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Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO. **1-05-034**

APPLICANT: **California Department of
Transportation (Caltrans)**

PROJECT LOCATION: Route 101, South of Arcata, at Jacoby
Creek and Gannon Slough Bridges,
Humboldt County.

PROJECT DESCRIPTION: Drill up to 7 test borings to obtain
geotechnical information for
transportation project planning.

OTHER APPROVALS REQUIRED: None

MOTION & RESOLUTION: **Page 3**

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with special conditions concerning revised plans, timing of construction, drilling materials, and construction responsibilities. Compliance with these conditions will help to ensure that the proposed activities do not adversely affect the seasonal wetlands

within or near the drilling and staging locations, or result in discharge of drilling fluids or extracted materials to Jacoby Creek or Gannon Slough.

One unresolved issue remained at the time the staff report was published: Caltrans wants the permit approval to allow for the removal of limbs from at least four mature specimen Monterey Pine trees that grow adjacent to Jacoby Creek and Gannon Slough to make way for the mast of the geotechnical drilling rig, and so that there is clearance to place the downhole bore within the root zones of these trees. Caltrans states that these impacts would be avoided if possible, but will not setback the operations a mandatory five feet outside of the dripline of the trees, stating that the flexibility to drill within the dripline of the trees, and to remove limbs for vertical clearance must be an option, and would be determined in the field.

Caltrans further asserts that these actions will not adversely affect the trees, states that even if adverse impacts from such activities occur, the trees should not be protected from such impacts because they are not locally native species and are considered a short-lived species by Caltrans (the lifespan of a Monterey Pine is variously reported as 80-120 years; some references indicate that 70 years is an average lifespan for the species).

The four trees in question appear to be in relatively good health, however, and are specimen trees that provide significant visual amenities along the highway corridor. In addition, the trees are located immediately adjacent to streams and wetlands, and are located along the Pacific Flyway. The trees therefore likely afford roosting, nesting, and hunting habitat at least seasonally for a number of bird species.

Caltrans has identified a broad area that would be used for the drilling activities, and has indicated in several past geotechnical drilling applications (Mad River Bridges, Van Duzen River Bridges) that considerable latitude typically exists to move the boreholes one way or another by 20 or 30 feet and to thereby extrapolate subsurface conditions. It appears that there are feasible options to avoid drilling within the driplines of the trees, and Caltrans, on request, was unable to identify a technical basis for requiring drilling within the driplines of the subject trees in the case of this permit application, prior to the publication of the staff report. Commission staff has requested that prior to the Commission meeting, that Caltrans arrange a site visit with geotechnical staff to consider options for avoiding impacts to the trees.

For these reasons, and based on the information presently available, staff recommends that the Commission impose Special Condition 1, requiring Caltrans thereby to revise the project description and plans submitted to date to provide a minimum setback from the outer canopy of potentially affected

specimen trees of at least five (5) feet. This is a modest setback, and the Commission has often required more extensive setbacks from specimen trees.

STANDARD OF REVIEW

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

TIMING OF COMMISSION ACTION

Caltrans submitted the pending application on July 13, 2005, requesting review and permit approval at the Commission's August meeting. If the Commission acts on the application at the August hearing, Caltrans will have sufficient time, (provided Caltrans expeditiously satisfies any prior-to-issuance conditions the Commission may impose) to undertake and complete the proposed geotechnical exploration before the dry season action window expires on October 15, 2005.

I. MOTION and RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion: I move that the Commission approve Coastal Development Permit 1-05-034, with conditions, pursuant to the staff recommendation.

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

RESOLUTION TO APPROVE THE PERMIT

The Commission hereby approves the Coastal Development Permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit, as conditioned, 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

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no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

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

III. SPECIAL CONDITIONS

1. Revised Plans

PRIOR TO ISSUANCE OF Coastal Development Permit 1-05-34 the applicant shall submit revised plans for the review and approval of the Executive Director that setback the footprint of proposed activities a minimum of five (5) feet from the outermost edge of the dripline of mature specimen trees adjacent to Jacoby Creek and Gannon Slough as shown on Exhibit 2. No drilling or other activities shall be undertaken within the dripline of the subject trees, and no removal or trimming of limbs from the subject trees shall occur. The revised project activities may include use of asphalt-covered areas of Highway 101 as deemed necessary by the applicant to achieve sufficient potential project activity areas. These restrictions shall be stated on the final project plans, and the geotechnical drilling crew shall maintain a set of the approved project plans on the project site at all times. All project activities shall at all times be conducted in accordance with the final plan approved by the Executive Director.

2. Timing of Construction; Field Conditions

In accordance with the applicant's proposal, geotechnical investigations shall be undertaken between June 15 and October 15, 2005, or within such additional time as the Executive Director may authorize, and shall not be undertaken within the riparian corridor of Jacoby Creek or within the wetlands of Gannon Slough. All staging and drilling shall be limited to the upland areas of the seasonal wetlands that are dry at the time of project activities, or shall take place on the asphalt surfaces adjacent to the wetland areas.

