sensitive habitat at Hinge 2, which includes some after-the-fact removal, would be restored as soon as possible. The other two hinges, as explained below, presently have significant areas of non-native invasive species in the proposed work areas. Caltrans proposes to repair Hinge 8 and Hinge 11 in 2013 and 2014, though the order of repair has not been determined (Caltrans explains that it would be left to the eventually-selected contractor's discretion which of the two northerly hinges to repair first). The hinges could not be repaired simultaneously without additional hydroacoustic impact analysis and hydroacoustic monitoring would be required to ensure protection of aquatic species during demolition; Caltrans indicates that it would be less expensive, and the schedule more reliable for timely annual completion (to avoid riverine hazards with the onset of the annual rainy season) to construct only one hinge repair per season.

Construction access will be from the bridge deck to minimize environmental and community impacts. Cranes on the bridge deck would lower equipment and materials into the specific work area where repairs are underway. Support for the repair area would be provided by temporary structures placed beneath the bridge, transferring bridge load temporarily so that the subject hinge may be taken out of service and replaced. The season's activities would

include constructing the necessary support pads, placing support structures, demolishing and replacing each 25-foot bridge section (including installing the new hinge and resurfacing the associated section of the bridge deck and replacing rails and other features), restoratively grading the pads and access roads back to natural, pre-construction contours, installing the approved native plants for restoration/enhancement of the affected areas, and installing erosion control measures to protect the new plantings and previously disturbed soils.

Timing limitations

As noted previously, extensions of time beyond the annual October 15 deadline (to extend the construction season) in any year would not be appropriate for several reasons: a) because river changes may occur suddenly with heavy rainfall and with catastrophic consequences if the temporary bridge supports at any hinge location are undermined by river scour; b) to ensure sufficient time to perform restorative grading and complex site revegetation and enhancement measures proposed by Caltrans before the onset of rainy season; and c) to ensure sufficient time to remove exclusion measures and to install final site erosion control measures after all other activities have been completed for the subject season. Caltrans water quality and environmental engineering staff notes that significant precipitation events often occur during the first half of October, further reinforcing the need to timely complete all seasonal activities by October 15 annually.

In keeping with these considerations, Caltrans proposes and the special conditions require that each hinge be repaired in a single, separate June 15-Oct.15 construction season, commencing in 2012 and ending in 2014. Caltrans has explained that this limitation is designed in part to ensure that key, incremental work milestones are completed within the pertinent time limits of a dry season construction window and to ensure that disturbance of bridge nesting/roosting habitat used by bird and bat species occurs on only one side of the river at a time. In addition, according to Caltrans staff, the total work required by the proposed project could not with certainty be completed in a single construction season without impermissibly doubling up the demolition activities and potentially increasing the risk of hydroacoustic impacts, as well as increasing the risk of significant disturbance to bridge nesting/roosting migratory birds and bats. Caltrans therefore determined that to avoid hydroacoustic monitoring/combined demolition location complications, increased impacts to birds/bats using the bridge for seasonal roosting/nesting, and to avoid hazards posed by rainy season conditions should repairs take longer than anticipated at any hinge, construction would be undertaken one hinge per season during the restricted dry season window of each year.

Fill of coastal wetlands, subsequent restoration, enhancement, limits on maintenance

Caltrans proposes to support the bridge during repairs by constructing three level pads (approximately 1,600 sq. ft.) for bridge support while each hinge is out of service, within an overall 84 x 110 sq. ft. work area that must be graded level for equipment operations, materials, etc. within each hinge repair area. The total grading per hinge repair area requires up to approximately 80 cu. yds., within areas mostly delineated as coastal wetlands.

Temporary bridge supports would be installed and subsequently regraded to pre-construction contours at completion of each year's construction or by October 15, at the latest. The subject disturbed area (and other areas of the site subject to the proposed restoration activities) would be reseeded for erosion control immediately after construction, then revegetated with

ecologically appropriate, locally native plant species during the rainy season of the following calendar year. Caltrans estimates that the total area of directly affected wetland vegetation would be approximately 0.55 acres for the overall project. In addition to restoring the disturbed work areas with a palette of native plant species, including the hinge areas that are presently populated by mostly non-native invasive species, Caltrans proposes to restore an additional 0.79 acres of habitat adjacent to the bridge, between Hinges 8 and 11. The plant palette has been designed to rely on appropriate, locally native species that will mature to heights of not more than twenty feet. Caltrans has agreed to limit maintenance trimming of vegetation near the bridge provided the vegetation does not exceed 20 feet in height, thus enhancing the habitat functions and ecological value of the restored habitat areas by limiting recurring disturbance that would otherwise diminish the habit value of the restored areas near the bridge. Aggressive control of non-native invasive species in the bridge corridor would be part of the overall effort to enhance habitat values, and to improve the establishment success of slower-growing native plant species. (See Exhibits 4 and 7)

Demolition

The project would not include any pile-driving activities (which can transmit sound impacts to adjacent underwater habitat, even when undertaken from adjacent upland locations). The proposed project does, however, include demolition of the failing hinge locations by means of hoe-ram battering. Demolition-related battering (percussive) activities have been shown to generate hydroacoustic impacts within nearby waters in some situations, and approximate the sound levels generated by pile-driving of concrete piles. Therefore, at the request of Commission staff, Caltrans retained a qualified engineer/acoustician to analyze the potential hydroaoustic impacts of the proposed demolition activities. The pertinent calculations demonstrate that, provided the nearest location of the wetted channel is at least 190 feet from the nearest demolition impact location, sound pressure levels calculated for one demolition location at a time should remain below the thresholds that have been established to protect fish from adverse biological effects.

Marine mammals may suffer behavioral effects at lower sound pressure thresholds than the levels known to pose a risk of physical harm to fish; therefore monitoring by a qualified biologist to ensure that marine mammals are not present in the river during demolition activities will be required. The special conditions limit demolition activities to a minimum of 190 feet from the nearest edge of the wetted river. If river flows are higher than normal, the onset of construction activities could be delayed and the work schedule would be adjusted accordingly. The presence of marine mammals could also delay the project schedule. Due to the uncertainties posed by these factors, the necessary work could require three consecutive seasonal construction windows for project completion.

Best Management Practices

The applicant's project description includes a list of mitigation measures and "best management practices" (BMPs) to protect water quality and other coastal resources. These include the following:

- A qualified biologist would flag the delineated wetlands adjacent to work areas prior to commencement of construction;

- Prior to the start of work, a job-site tailboard would be conducted to inform workers of the necessary conservation measures and BMPs;
- All personnel and equipment would be required to remain within upland areas and outside of wetlands at all times during project activities;
- A revegetation plan using a Caltrans-approved seed mix would be prepared to restore the excavated areas to the current conditions following project completion, including measures to salvage, temporarily store, and replace excavated topsoil;
- Sediment control measures (such as silt fencing, fiber rolls, gravel bag berms, sand bag barriers, storm drain inlet protection, tracking controls, and stockpile management) would be in place to ensure that any excavated material would not enter adjacent wetlands or waters during construction;
- Any signs of soil contamination during the excavation process would result in the immediate stop of work;
- Construction activities would be scheduled to occur in the dry season to prevent runoff and sedimentation into adjacent wetland and slough areas;
- All proposed project activities, including excavation and equipment/vehicle staging and storage, would remain within the proposed upland work areas contained within the Caltrans right-of-ways and adjacent gravel access road;
- All motorized equipment used at the project site would be maintained in proper working condition and would be free of drips and leaks of coolant and petroleum products; and
- A spill prevention and clean-up kit would be available on-site for use in case of an accidental spill. Any equipment or vehicles operated adjacent to the slough would be checked and maintained daily to prevent leaks.

Plans concerning sensitive coastal resources

In addition, the applicant has prepared various plans that include specific measures to avoid or minimize project impacts on coastal resources. These include a "Project Revegetation, Mitigation and Monitoring Plan," letters of additional information concerning vegetation and habitat impacts and project commitments dated November 10 and December 14, 2011 (combined, Exhibit 4), "Bird and Bat Exclusion Plan" (Exhibit 5), and "Erosion Control, Grading, and Water Pollution Control Plan" (Exhibit 6). The Erosion Control Plan includes specific BMPs for erosion control, sediment control, tracking control, wind erosion control, non-stormwater control (including operations, equipment and vehicle washing, etc.), waste management and materials pollution control, and post-construction stormwater management. The Revegetation Plan includes specifications for materials and installation methods, measures to remove and control non-native invasive species, performance milestones and some reporting requirements to ensure that disturbed as well as previously degraded wetland habitat would be restored and managed in a manner that will provide the equivalent of approximately 3:1 mitigation within the Caltrans right-of-way near the bridge. The permit application submitted by Caltrans also includes extensive, negative cultural resource survey reports prepared by a qualified Caltrans archaeologist as well as plans prepared in accordance

with federal laws and the requirements of the Yurok tribal authorities in the event that cultural remains are discovered during project grading.

C. PERMIT AUTHORITY, EXTRAORDINARY METHODS OF REPAIR & MAINTENANCE

Coastal Act Section 30610(d) generally exempts from Coastal Act permitting requirements the repair or maintenance of structures that does not result in an addition to, or enlargement or expansion of, the structure being repaired or maintained. However, the Commission retains authority to review certain extraordinary methods of repair and maintenance of existing structures that involve a risk of substantial adverse environmental impact as enumerated in Section 13252 of the Commission regulations.

Section 30610 of the Coastal Act provides, in relevant part (emphasis added):

> *Notwithstanding any other provision of this division, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas: . . .*
>
> *(d) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; provided, however, that if the commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to this chapter.*

Section 13252 of the Commission administrative regulations (14 CCR 13000 *et seq*.) provides, in relevant part (emphasis added):

> *For purposes of Public Resources Code section 30610(d), the following extraordinary methods of repair and maintenance shall require a coastal development permit because they involve a risk of substantial adverse environmental impact:…*
>
> *(3) Any repair or maintenance to facilities or structures or work located in an environmentally sensitive habitat area, any sand area, within 50 feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams that include:*
>
> *(A) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;*
>
> *(B) The presence, whether temporary or permanent, of mechanized equipment or construction materials.*
>
> *All repair and maintenance activities governed by the above provisions shall be subject to the permit regulations promulgated pursuant to the Coastal Act, including but not limited to the regulations governing administrative and emergency permits. The provisions of this section shall not be applicable to methods of repair and maintenance undertaken by the ports listed in Public Resources Code section 30700 unless so provided elsewhere in these regulations. The provisions of this section shall not be applicable to those activities specifically described in the document entitled Repair, Maintenance and Utility Hookups, adopted by the Commission on September 5, 1978 unless a proposed activity will have a risk of substantial adverse impact on public access, environmentally sensitive habitat area, wetlands, or public views to the ocean.…*

The proposed project is a repair and maintenance project because it does not involve an addition to or enlargement of the subject highway bridge, which was originally installed in 1965. Although certain types of repair projects are exempt from CDP requirements, Section 13252 of the regulations requires a coastal development permit for extraordinary methods of repair and maintenance enumerated in the regulation. The proposed repair work involves the placement of construction materials and removal and placement of solid materials within 20 feet of coastal waters and within 50 feet of ESHA (wetland habitats). The proposed repair project therefore requires a coastal development permit under CCR Section 13252(a)(1).

In considering a permit application for a repair or maintenance project pursuant to the above-cited authority, the Commission reviews whether the proposed method of repair or maintenance is consistent with the Chapter 3 policies of the Coastal Act. The Commission's evaluation of such repair and maintenance projects does not extend to an evaluation of the conformity with the Coastal Act of the underlying existing development.

The repair and maintenance of the deteriorating bridge hinges, such as is proposed under the subject CDP application, can have adverse impacts on coastal resources, in this case primarily coastal wetlands and coastal waters within and adjacent to the project area, and bridge nesting/roosting species, if not properly undertaken with appropriate mitigation. As described above, the applicant proposes to repair and maintain the Klamath River Bridge crossing of U.S. Highway 101 in its existing footprint by accessing the hinge locations of concern via mostly existing access roads, and off the bridge deck. Heavy equipment will be necessary to grade level pads for placement of temporary bridge supports while the three respective hinges are removed and replaced and the bridge surface reconditioned and sealed after construction.

The applicant has included a number of mitigation measures as part of its proposal, as discussed above, such as flagging adjacent wetlands and sensitive habitats for avoidance, using various sediment control and spill prevention measures, and revegetating and restoring disturbed areas to conditions that in some areas would be of greater ecological value that pre-project conditions. Although these and other measures proposed by Caltrans are appropriate, the Commission finds that additional measures are needed to avoid or minimize potential project impacts on water quality, adjacent wetland habitats, sensitive species, and archaeological resources and ensure that the development is consistent with Coastal Act policies protecting these resources. Other special conditions are necessary to include assumption of risk protection, and to memorialize future maintenance limitations agreed upon by Caltrans within the bridge corridor. The conditions required to meet these standards are discussed in the following findings relevant to water quality, marine resources, ESHA, and archaeological resources. Therefore, as discussed in these Findings, the Commission finds that the proposed project as conditioned is consistent with all applicable Chapter 3 policies of the Coastal Act.

D. PROTECTION OF WATER QUALITY & ESHA

Section 30230 of the Coastal Act states as follows:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states as follows:

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

Section 30232 of the Coastal Act states as follows:

> *Protection against the spillage of crude oil, gas, petroleum products or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Section 30233 of the Coastal Act, in pertinent part, requires the evaluation of alternatives to the proposed project, and the adequacy of proposed measures to lessen or mitigate impacts to wetlands as follows:

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

Section 30240 of the Coastal Act states, in applicable part, as follows:

> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Section 30107.5 of the Coastal Act defines "environmentally sensitive area" (ESHA) as follows:

> *"…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

As discussed above, the project area adjacent to the highway bridge is located within delineated wetlands and riparian habitat adjacent to the Klamath River. These adjacent coastal wetlands and waters provide habitat for a number of marine species, including rare, threatened, or endangered species such coho and Chinook salmon, steelhead trout, and the bridge structure itself provides nesting and roosting habitat for migratory birds and bats, and

other species. These adjacent coastal waters and wetland habitats constitute ESHA under the Coastal Act.

As cited above, Section 30240(b) of the Coastal Act requires that development in areas adjacent to ESHA shall be sited and designed to prevent impacts which would significantly degrade the ESHA and that permitted development shall be compatible with the continuance of the adjacent ESHA. Sections 30230 and 30231 of the Coastal Act require in part the maintenance of the biological productivity and quality of marine resources, coastal waters, streams, wetlands, and estuaries necessary to maintain optimum populations of all species of marine organisms and for the protection of human health. Section 30232 of the Coastal Act requires that permitted development provide for the protection against the spillage of crude oil, gas, petroleum products, or other hazardous substances and that effective containment and cleanup facilities and procedures be provided for accidental spills that may occur. Section 30233 of the Coastal Act requires in part that wetland fill may only be approved when there is no feasible less environmentally damaging alternative and when feasible mitigation measures have been provided to minimize adverse environmental effects.

Implementation of the proposed work will result in the repair of an existing highway bridge, within the existing footprint, the removal of vegetation and grading of soils for construction of support pads, the use of existing level graveled areas adjacent to the highway for staging areas for vehicles and equipment and for material and demolition debris stockpiling, and the construction of concrete washout holding basins for management of rinsate during hinge repair work. Because development is proposed within and adjacent to wetlands and riparian vegetation, there is a potential for project activities to adversely impact the water quality and habitat function of these environmentally sensitive habitat areas. Unless appropriate protocols are followed, the proposed work could result in sediments or other pollutants entering coastal waters and wetlands, improper storage of materials in or adjacent to sensitive areas, accidental leaks of coolants and petroleum products in close proximity to marine waters and ESHA, and other activities that could have adverse impacts on water quality, marine resources, and ESHA adjacent to the project site.

The applicant has proposed a number of protocols to protect water quality and sensitive habitats and species, as detailed in the Restoration Plan (Exhibits 4 and 7), Bird and Bat Plan (Exhibit 5) and the Erosion Control Plan (Exhibit 6). **Special Conditions 1, 2, 3, 6, 7** and **11** require but are not limited to the implementation of the measures set forth in these plans.

The Erosion Control Plan proposes a number of specific BMPs, including, but not limited to, the following:

- Erosion Control: The plan proposes to control erosion by scheduling development during the non-rainy season, delineating work areas with temporary fencing or other barriers to preserve existing adjacent vegetation, re-seeding disturbed areas following construction, and using erosion control devices to prevent erosion and stormwater runoff.
- Sediment and Tracking Control: The plan proposes the use of fiber rolls and gravel bag berms around excavation areas to intercept sheet flows and control sediment on the construction site and street sweeping and vacuuming to prevent

or reduce the tracking of sediment offsite by vehicles leaving the construction area.