3. Construction Related Responsibilities

The applicant or the applicant's designated representatives, contractors or subcontractors shall comply with the following construction-related requirements:

- (a) All project equipment shall be staged and operated from the paved roadway to the maximum extent feasible and where infeasible, shall be restricted to the dry upland areas identified in the field by a qualified CALTRANS biologist with substantial field experience delineating wetlands, and a minimum of ten (10) feet from the outermost dripline of any tree greater than six (6) inches in diameter at breast height. Temporary enclosure fencing shall be in place at each drilling locations, and verified as properly located by the designated biologist, prior to commencement of activities, and shall be placed to ensure that materials and equipment are not parked, staged, stored, or operated within the sensitive areas or tree setbacks so marked.
- (b) No construction debris or waste shall be placed or stored where it may enter river or slough waters or habitat; in the event that accidental discharge of debris to the waters should occur, such debris shall be immediately retrieved with the minimum intrusion of equipment into the riparian or wetland area necessary, and report of such retrieval shall be made to the Executive Director within 24 hours.
- (c) In the event that a release of drilling mud is detected, all work shall stop immediately and the release shall be contained and cleaned up as soon as possible thereafter. Straw wattles, plastic sheeting, absorbent pads and other containment materials and equipment shall be continuously available in each active drilling location for quick response in the event of a spill, to ensure that no spilled material reaches sensitive habitat or coastal waters.

- (d) a qualified biologist shall brief the geotechnical drilling field personnel on the limits of project activities, including equipment access and staging, and shall ensure that all adjacent sensitive habitat has been identified and temporarily fenced to restrict inadvertent access by personnel or equipment as required by (a) above; the qualified biologist shall monitor the active drilling locations for compliance at least once per day during project activities and shall ensure that project activities conclude by October 15, 2005 as required pursuant to Special Condition 1, above.

IV. FINDINGS AND DECLARATIONS

1. Project Description; Background

The Highway 101 corridor proposed for geotechnical exploration is located between Arcata and Eureka, in Humboldt County. Specifically, the proposed exploration sites are located between points known locally as Mid-City Motors and the Gannon Slough Bridge, and would also occur adjacent to the Jacoby Creek Bridge, within that stretch of Highway 101.

The highway corridor is almost entirely located within wetlands or seasonal wetlands and is a highly scenic area with expansive views of rural open spaces, grazing lands, and Humboldt Bay. The proposed project activities would be staged and undertaken on temporarily dry upland areas of the wetlands, outside of areas with sensitive native plants, and while wetland vegetation is dormant in the upland areas (much of the project activity area would be saturated during the rainy season). Caltrans proposes to keep equipment on paved areas to the maximum extent feasible.

All proposed geotechnical investigation locations are within the existing Caltrans right-of-way and no easement or additional right-of-way will be required. Access road construction will not be required. Staging areas for equipment/materials, other than parking the drilling rigs at each location, will not be required.

Caltrans proposes to conduct geotechnical drilling at up to seven locations adjacent to the highway to evaluate subsurface conditions for the purpose of designing future highway projects in the corridor. Caltrans states that the proposed exploration requires approximately six weeks to complete and that they must obtain a permit and complete project activities before the October 15, 2005 deadline. Once the rainy season commences, it will not be possible to utilize the drilling equipment in saturated areas, nor to undertake the proposed activities without adverse impacts to wetlands.

Caltrans indicates that all geotechnical investigations will take place at dry, upland locations along the shoulder and median, and that all activities will conclude by October

15, 2005 thereby ensuring that no impacts to seasonal wetlands will occur. No work will occur within the Gannon Slough or Jacoby Creek channels. Sensitive wetland areas will be bordered with temporary fencing installed by a qualified Caltrans biologist prior to commencement of project activities.

Caltrans seeks also seeks authorization to remove limbs from at least four mature specimen Monterey Pine trees adjacent to Jacoby Creek and Gannon Slough (see Exhibit 2 a – f, where tree canopies adjacent to cross-hatched areas indicate the trees). Caltrans indicates that minimizing or avoiding limbing the trees would be a priority, but seeks to have that option in case the geotechnical drilling unit wants to initiate placement of a borehole within the driplines of the trees. In such a case, limbs would possibly be removed to create the vertical clearance for the rig's mast, and the subsurface boring would then be undertaken immediately below the cleared area, and therefore would occur within the dripline of the trees. The drilling may be as deep as approximately 300 feet below the surface, and will include Cone Penetrometer Testing for soil penetration properties. Drilled holes would be backfilled with bentonite chips or cement/bentonite mix. Caltrans has not evaluated whether these activities, or final placement of the concrete/bentonite materials within the root zone of one of the subject trees could adversely affect the health of the tree. Caltrans indicates that whether the project could adversely impact the health of one or more of the identified mature Monterey Pine trees should not be a determinative factor in the Commission's consideration because the trees are not locally native.

Proposed Project Details

Caltrans has supplied the following information concerning project details:

The soil borings will be drilled to a depth at which competent rock is encountered. Competent rock could be encountered at a maximum depth of approximately 300 feet, however at most locations competent rock is expected to be closer to the surface than 300 feet. The drilling will require up to six weeks to complete. The equipment required includes a truck or trailer-mounted drill rig, water tender, crew cab, and geologist/engineer's vehicle to support drilling operations. The necessary width required for the equipment and crew is a minimum of fourteen feet (eight feet for the drilling equipment plus three feet on either side for crew access).

Advancement of the test borings will require the use of the mud rotary system. This is a drilling system that requires the use of drilling mud to maintain hole stability, bring drill cuttings to the surface, and lubricate and cool the drill bit. Drilling fluid is made up of water mixed with bentonite clay and/or polymer. The drilling fluid is fully contained and re-circulated through a closed system utilizing a six-inch outer steel casing, 3.7-inch drill rod, and a mud tank. The mud tank will be positioned on the ground surface as a settlement tank for the soil cuttings that are periodically removed and placed in 55-gallon steel drums. After the necessary bore hole depth has been reached, the hole will be flushed with clear water to displace the drilling mud into the mud tank. The drilling

fluid will be pumped from the mud tank into 55-gallon steel drums. From the geotechnical investigation area the drums will be tested and taken to an appropriate landfill site as specified through the Mud Disposal Contract managed by the Office of Drilling Services. After the holes are flushed with clean water, the holes will either be backfilled with bentonite chips or neat cement (cement with bentonite mix): bentonite chips will be slowly poured from the surface to fill the borings or neat cement will be pumped through one-inch diameter PVC pipe from the bottom of the boring until completely filled.

All drilling fluid and spoils will be contained at all times to prevent spillage. The drill crew and geologist/engineer on site will continually monitor for any unexpected leaks or spills of drilling fluid. In the unlikely event that any drilling fluid leaks, drilling will stop immediately and the drilling crew will immediately contain the escaping fluid utilizing absorbent pads and clean the area. The drilling crew will obtain approval from the geologist/engineer before resuming drilling. These measures will be employed to assure that no drilling-associated material will enter, or is placed where it will enter any watercourse.

In addition to the core samples one to three Cone Penetrometer Tests will be performed at each location. Each CPT hole requires less than an hour: therefore the CPT rig would be parked less than one day at each site. Ideally two or more sites per day could be completed with this rig. This is a geotechnical soil exploration method that involves pushing a 1.5-inch diameter conical-shaped probe into a soil deposit and recording the resistance of the soil to penetration. Test equipment consists of a cone assembly, a series of hollow sounding rods, a hydraulic frame to push the cone and rods into the soil, an electronic data processing unit, and a twenty-ton truck to transport the test equipment and provide thrust resistance. As the probe is retracted from the soil, the hole largely self-closes. If necessary, Caltrans personnel will backfill holes with local material or clean sand. (Caltrans indicates that further CPT information and photographs of CPT equipment are available at: <http://www.dot.ca.gov/hq/esc/geotech/gi/cpt.htm>)

On request, Caltrans has confirmed that geotechnical operations will only take place during daylight hours and that no nighttime lighting or operations will therefore affect night feeding or roosting wildlife in the adjacent habitat areas.

2. Filling and Dredging in Coastal Waters and Wetlands

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

Cone Penetrometer Test holes are not fully self-filling, local materials or clean sand may be placed to complete the holes.

Caltrans has not submitted a wetland delineation in support of the proposed project, but has confirmed on request that virtually the entire Eureka-Arcata corridor of Highway 101, except that portion that is paved, is wetland habitat under the Commission's one-parameter wetland delineation standard (i.e., wetland soils, vegetation, or hydrology). Therefore, the proposed project constitutes dredging and filling in wetlands.

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

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

...

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

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

Section 30231 states:

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

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

that the purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;

that the project has no feasible less environmentally damaging alternative;

that feasible mitigation measures have been provided to minimize adverse environmental effects; and

that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

a. Permissible Use for Fill

The first test for a proposed wetland fill/dredging project is whether the fill/dredging is for one of the eight allowable uses under Section 30233(a). The relevant category of use listed under Section 30233(a) that relates to the proposed geotechnical drilling is subcategory (5), stated as follows:

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

To determine if the proposed fill/dredging is for an incidental public service purpose, the Commission must first determine that the proposed fill/dredging is for a public service purpose. The drilling is required to obtain geotechnical information needed to design and construct future Highway 101 projects within the subject area that are contemplated to increase public safety. Since the project would be conducted by a public agency to improve public safety on an existing public highway corridor, the Commission finds that the fill/dredging is expressly serves a public service purpose consistent with Section 30233(a)(5).

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

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

b. Alternative Analysis

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

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

Caltrans indicates that no drilling will take place within the active channels of Jacoby Creek or Gannon Slough; however, Caltrans has identified broad general areas within which drilling could occur adjacent to these sensitive habitats. A number of mature, specimen trees (many are Monterey Pines) grow on the banks of, or near these wetlands and riparian corridors. Caltrans has not determined whether the hydrology of these waterways supports the trees in a manner that would identify them as wetland species. Caltrans seeks approval, however, for use of a broadly defined area for drilling, with specific locations within these areas to be selected by field personnel, during operations. Seven locations have been identified, and within some of the locations the work areas shown overlap mature specimen trees of significant stature. Caltrans seeks authorization to remove limbs from these trees as necessary to fit drill rigs in next to the trees if desired, and to undertake subsurface drilling within the driplines of the trees should such location be selected.

Alternatives

Avoid Drilling in the Seasonal Wetlands of the Highway 101 Corridor

The purpose of the geotechnical investigation is to gather information to plan for the design, siting, and construction specifications of future safety improvements of the highway corridor. The information from the drillings will allow Caltrans to design these improvements as part of a separate permit application to the Commission. The soil and bedrock information must be obtained in areas related to the future (though presently unspecified) improvements, which may include, for example, the widening of the highway bridge over Jacoby Creek. Therefore it is not feasible to extrapolate geotechnical information from areas wholly outside of the corridor, nor do adequate geologic records exist for Caltrans to rely on in designing engineered structures.