- Wind Erosion Control: The plan proposes to use dust control as necessary, limit off-road vehicle traffic to 15 miles per hour, and stockpile management (see below) to control wind erosion on the construction site.
- Non-stormwater Control: The plan proposes BMPs for water conservation, dewatering operations (as described above in the "Project Description" Finding), monitoring for illicit discharges or dumping, vehicle and equipment washing (to be limited to off-site facilities only or at least 50-feet from ESHA in prescribed, lined and bermed concrete washout basin), vehicle and equipment fueling (to be done off-site only or with the use of absorbent pads and spill response equipment and other prescribed protocols should on-site fueling be necessary for stationary equipment such as cranes), and vehicle and equipment maintenance (to be done off-site only or in designated areas only and with spill response equipment should on-site maintenance be necessary).
- Waste Management and Materials Pollution Control: The plan proposes procedural and structural BMPs for the handling, storing, and disposing of solid, sanitary, concrete, hazardous, and equipment-related wastes. This section of the plan proposes covering and installing erosion control devices around stockpiles, maintaining spill response equipment on site, properly containing and disposing of all trash and debris, prohibiting the storage of bulk lubricating oil, hydraulic fluids, and other materials used for vehicle and equipment maintenance at the construction site, hauling away and properly disposing of any contaminated soils encountered, and other BMPs.
- Post-Construction Stormwater Management: Following completion of construction, the plan proposes to stabilize all disturbed soil areas, to backfill excavation areas and recontour them to pre-project grade, and to remove all temporary BMPs from the project site.
- Monitoring: Project activities that may affect sensitive species or habitat require monitoring or supervision by a qualified biologist employed or retained by Caltrans

The Commission finds that the comprehensive erosion and sedimentation control measures proposed by the permittee's erosion control plan are appropriate and will be effective in protecting water quality and sensitive habitats and species provided certain additional measures are added to the plan. Therefore, the Commission attaches **Special Condition 2** requiring that Caltrans submit a final erosion control and water quality protection plan that (a) incorporates certain additional best management practices specified in **Special Condition 1** as discussed below, and (b) includes a provision for submittal of a post-construction "as-built" final report to the Executive Director within 30 days of completion of construction. The final report is to document the stabilization of all disturbed soil areas, the backfilling and recontouring of excavation areas to return the areas to pre-project conditions, and the removal of all temporary BMPs from the project site, as proposed in the approved plan. If the report documents that any of the

BMP measures identified in the plan failed to meet the objectives of stabilizing soils and returning disturbed areas to pre-project conditions following completion of construction, the permittee shall submit a revised or supplemental site-specific erosion and sediment control plan to compensate for those portions of the original plan that did not meet the post-construction plan objectives. The revised or supplemental site-specific erosion and sediment control plan shall be processed as an amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

The Commission's senior staff ecologist, John Dixon, Ph.D. has reviewed the revegetation plan proposed by Caltrans (Exhibit 4), and has determined that, in general, and with some revisions or clarifications listed below, the protocols proposed by the applicant are comprehensive and appropriate to protect water quality and adjacent ESHA. Dr. Dixon has provided the following specific recommendations, and all of his recommendations have been incorporated into Special Condition 3:

- Both the plant palette and planting plan (Appendix A of the plan), and the success criteria should be organized according to revegetation areas. The quantity of plants, for example, should be specified for each area.
- More than one habitat type is specified for most areas. If these habitat areas are not coextensive, then the actual mosaic of habitats should be shown as polygons on a map.
- Rather than expressing success criteria in terms of percent survival, express these criteria as the actual number of plants that are to be present. This will automatically include any natural recruitment.
- Success criteria should include criteria for percent ground cover for each vegetation stratum.
- The success criterion for exotic species should be no more than 10% absolute cover rather than relative cover.
- Coyote bush should be removed from the planting palette for Hooker's Willow Riparian habitat or ecologically justified.
- Add the following language: "Final monitoring for success shall take place after 5 years or after 3 years with no remediation or maintenance other than weeding, whichever is longer."
- Add the following language: "If the final report indicates that the restoration project has been unsuccessful, in part or in whole, based on the approved success criteria, the applicant shall submit within 90 days a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved success criteria. The revised restoration program shall be processed as an amendment to the coastal development permit unless the Executive Director determines that no permit amendment is required.

The Commission staff ecologist has also evaluated the after-the-fact vegetation removal, the proposal to accomplish approximately 3:1 mitigation ratio for native plant habitat disturbed by the project, through revegetation of all disturbed areas (including an additional 0.79 acres of degraded habitat that is not part of the disturbed area, located between Hinges 8 and 11), and including the commitment explained by Caltrans to limit future maintenance trimming of the habitat adjacent to the bridge where vegetation does not exceed twenty feet in height, and has determined that the proposed mitigation is adequate.

The Commission notes that only the after-the-fact vegetation removal necessary for the hinge repair activities is covered by the subject mitigation measures. The additional vegetation removal undertaken by the Caltrans maintenance crew in August of 2011 within the Klamath Bridge corridor that was not necessary for the hinge repair project is not covered by these provisions or authorized by CDP 1-11-039. Caltrans has proposed to submit a separate coastal development permit application for these activities.

The Commission finds that the protocols proposed by the applicant in the submitted Restoration Plan (Exhibit 4) as revised in accordance with the recommendations of the Commission staff ecologist are comprehensive and appropriate to protect water quality and adjacent wetland habitats, and to restore the affected river corridor in a manner that will limit habitat disturbance otherwise necessary for future maintenance. Therefore, the Commission attaches **Special Condition 3** to require that Caltrans undertake development in conformance with the Revegetation Plan as revised in accordance with the requirements of the special condition.

In addition, **Special Condition 11** specifies construction schedule limitations and biological monitoring requirements necessary to ensure the full protection of sensitive coastal resources that may be affected by the proposed project.

Therefore, for all of these reasons, the Commission attaches **Special Conditions 2, 3, and 6** to require that Caltrans undertake development in conformance with the approved final versions of the Revegetation, Bird and Bat Plan, and the Erosion Control Plan (Exhibits 4, 5, 6 and 7).

Construction responsibilities:

The Commission attaches **Special Condition 1** to further ensure the protection of water quality and adjacent ESHA from construction-related impacts. This condition outlines general construction standards and responsibilities that must be adhered to. These include but are not limited to (a) conducting the authorized work only during the dry season period of June 15 through October 15; (b) delineating the limits of the work areas prior to the commencement of construction to limit the potential area affected by construction and ensure that all wetland areas are avoided during construction; (c) maintaining all motorized equipment used at the project site in proper working condition and free of drips and leaks; (d) maintaining a spill prevention and clean-up kit available on-site for immediate use in case of an accidental spill and checking and maintaining equipment or vehicles operated adjacent to the Klamath River daily to prevent leaks; (e) prohibiting activities within coastal waters; (f) maintaining adequate stocks of stormwater runoff and erosion control barrier materials onsite and ensuring that appropriate erosion, sedimentation, and runoff control devices are installed around all work areas and staging areas prior to commencement of construction; (g) promptly mulched or covering bare soil areas if rainfall is forecast during the time construction activities are being performed; (h) recovering any debris discharged into coastal waters immediately and disposing of it properly; (i) seeding all disturbed soils prior to the rainy season in compliance with the approved plan required to be implemented per **Special Condition 3**; and (j) ensuring that all on-site workers and contractors understand and agree to observe the standards for work outlined in this permit prior to the commencement of the repair and maintenance activities authorized by this permit.

Changes to final approved plans would require amendment of permit:

The special conditions provide that no changes to the final plans required by **Special Conditions 2, 3, or 6** shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required. **Special Condition 7** further requires that the permittee provide the Executive Director with evidence that all other final state and federal authorizations and approvals have been received prior to commencement of construction, and that any changes to the project that may be required by such authorizations and approvals may require an amendment to CDP 1-11-039.

Therefore, for all of the reasons set forth above, the Commission finds that as conditioned, all feasible mitigation measures have been provided to minimize adverse environmental effects consistent with Sections 30230, 30231, 30232, 30233 and 30240 of the Coastal Act. In addition, The Commission finds that as conditioned to require specified revisions and implementation of the various water quality and ESHA protection BMPs described in the Erosion Control Plan, Revegetation Plan, and Bird and Bat Plan and to require adherence to a number of additional construction standards and responsibilities to protect water quality and adjacent ESHA, the proposed development is consistent with Coastal Act Sections 30230, 30231, 30232, and 30240.

As set forth above, Coastal Act Section 30233 requires that projects proposing to fill wetlands be evaluated to ensure that the least damaging feasible alternative is proposed. Caltrans proposes to remove vegetation and grade up an area measuring up to 84 by 110 feet in area (9, 240 sq. ft. or 0.21 acres) at each hinge repair location, within the floodplain of the Klamath River. Each location has been delineated primarily as wetlands, though only vegetation at Hinge 2 (south end of the bridge) is presently vegetated with high quality native plant habitat.

Three alternatives to the proposed project exist: no project; use of temporary access roads for access to the hinge construction areas; and installation of a bypass bridge for full traffic access during construction. The no project alternative would allow the deterioration of the hinges to continue, which would eventually result in the failure of the bridge. Therefore, the Commission finds that the no project alternative is not a feasible less environmentally damaging alternative. The second alternative, to use temporary access roads, was evaluated by Caltrans and found to require removal of an additional two acres of wetland habitat that would not be disturbed by the proposed alternative (using cranes on the bridge deck to lower equipment and materials to the hinge sites, rather than driving them in via new access roads). Therefore, the Commission finds that the alternative of constructing new roads to gain construction access to the floodplain of the river is not a feasible, less environmentally damaging alternative. The third alternative would install a temporary bridge crossing over the Klamath River for bypass use by through-traffic, with or without the use of cranes or access roads. The bypass bridge would be more convenient for motorists, but to achieve safety standards, would require significant installation of support piles in the river channel. Support piles require pile-driving, and the fill of wetlands. Caltrans determined that pile-driving within the Klamath River would, in addition to other

impacts such as to water quality, pose significant and impermissibly high risk of harm to state and federally-endangered salmonids and other species inhabiting the river. Therefore, the Commission finds that the third alternative is not a feasible less environmentally damaging alternative.