Therefore, it is not feasible to avoid geotechnical investigations within the Highway 101 corridor of interest. In addition, because the entire corridor contains wetlands as

defined by the Coastal Commission, drilling anywhere off the paved surfaces of the corridor involves excavation within wetlands.

In addition, Caltrans' proposal seeks authorization to remove limbs from, and drill within the driplines of, mature specimen trees located adjacent to Jacoby Creek and Gannon Slough. Potential impacts to the affected trees that may be caused by the proposed activities, including compaction of soils in the root zones of the trees from equipment that may be as large as a 20-ton truck (see project details supplied by Caltrans) are not known but may be significant.

An alternative exists to drill through the asphalt of the highway adjacent to the area of geotechnical interest. This may be feasible because Highway 101 is two lanes in each direction of travel. Therefore, it is possible that traffic could be diverted temporarily to one lane for the purpose of undertaking the geotechnical borings through the asphalt area. Thereafter, the asphalt could simply be patched. Through this alternative, Caltrans could avoid any excavation of wetlands, albeit seasonal wetlands, and further, could avoid limbing mature, specimen trees altogether. Therefore, drilling in an alternative location, on the existing roadbed, appears to be a feasible option that could eliminate any possibility of adverse impacts to trees or wetlands that may otherwise occur.

Use of Existing Geotechnical Data

Caltrans indicates that there is insufficient existing data for design of future projects, which may include widening the bridges along Highway 101, including the bridge over Jacoby Creek. Therefore Caltrans requires the collection of current geotechnical data extracted from existing conditions in the general area in which future projects would be constructed. Therefore reliance on existing geotechnical data is not a feasible option.

Revise the proposed boundaries for Drilling within Seasonal Wetland Areas

Caltrans has submitted aerial photographs with general drilling locations shown in overlay fashion. Crosshatched areas indicate the locations identified generally for exploratory activities (Exhibit 2 a – f) at seven locations.

The identified activity areas near Gannon Slough and Jacoby Creek that also contain the mature specimen trees that Caltrans seeks authorization to trim or drill within driplines of, are shown in crosshatch. As can be seen from the exhibits, and from the application of the scale provided by Caltrans, many of the subject areas are at least 165 feet in length. The lengths required to fit in the equipment requirements specified by Caltrans above are far less than 165 feet, indicating that there is significant latitude built into the identified project activity areas, for in-field adjustment. The areas of crosshatch that overlap the affected tree canopies are very small by comparison – a review of Exhibit 2 indicates that the tree immediately north of Jacoby Creek is slated for maximum overlap (i.e. potential trimming). That location appears, according to the map

scale, to overlap the tree's canopy by approximately 2 meters, or about 6.5 feet. If the proposed project activity boundaries were adjusted by less than 3 percent, total, of the overall lengths proposed for activities in this location – for example – the footprint of disturbance could be pulled away from the affected tree. (Special Condition 1 includes a 5-foot setback from the affected canopy edge, which would require a maximum relocation of the proposed project boundary of about 12 feet, total, whereas other tree locations appear to require less adjustment to protect the trees fully).

An adjustment of project boundaries of about 12 feet, out of a total boundary length in that particular location, would only be an adjustment of about 7 percent. In addition, as discussed above, a version of this alternative that would simply locate the drilling location on the asphalt immediately next to the existing bridge also appears feasible.

Therefore, a feasible alternative to avoid impacts to vegetation within the wetland area exists (through two alternatives, or a combination of the two, as stated). The alternatives analysis required by Section 30233(a) is not limited only to impacts specifically to wetlands; impacts to specimen trees may also be considered as impacts to Environmentally Sensitive Habitat, depending on the ecological role played by the specific trees (Coastal Act Section 30240) and may also include impacts to visual resources as well. The mature Monterey Pine trees in question are of significant stature and provide a visual amenity along the Highway 101 corridor in question, helping to mask visual intrusions such as billboards and adjacent industrial development visible in some locations of the corridor. And as discussed above, regardless of whether such trees are locally native species, the large trees in areas of mostly treeless pasturelands, adjacent to wetlands and riparian corridors, may afford significant roosting or nesting habitat or hunting perches in season for a variety of birds. This is particularly true given the location of these trees within a very heavily used portion of the Pacific Flyway.

Therefore, relatively minor revisions of the proposed boundaries for geotechnical drilling activities that would avoid impacts to specimen trees entirely are feasible (see Special Condition 1) within the areas identified for such activities, and such revisions may also incorporate the use of existing asphalt-surfaced areas on the adjacent roadbed.

No Project Alternative

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

Conclusion

The Commission finds that feasible alternatives exist to the project as proposed by Caltrans, that would further minimize the impacts of drilling within the seasonal wetlands and potentially within the driplines of mature trees adjacent to Gannon Slough and Jacoby Creek. Special Condition 1 requires the applicant to revise the project plans accordingly. The Commission further finds that only if the project is revised in accordance with the requirements of Special Condition 1 would the project be consistent with the applicable requirements of Section 30233(a) of the Coastal Act that the project be the least environmentally damaging feasible alternative. As conditioned, therefore, the proposed project is the least environmentally damaging feasible alternative consistent with Section 30233(a).

c. Feasible Mitigation Measures

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. Depending on the manner in which the geotechnical drilling is conducted, the portions of the proposed project that will be conducted within seasonal wetlands or adjacent to active stream corridors and sensitive wetlands could have significant adverse effects to (1) wetland (riverine) habitat, (2) anadromous fish, (3) water quality of the Gannon Slough, Jacoby Creek, and ultimately to Humboldt Bay, and (4) to mature, specimen trees.

To avoid these impacts, Special Condition 1, as discussed above, requires minor revisions of the applicant's proposed geotechnical drilling activity boundaries that are shown in Exhibit 2 a-f, prior to issuance of Coastal Development Permit 1-05-34.

As discussed in the Project Description in Finding No. 1 above, the drilling process is essentially a closed system, as drilling is confined to within the drill casing and all drilling muds are contained in the drilling location. To further prevent the release of the bentonite drilling mud and the potential for increased turbidity within the riverine environment, Caltrans proposes several Best Management Practices to provide secondary containment around the drilling activities and boring locations during the project. Caltrans proposes to continuously monitor drilling activities to prevent spillage and to additionally maintain containment and cleanup materials (such as absorbent pads) and equipment at active drilling locations. If a release of drilling mud is detected, Caltrans proposes to stop work as quickly as possible and contain and clean the release as soon as possible thereafter to avoid the entry of spilled materials into the riparian corridors or wetlands. The Commission attaches Special Condition No. 2 to ensure that the Best Management Practices designed to protect the water quality of the Gannon Slough, Jacoby Creek, and Humboldt Bay are implemented during project construction, to ensure adherence to the dry season construction schedule proposed by Caltrans, and to ensure that setbacks from visually significant specimen trees as required by Special Condition 1 are implemented and monitored by a qualified biologist.

Therefore, as conditioned, the Commission finds that the biological resources, coastal waters, and visual resources of the area proposed for project activities will be protected

during project activities, consistent with consistent with Sections 30230, 30231, 30240, and 30251 of the Coastal Act.

d. Conclusion

The Commission thus finds that while the project is an allowable use, there are feasible less environmentally damaging alternatives, that feasible mitigation is required for potential impacts associated with the dredging and filling of coastal wetlands and vegetation removal within the project activity areas, and that wetland habitat values will be maintained or enhanced only if the project is conditioned in accordance with Special Conditions 1, 2 and 3 set forth above. Therefore the Commission finds that only as conditioned by Special Conditions 1 – 3 is the proposed project consistent with the applicable requirements of Section 30233 of the Coastal Act.

3. Protection of Adjacent Environmentally Sensitive Habitat Area (ESHA)

Section 30240(b) of the Coastal Act states:

(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.

Caltrans indicates that all of the seven drilling locations would be generally located within seasonal wetlands as defined by the Coastal Commission, and in addition will be adjacent to environmentally sensitive habitat areas of Gannon Slough and Jacoby Creek, and to unidentified areas containing special status plant species. On request, Caltrans biologists stated on July 28, 2005 (via email) that the species include Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*) (CNPS List 1B-rare threatened or endangered in California and elsewhere), Lyngbyes sedge (*Carex lyngbyei*) (CNPS List 2-rare threatened or endangered in California but more common elsewhere), and Point Reyes bird's-beak (*Cordylanthus maritimus* ssp. *palustris*)(CNPS List 1B), have been found along Jacoby Creek and Gannon Slough. These species inhabit brackish or freshwater marshes and swamps. Caltrans indicates that a plant survey of the proposed drilling areas did not indicate the presence of these plants within the work areas delineated on Exhibit 2 a-f.

As discussed above, Caltrans proposes also to potentially remove limbs from, and drill/perform technical tests within the driplines of, four mature specimen Monterey Pine trees shown adjacent to or overlapped by crosshatched areas on Exhibit 2 a-f that outline the proposed boundaries of the boundaries within which Caltrans otherwise proposes to make in-field decisions at the time the drilling rigs are on site. Caltrans has not performed nesting season or winter migration surveys of the use of these trees, which are immediately adjacent to, or within, the corridors of Gannon Slough and

Jacoby Creek. Both Gannon Slough and Jacoby Creek contain known habitat for federally listed fish species, including tidewater goby, Coho salmon, Chinook salmon, and steelhead trout and thus are ESHA.

Caltrans states that the proposed project activities between August and mid-October would not affect nesting use of the subject trees because nesting season has generally already concluded. No biological analysis of the subject trees has been performed in other seasons, however. Given the location of the fully mature trees, use of the canopy for roosting, nesting, or hunting for resident or migratory birds or other wildlife in various seasons is likely. Thus, the trees are located immediately adjacent to environmentally sensitive habitat and likely contribute substantially to wildlife use of the adjacent ESHA, within the meaning of Coastal Act Section 30240.

As discussed above, alternatives exist to slightly revise the boundaries of proposed project activities to pull the footprint of disturbance away from the trees and to thereby avoid limbing the trees or drilling within their respective root zones. These alternatives include using adjacent asphalt-paved areas or shifting the disturbance footprint slightly. A revised disturbance footprint adjusted approximately 12 feet or so, would represent a maximum change estimated at only 3 percent to the potential drilling footprint proposed, on a linear basis. With these minor adjustments, all impacts to the subject trees could be avoided.

Therefore, the Commission finds that the project would only be consistent with the requirements of Coastal Act Section 30240 if revised in accordance with the requirements of Special Condition 1.