For all of the reasons described above, therefore, the proposed project is the alternative that least affects wetlands and best protects sensitive species inhabiting the Klamath River. In addition, as described above, Caltrans proposes and the special conditions require a range of protective measures to limit adverse project impacts on sensitive coastal resources that might otherwise arise. There are no alternatives or mitigation measures that would further reduce the project's potential adverse impacts. Therefore the Commission finds that the proposed project is the least environmentally damaging feasible alternative as required by Section 30233(a) of the Coastal Act.

E. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states as follows:

> *Where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The project area is located within the ethnographic territory of the Yurok Tribe, and construction will take place within the boundaries of the Yurok Reservation. The proposed project vicinity is considered sensitive for archaeological materials. The proposed project area was surveyed for archaeological resources by a registered professional archaeologist in the spring of 2010, and a Historical Property Survey Report was prepared (Sara Atchley Thomas, M.A. RPA, April 7, 2010). No previously unrecorded cultural resources were identified as a result of the survey. Nevertheless, Caltrans proposes to grade pads near each hinge repair area, and to install temporary foundations that may reach ten feet below existing grade. Caltrans has entered into agreement with the Yurok tribe to provide for monitoring of all earthmoving operations by experts designated by the Yurok tribe. In addition, a Native American Graves Protection Act and Repatriation Plan of Action has been prepared in accordance with federal requirements. Caltrans proposes and **Special Condition 4** provides for implementation of the Plan of Action under the guidance of the tribal authorities if cultural remains are identified. If additional grading or other disturbance of sensitive coastal resources would be required by the actions requested under such circumstances by the designated tribal expert, an amendment to CDP 1-11-039 or a new coastal development permit may be required based on a review of the requested actions by the Executive Director.

For these reasons, to ensure protection of any archaeological or cultural resources that may be discovered at the site during construction of the proposed project, the Commission attaches **Special Condition 4**. This condition requires that if an area of cultural deposits is discovered during the course of the project, all construction must cease and a qualified cultural resource specialist authorized by the Yurok tribe must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the applicant is required to submit a supplementary archaeological plan for the review and approval of the

Executive Director to determine whether the changes are *de minimis* in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30244, as the development will include mitigation measures to ensure that the development will not adversely impact archaeological resources.

F. PUBLIC ACCESS

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

The proposed project is located on Highway 101, the key public access corridor on the North Coast. The Highway 101 Klamath River Bridge is the sole crossing of the lower reaches of the Klamath River, and no convenient alternative routes exist to provide reasonable detours around the bridge construction site. Caltrans proposes to implement one-way traffic management throughout the three proposed summer construction seasons to provide adequate space for construction activities repairing one-half of each hinge at a time. One-way traffic control measures could moderately delay traffic, particularly during summer peak weekend travel days, but public access would not be significantly affected by the one-way traffic control. Bicycles and pedestrians would be piloted across the one-way traffic control areas consistent with traffic safety requirements, and would be allowed across the bridge even during full bridge closures, under the direction of on-site personnel supervising site construction or safety requirements. Caltrans confirms that boaters using the active river channel will not be affected by project construction.

Caltrans indicates that in addition to the one-direction traffic control, up to 20 night closures of the entire bridge may be necessary over the entire construction period (which is anticipated to last through three summer construction seasons, as noted). Night closures are deemed necessary by Caltrans to allow for crane(s) to deliver equipment, compactors, generators, and temporary foundation cribbing and temporary steel supports and falsework for the bridge. The closures would last up to seven hours, though Caltrans staff has indicated that these are worst-case estimates and that every effort will be made to reduce the duration of these outages significantly. Caltrans has submitted a plan to broadly communicate the extent of road closures a minimum of two weeks prior to any full bridge closure and to

provide bottled drinking water and portable toilets where drivers may be required to wait on the highway for extended periods of time. No alternative routes are available for detours.

Caltrans has verified on request that the outriggers of cranes on the bridge could be quickly pulled in to allow emergency vehicles to pass, and delays for emergency crossings of only a few minutes would result even during full bridge closures. The Commission therefore imposes **Special Condition 7 (B)**, which requires adequate public communication of the pending closures and the provision of basic public services for any travelers stranded roadside of the bridge during an overnight closure.

The proposed project will not create any new demand for public access or otherwise create any additional burdens on public access.

Therefore, for all of the reasons set forth above, the Commission finds that the proposed project as conditioned will not have any significant, lasting, adverse effects on public access, and the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

G. OTHER APPROVALS

The project is located within the state highway right-of-way and is subject to the review and approval of other state and federal agencies, which may include the Yurok Tribal Water Quality Unit, Army Corps of Engineers, NOAA Fisheries, California Department of Fish and Game, State Lands Commission, and the Regional Water Quality Control Board. To ensure that the project ultimately approved by these agencies is the same as the project authorized herein, the Commission attaches **Special Condition 7**, which requires the applicant submit evidence of the pertinent approvals prior to commencement of construction. The condition requires that any changes resulting from the review and authorization of the subject project by other state or federal authorities not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

H. STATE LANDS

The project site is located in an area subject to the public trust. Therefore, to ensure that the applicant has the necessary authority to undertake all aspects of the project on these public lands, the Commission attaches **Special Condition 5**, which requires that the project be reviewed and where necessary approved by the State Lands Commission prior to the commencement of activities authorized by the coastal development permit.

I. ALLEGED VIOLATION

Caltrans staff conducting a site visit in the proposed project area last fall observed that vegetation had been cleared within the riparian corridor adjacent to the bridge by a Caltrans maintenance crew. The Caltrans staff notified Commission staff of the work, which was performed without the benefit of coastal development permits in an area traversing the Commission's retained and appellate jurisdictions.

On November 10, 2011, at the request of Commission staff, Caltrans submitted a letter that provided additional information (described as additional project description information) about the extent of vegetation cleared during the previous summer (Exhibit 7).

Caltrans conferred with Commission staff about the resolution of the unpermitted vegetation removal, and agreed that the vegetation that would have been removed for the hinge repair project would be included as an after-the-fact component of the pending application for CDP 1-11-039, in addition to the proposed removal of vegetation that has not yet been undertaken.

Caltrans also agreed that a separate coastal development permit application would be submitted for the other vegetation removal that was not required for the hinge repair activities. Caltrans staff indicates that preparation of the pending application is in progress.

Consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Review of this permit does not constitute a waiver of any legal action with regard to the cited alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit. **Special Condition 9** ensures that this permit is deemed issued upon Commission approval and that it will not expire, as development has already commenced and been (in part) completed.

J. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

On May 31, 2011 Caltrans as lead agency certified a Mitigated Negative Declaration (SCH 2010102013) for the subject "*Klamath River Bridge Hinge Replacement Project", United States Route 101 in Del Norte County"* and identified the present project proposal as the preferred alternative.

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of coastal development permit applications be supported by a finding showing the application, as modified by any conditions of approval, is 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 any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. No public comments regarding potential significant adverse environmental effects of the project were received prior to preparation of the staff report. 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 required. As conditioned, there are no other feasible

alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

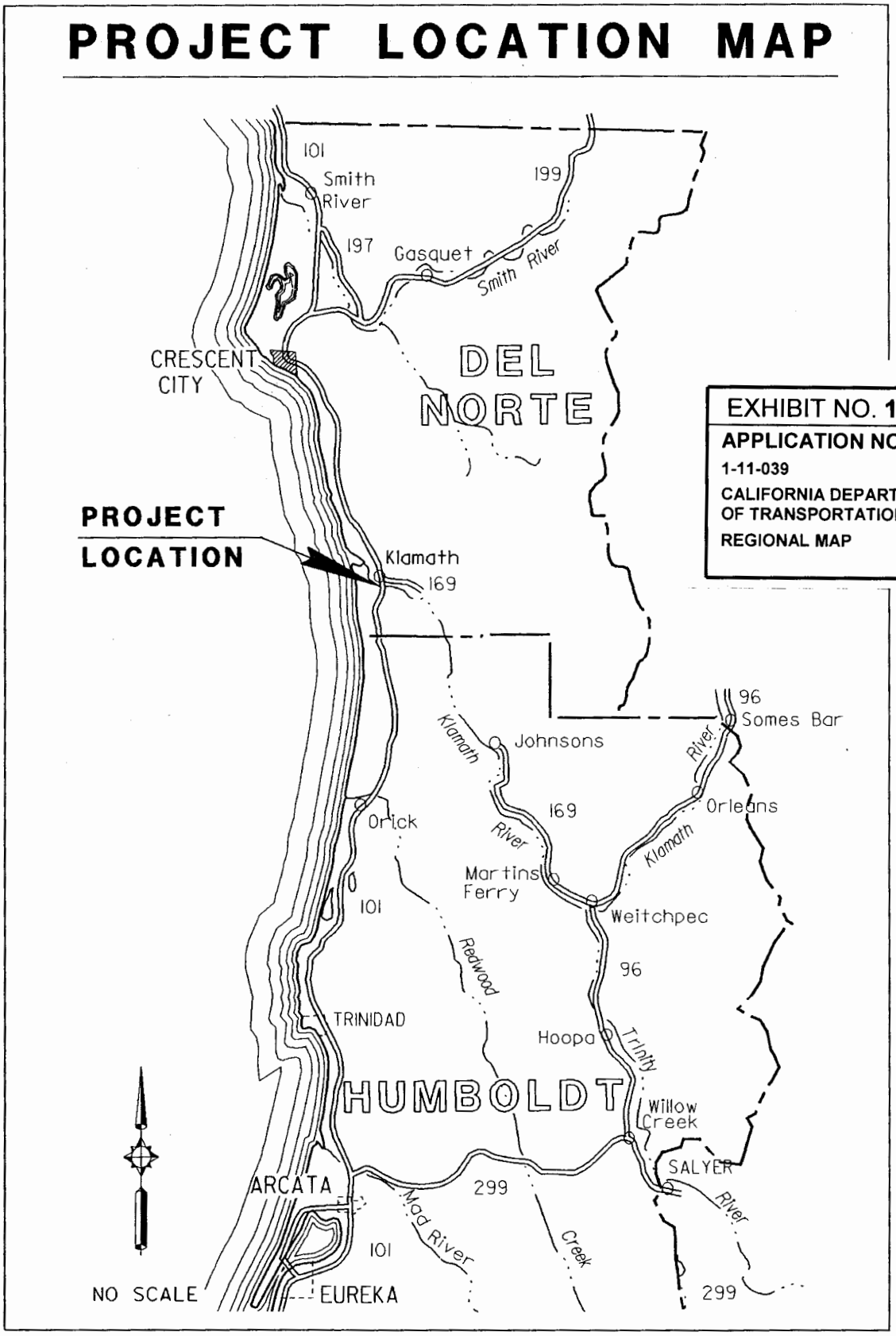


Figure 1. Project Location Map

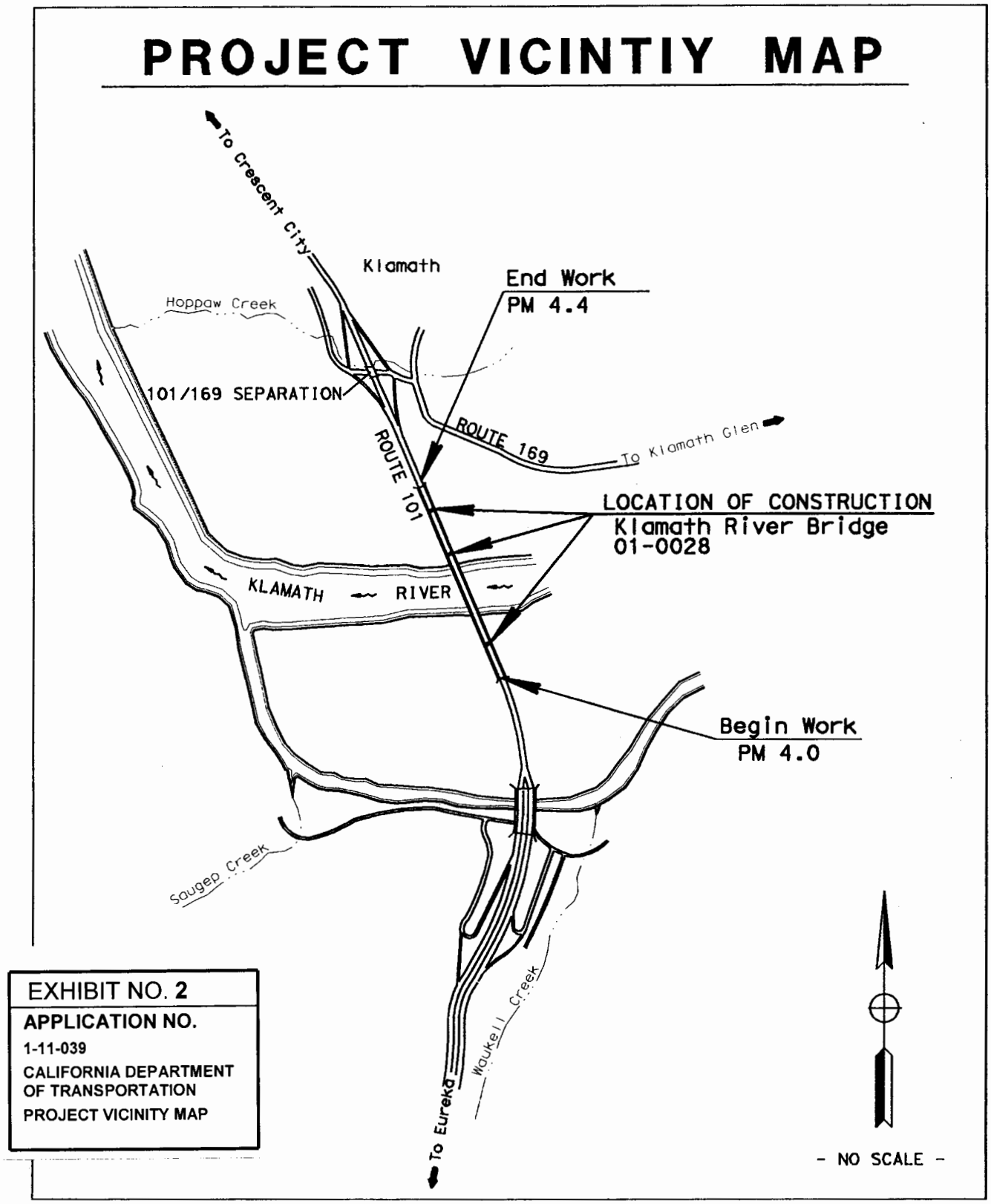


Figure 2. Project Vicinity Map

Figure 1. Environmental Study Limits for the Klamath Hinge Repair

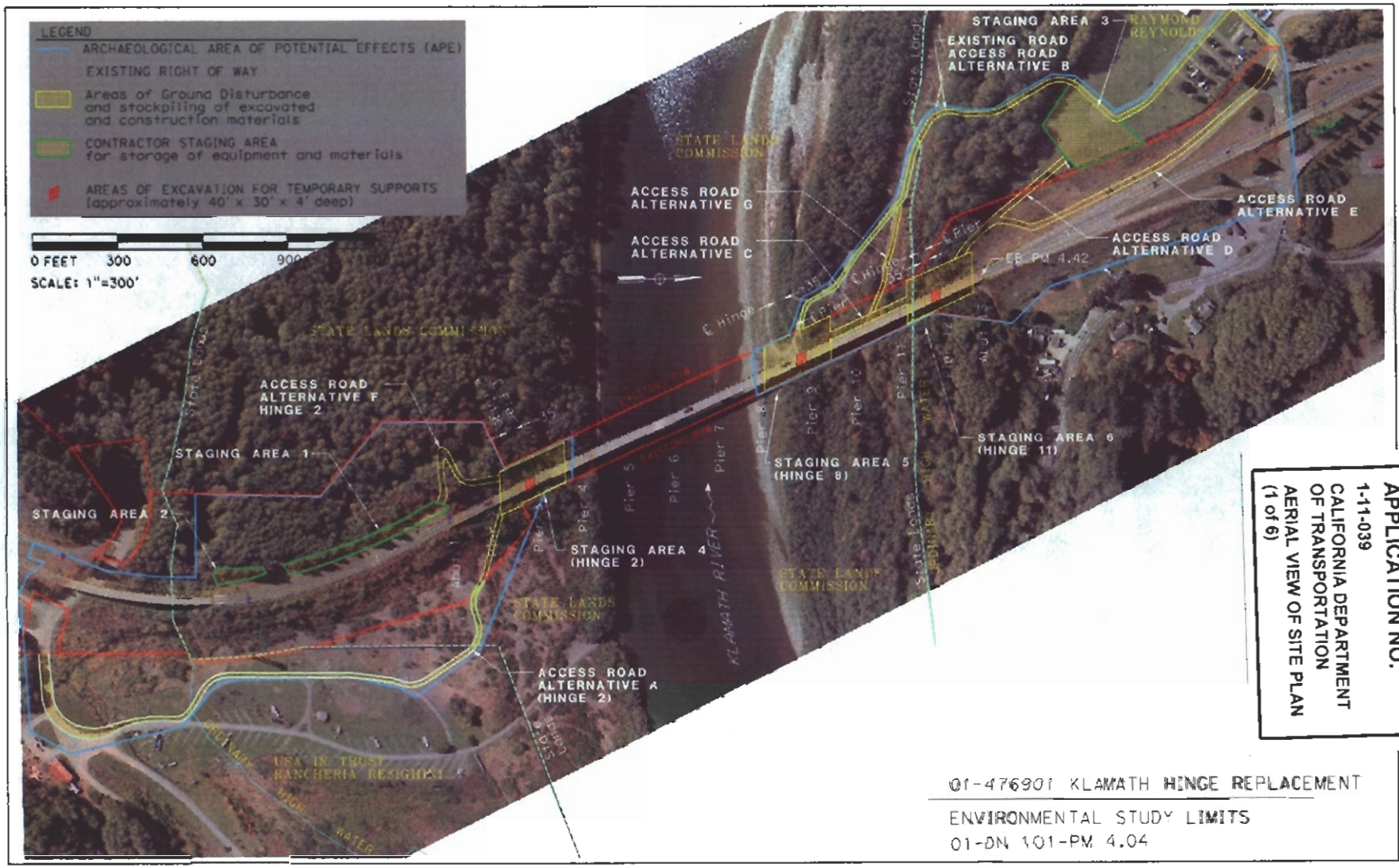
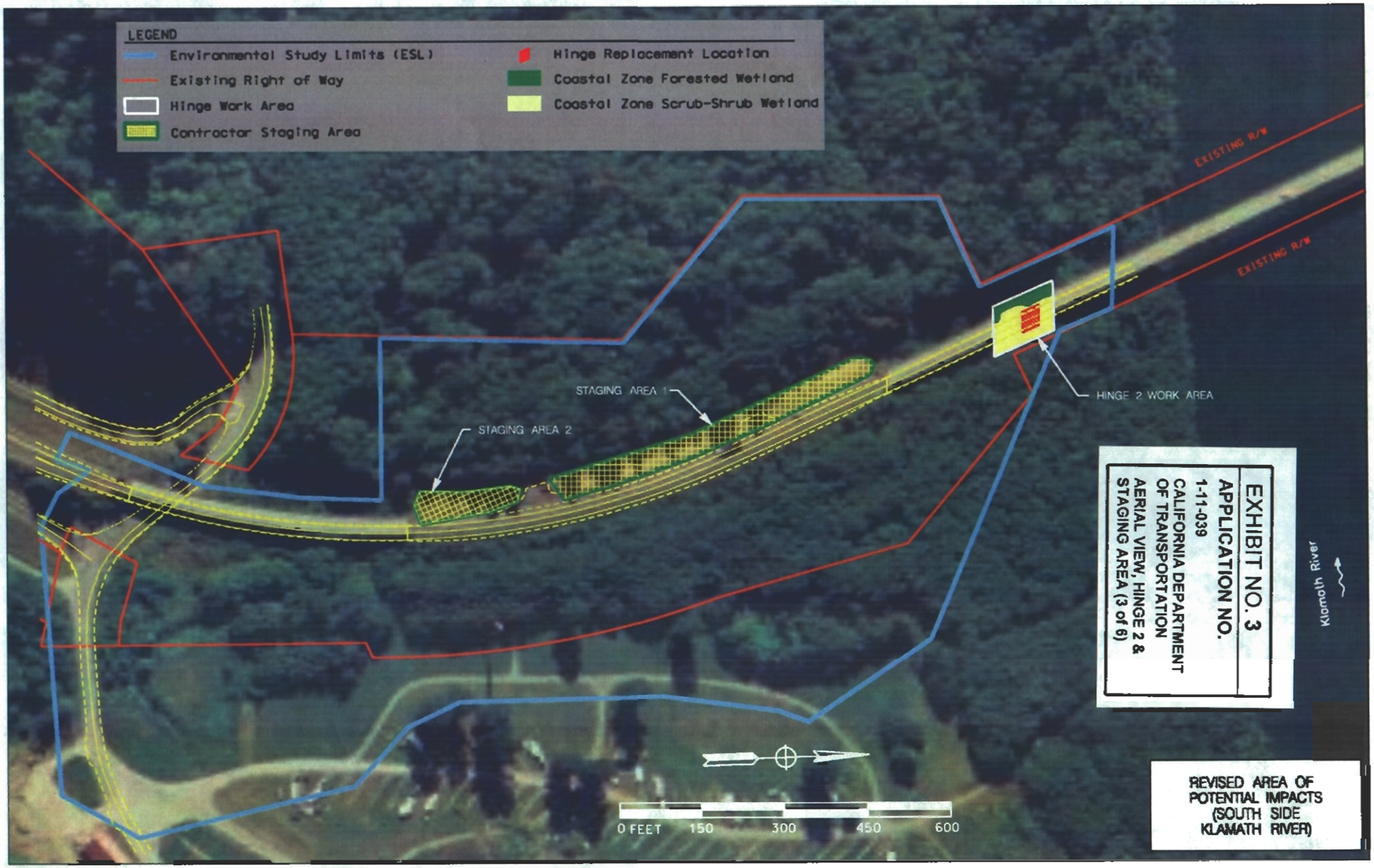
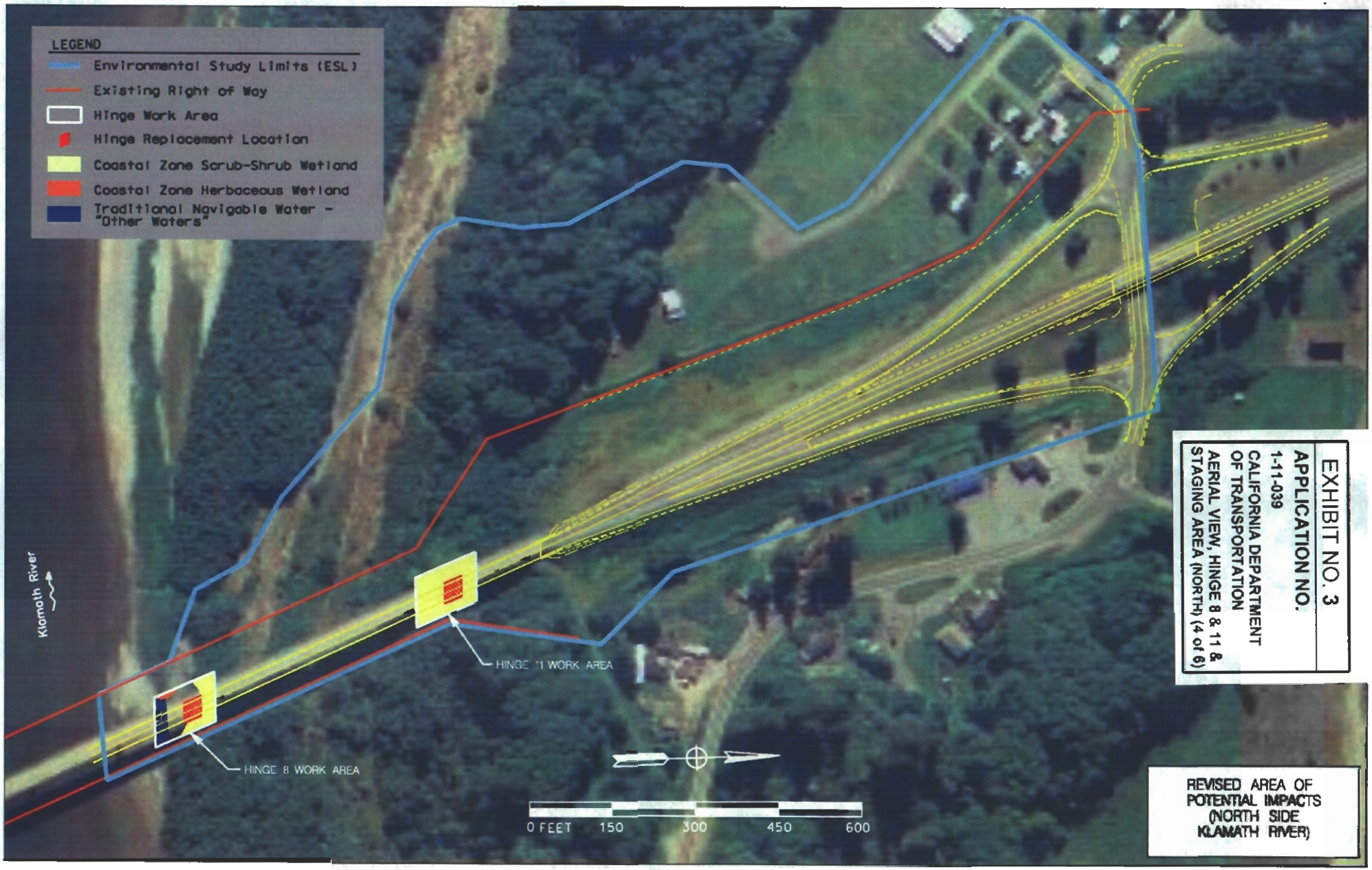


Figure 12. Klamath River Bridge Hinge Replacement Project Staging Area 8


LEGEND
Environmental Study Limits (ESL)
Existing Right of Way
Hinge Work Area
Contractor Staging Area
Hinge Replacement Location
Coastal Zone Forested Wetland
Coastal Zone Scrub-Shrub Wetland
EXISTING R/W
EXISTING R/W
STAGING AREA 1
STAGING AREA 2
HINGE 2 WORK AREA
EXHIBIT NO. 3
APPLICATION NO.
1-11-039
CALIFORNIA DEPARTMENT OF TRANSPORTATION
AERIAL VIEW, HINGE 2 & STAGING AREA (3 of 6)
Klamath River
0 FEET
150
300
450
600
REVISED AREA OF POTENTIAL IMPACTS (SOUTH SIDE KLAMATH RIVER)