4. Visual Resources

Section 30251 of the Coastal Act requires the preservation of the scenic qualities of coastal areas. And requires development to be visually compatible with the character of surrounding areas.

Section 30251 Scenic and visual qualities

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

Caltrans proposes the potential removal of some limbs and drilling within the root zones of four mature, specimen Monterey Pine trees adjacent to Gannon Slough and Jacoby Creek on the Highway 101 corridor between Arcata and Eureka. The mature trees provide a scenic amenity along the corridor, and presently have a mostly full complement of overhanging limbs that do not interfere with traffic and provide a pleasing contrast to other portions of the scenic corridor of Humboldt Bay as viewed along Highway 101 that have been marred by large billboards in or near the Caltrans right-of-way.

Caltrans states that its proposal to remove limbs from the trees, operate equipment as heavy as 20-ton trucks within the driplines, and/or drill up to 300 feet downward within the driplines/rootzones of the trees, and finally placing concrete/bentonite fill within the completed bore holes in these locations will not adversely affect the long term health and survival of the trees. The loss of the trees would result in adverse impacts to the visual resources and character of the scenic Highway 101 corridor along this stretch of Humboldt Bay and adjacent wetlands.

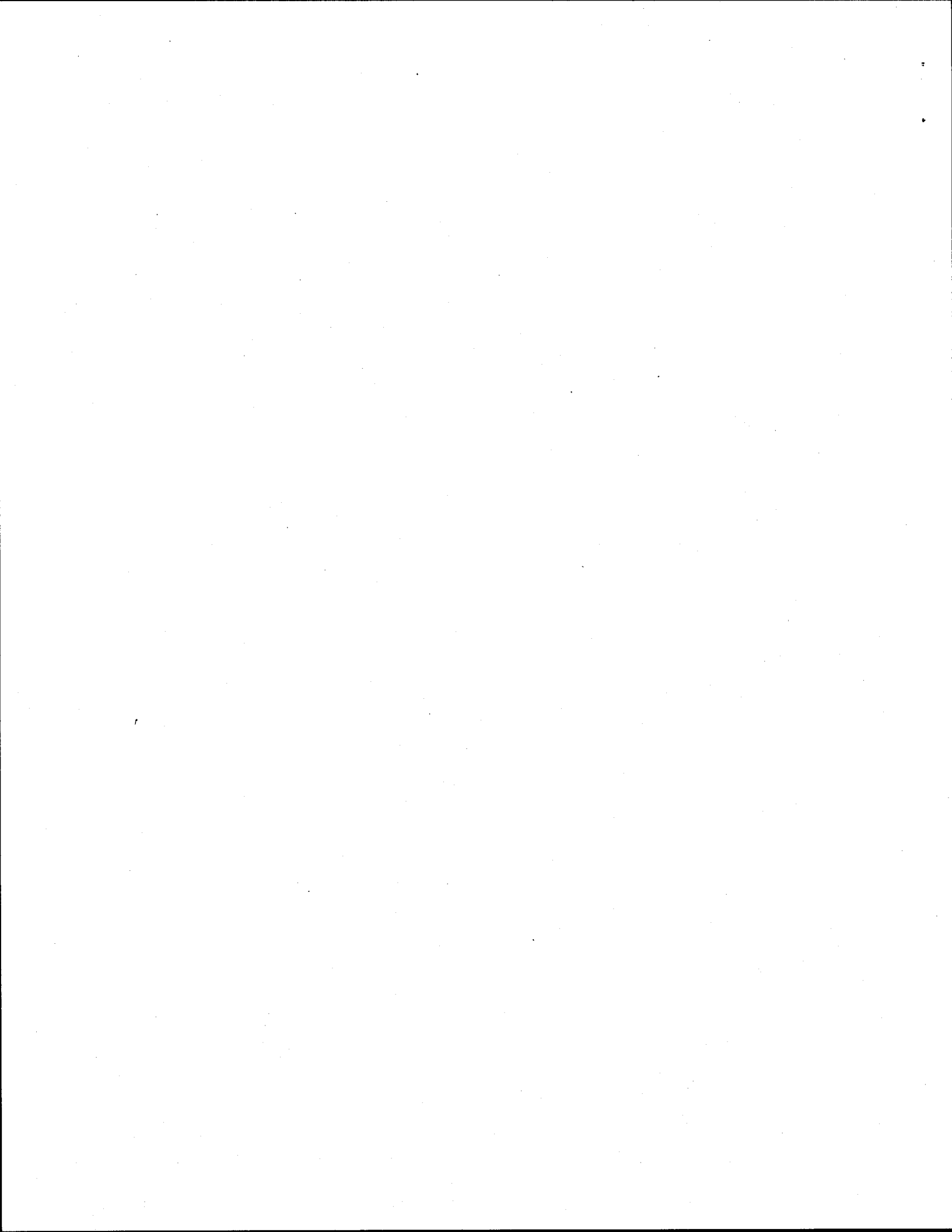
As discussed above, feasible alternatives and mitigation measures exist to avoid impacts to the trees, thereby preserving their visual character. Special Condition 1 requires the applicant to make modest revisions to the proposed project footprint shown in Exhibit 2 a-f, to avoid impacts to the subject trees. Therefore the Commission finds that the proposed project is consistent with Coastal Act Section 30251 only if conditioned in accordance with the requirements of Special Condition 1.

5. California Environmental Quality Act

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

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

that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.



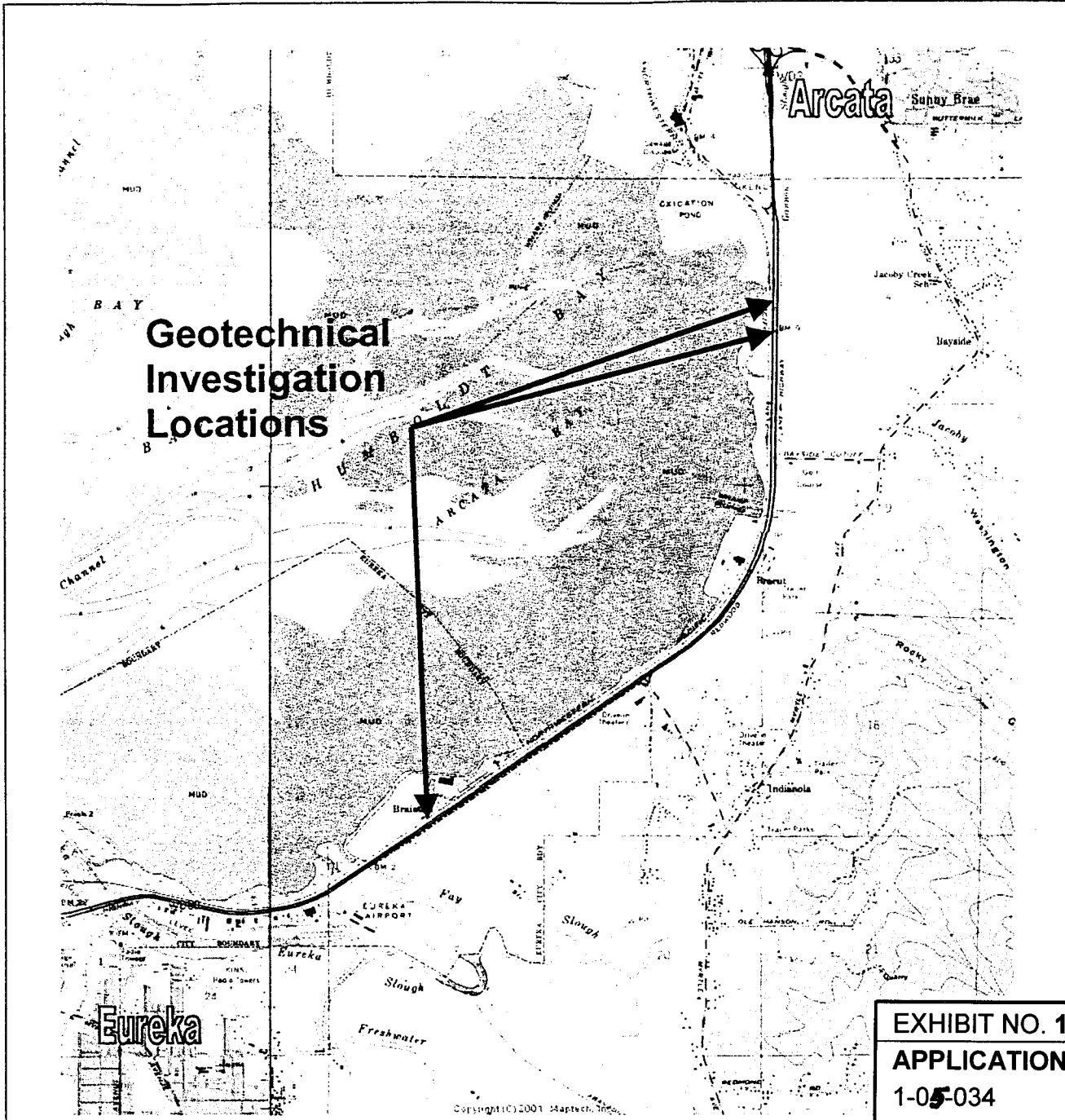


EXHIBIT NO. 1
APPLICATION NO.
1-05-034
(CALTRANS)
PROJECT LOCATION



No Scale

Geotechnical Investigations
Route 101 Between Eureka and Arcata

Project Vicinity Map

CONE PENETRO
& GEOTECHNIC
LOCATION 2

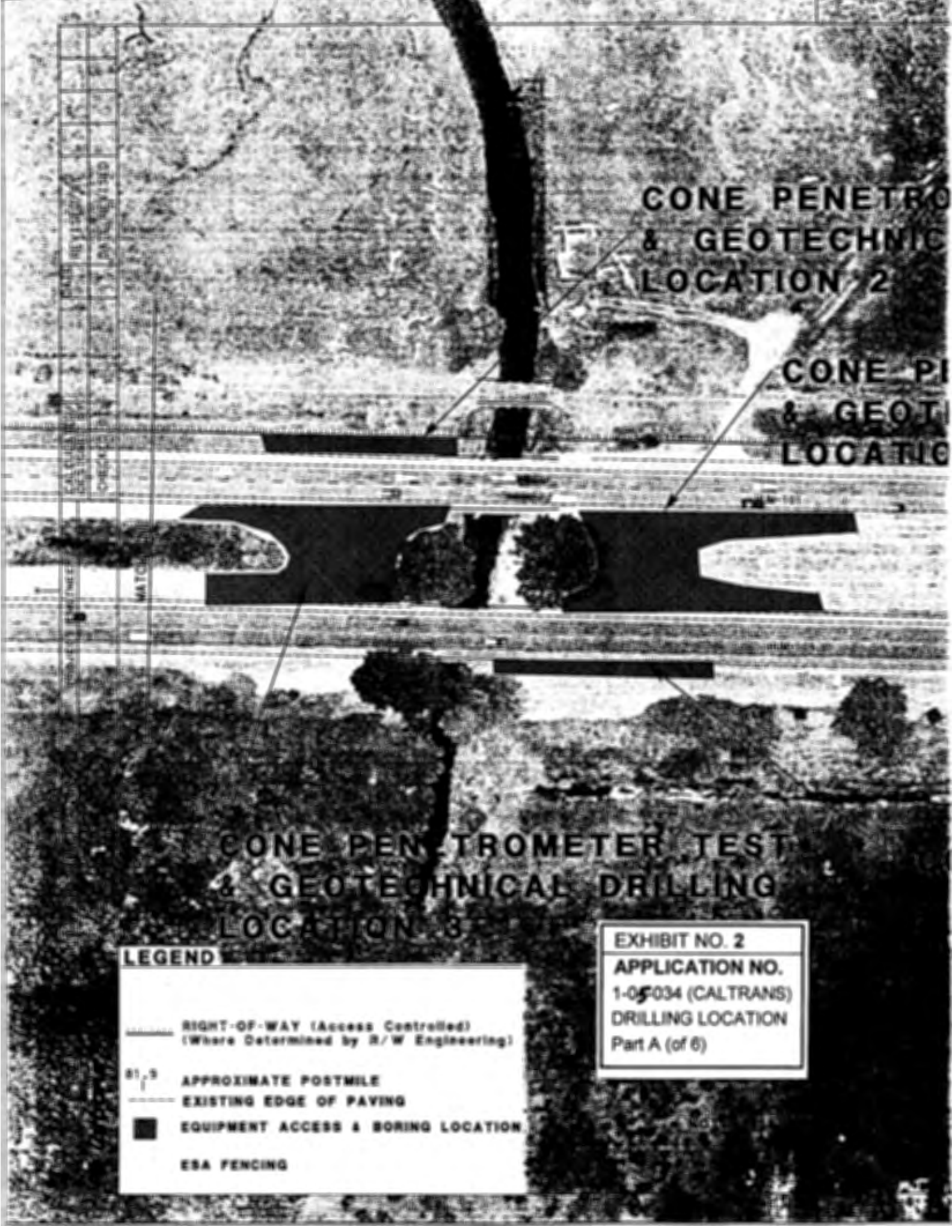
CONE PI
& GEOT
LOCATIO

CONE PENETROMETER TEST
& GEOTECHNICAL DRILLING
LOCATION 3

LEGEND

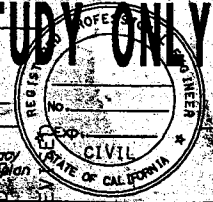
- RIGHT-OF-WAY (Access Controlled)
(Where Determined by R/W Engineering)
- 81.5 APPROXIMATE POSTMILE
- EXISTING EDGE OF PAVING
- EQUIPMENT ACCESS & BORING LOCATION
- ESA FENCING

EXHIBIT NO. 2
APPLICATION NO.
1-05034 (CALTRANS)
DRILLING LOCATION
Part A (of 6)



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	HUM	101	128.6/135.8	20	35

FOR DESIGN STUDY ONLY



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**METER TEST*
 L DRILLING**

**ETROMETER TEST*
 HNHICAL DRILLING**

4

ASPH

**CONE PENETROMETER TEST*
 & GEOTECHNICAL DRILLING
 LOCATION 6**

**IE PENETROMETER TEST*
 GEOTECHNICAL DRILLING