LEGEND
Environmental Study Limits (ESL)
Existing Right of Way
Hinge Work Area
Hinge Replacement Location
Coastal Zone Scrub-Shrub Wetland
Coastal Zone Herbaceous Wetland
Traditional Navigable Water - "Other Waters"
Klamath River
HINGE 11 WORK AREA
HINGE 8 WORK AREA
0 FEET
150
300
450
600
EXHIBIT NO. 3
APPLICATION NO.
1-11-039
CALIFORNIA DEPARTMENT OF TRANSPORTATION
AERIAL VIEW, HINGE 8 & 11 & STAGING AREA (NORTH) (4 of 6)
REVISED AREA OF POTENTIAL IMPACTS (NORTH SIDE KLAMATH RIVER)

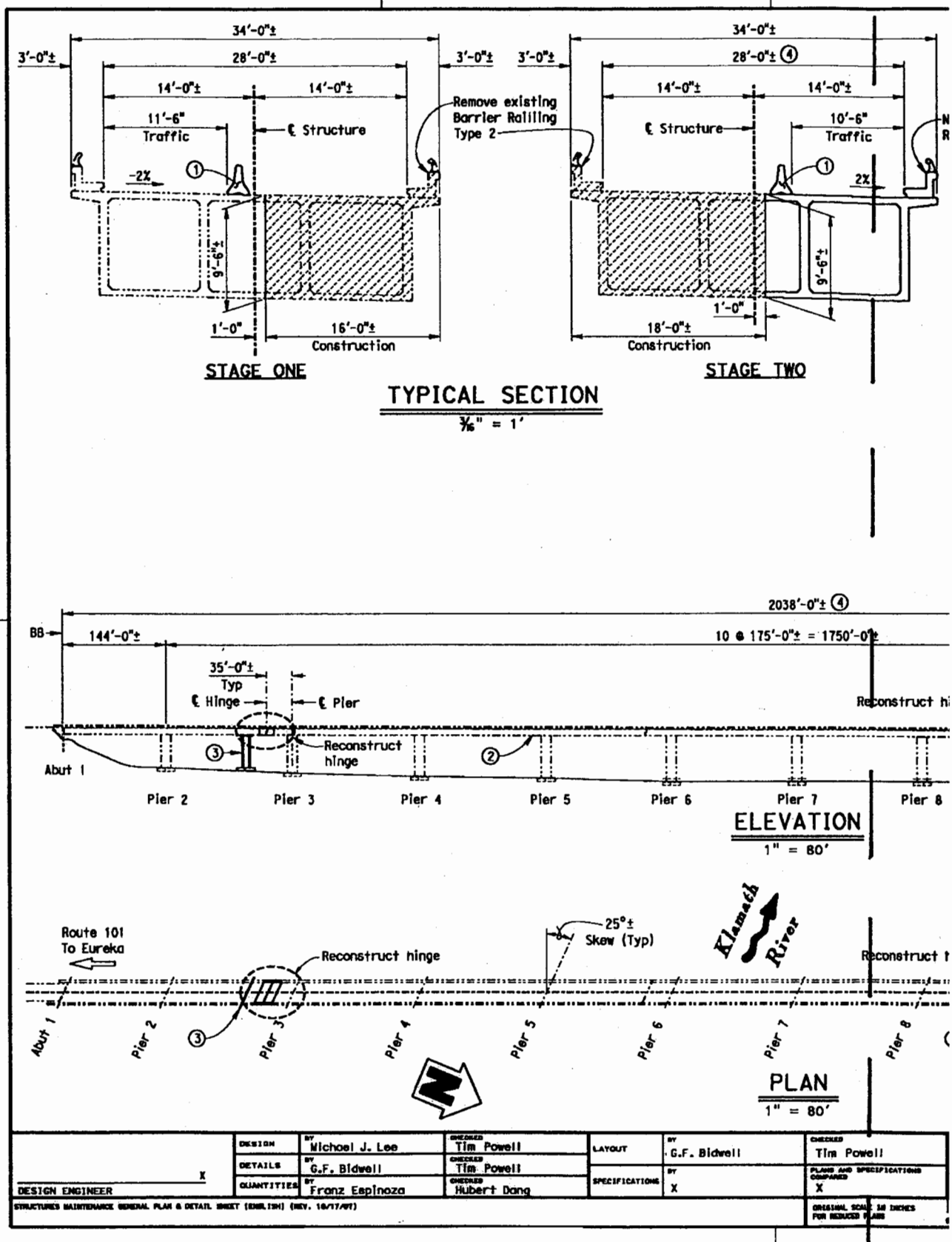


Figure 3. Construction G

EXHIBIT NO. 3
APPLICATION NO.
1-11-039
CALIFORNIA DEPARTMENT OF TRANSPORTATION
PROJECT PLAN
(5A of 6)

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
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3	EXISTING HINGE DETAILS NO.2
4	RECONSTRUCTED HINGE DETAILS NO. 1
5	RECONSTRUCTED HINGE DETAILS NO. 2
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7	TYPICAL SECTION
8	MISCELLANEOUS DETAILS
9	BARRIER RAILING TYPE 2 DETAILS
10	CABLE RESTRAINER UNIT - TYPE 2
11	CABLE RESTRAINER UNIT - TYPE 2 DETAILS
12	SOFFIT OPENING DETAILS
13	LOG OF TEST BORINGS - AS BUILT

STANDARD PLANS DATED MAY 2006

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	DN	101			

X
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER TIMOTHY J. POWELL No. C 61037 Exp 12-31-10 CIVIL STATE OF CALIFORNIA

NOTES: (APPLY TO ALL SHEETS)

..... Indicates existing.

THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STANDARD PLAN SHEET NUMBER
DETAIL NUMBER

NOTES: (APPLY TO THIS SHEET ONLY)

Indicates limits of remove existing concrete barrier railing, concrete deck, bottom slab, girder and hinge.

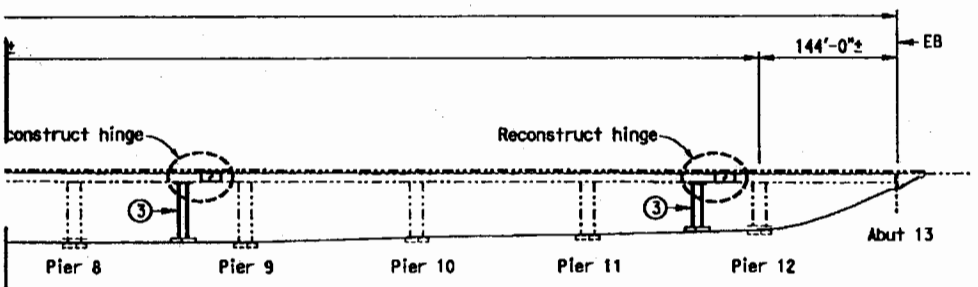
① Place Temporary Railing Type K. For deck connection see MISCELLANEOUS DETAILS sheet.

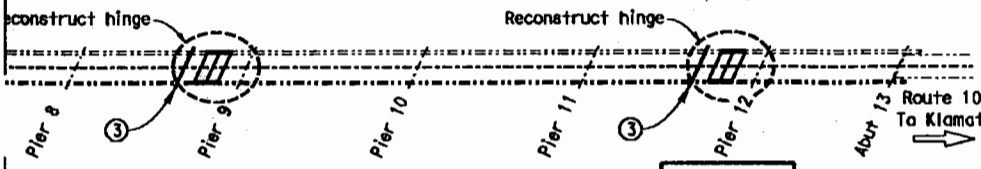
② Repair approximately 12"x12"x1" deep area of spalled concrete at bridge soffit in Span 4. For details see "SOFFIT REPAIR DETAIL" on MISCELLANEOUS DETAILS sheet.

③ Indicates location of temporary supports. See "TEMPORARY SUPPORT TABLE" on MISCELLANEOUS DETAILS sheet.

④ Indicates limits of clean and treat existing and new bridge deck with high molecular weight methacrylate.

See RECONSTRUCTED HINGE DETAILS NO. 1 sheet for "GENERAL NOTES".





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DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 01
EA 476901

BRIDGE NO. 01-0028
POST MILE R4.04

KLAMATH RIVER (RECONSTRUCT HINGES)
GENERAL PLAN

REVISION DATES

SHEET 1 OF 13

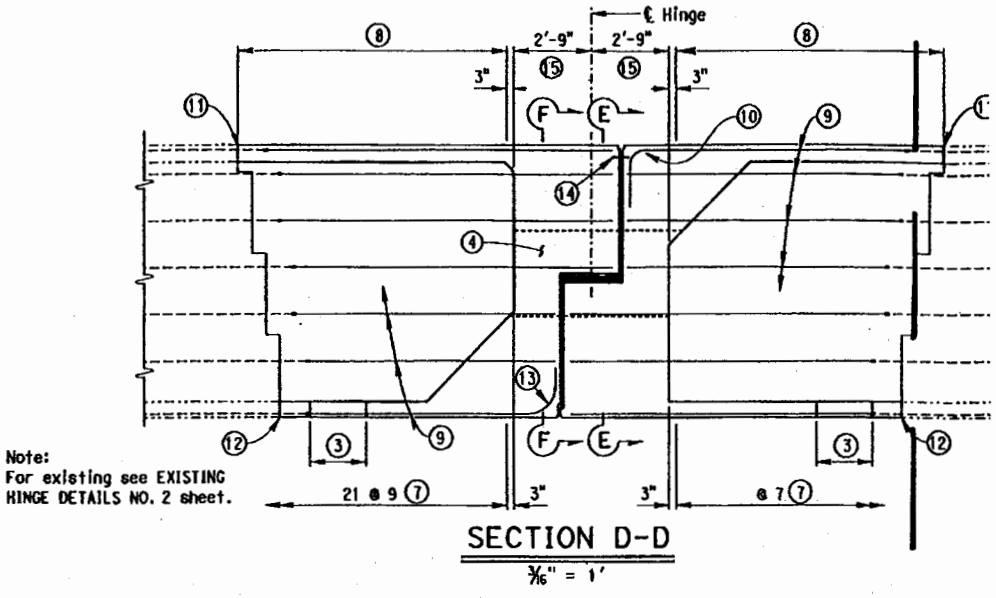
FILE => 01-476901_01gp.dgn

USERNAME => jbiewall DATE PLOTTED => 27-SEP-2010 TIME PLOTTED => 11:51

Figure 3. Construction General Plan

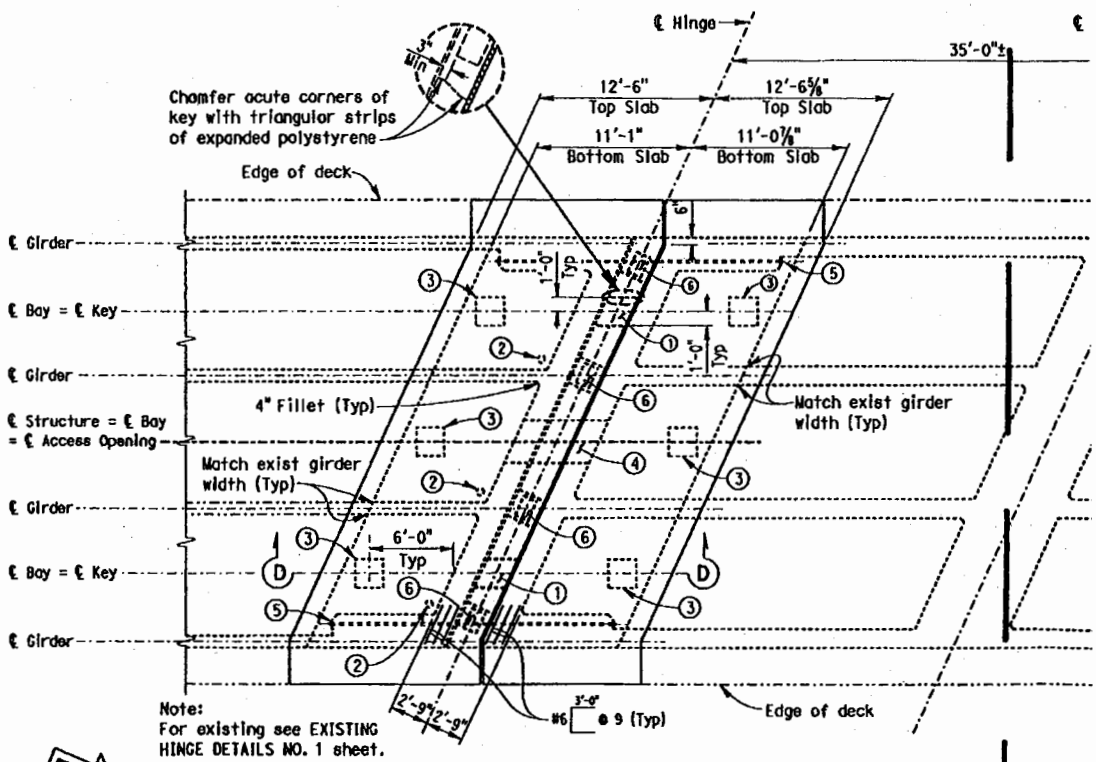
ction General Plan

EXHIBIT NO. 3
APPLICATION NO.
1-11-039
CALIFORNIA DEPARTMENT OF TRANSPORTATION
PROJECT PLAN
(5B of 6)



SECTION D-D

3/16" = 1'



RECONSTRUCTED PARTIAL GIRDER LAYOUT

3/16" = 1'

DESIGN	BY Michael J. Lee	CHECKED Tim Powell
DETAILS	BY G.F. Bidwell	CHECKED Tim Powell
QUANTITIES	BY Franz Espinoza	CHECKED Hubert Dang

STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

EXHIBIT NO. 3

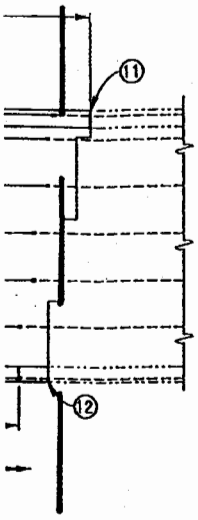
APPLICATION NO.

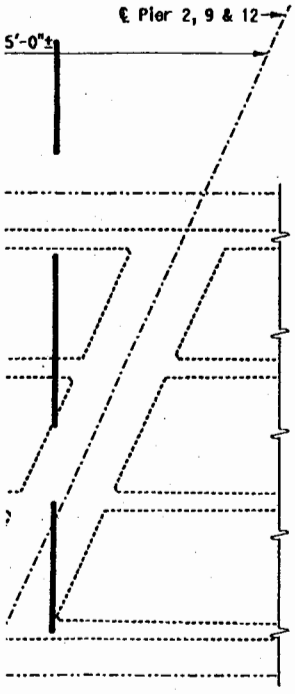
1-11-039

CALIFORNIA DEPARTMENT OF TRANSPORTATION

HINGE DETAIL
(6A of 6)

Figure 4. Hinge





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	DN	101			

REGISTERED CIVIL ENGINEER X DATE

PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER — TIMOTHY J. POWELL — No. C 61037 — Exp 12-31-10 — CIVIL — STATE OF CALIFORNIA

NOTES: (APPLY TO THIS SHEET ONLY)

1. Key at exterior bays only. See RECONSTRUCTED HINGE DETAILS NO. 2 sheet.
2. Place 5" ø vent holes at low side of bottom slab. See (B7-1 / V-1)
3. 2'-0" x 2'-0" access opening in bottom slab at ℄ bay, total 6 soffit access openings. For details see SOFFIT OPENING DETAILS sheet.
4. 3'-0" x 3'-0" access opening through hinge in interior bay only. See RECONSTRUCTED HINGE DETAILS NO. 2 sheet.
5. Longitudinal hinge restrainer at exterior girder in exterior bays, total 2 units. For details see CABLE RESTRAINER UNIT - TYPE 2 sheet.
6. 1'-2" x 1'-4" x 4" steel reinforced elastomeric bearing pad. For details see RECONSTRUCTED HINGE DETAILS NO. 2 sheet.
7. New #5 ∏ stirrup spacing, typical for all girders.
8. Limits of distribution reinforcement and (B0-5 / 5-10)
9. New longitudinal #5, #7, #8, #8 and #14 bars spliced to existing longitudinal #5, #7, #8, #8 and #14 deck, girder and bottom slab reinforcement deck, girder and bottom slab reinforcement, typical.
10. Cut existing longitudinal #14 hooked bars and splice new hooks to clear hinge expansion joint.
11. Match new concrete deck elevation with existing concrete deck elevation.
12. Match new concrete soffit elevation with existing concrete soffit elevation.
13. Cut existing longitudinal #11 hooked bars and splice new hooks to clear hinge expansion joint.
14. New joint seal assembly and waterstop. (B0-3 / 3-6)
15. Dimension measured perpandicular to centerline hinge.

See RECONSTRUCTED HINGE DETAILS NO. 2 sheet for "SECTION E-E" and "SECTION F-F."

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n Powell
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ert Dang

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DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 01
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BRIDGE NO. 01-0028
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KLAMATH RIVER (RECONSTRUCT HINGES)
RECONSTRUCTED HINGE DETAILS NO. 1

REVISION DATES: 7-15-10 | 7-1-10

SHEET 4 OF 12

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Figure 4. Hinge Design

4. Hinge Design

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APPLICATION NO.
1-11-039
CALIFORNIA DEPARTMENT OF TRANSPORTATION
HINGE DETAIL
(6B of 6)