 ATION 5**

EXHIBIT NO. 2
 APPLICATION NO.
 1-05-034 (CALTRANS)
 DRILLING LOCATION
 Part B (of 6)

Garnett Station

GO
&
LO

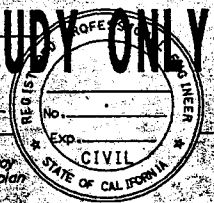
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- RIGHT-OF-WAY (Access Controlled)
(Where Determined by R/W Engineering)
- 81.3 APPROXIMATE POSTMILE
- EXISTING EDGE OF PAVING
- EQUIPMENT ACCESS & BORING LOCATION
- ESA FENCING

EXHIBIT NO. 2
APPLICATION NO.
1-05034 (CALTRANS)
DRILLING LOCATION
Part C (of 6)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	HUM	101	128.6/135.8	21	35

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HUM-101

ASPH

**8. PENETROMETER TEST*
GEO TECHNICAL DRILLING
LOCATION 7**

84.9

MATCHLINE

ASPH

HUM-101

ASPH

EXHIBIT NO. 2
APPLICATION NO.
1-05034 (CALTRANS)
DRILLING LOCATION
Part D (of 6)

ATTACHED PROJECT DESCRIPTION FOR MORE INFORMATION

SCALE 1"=100'

363303

DATE	REVISED BY	
	DATE REVISED	
EDY		
OSB		
ASPH		
PROJECT ENGINEER		
MATCH LINE		
STATE OF CALIFORNIA		
DEPARTMENT OF TRANSPORTATION		
Caltrans		

LEGEND





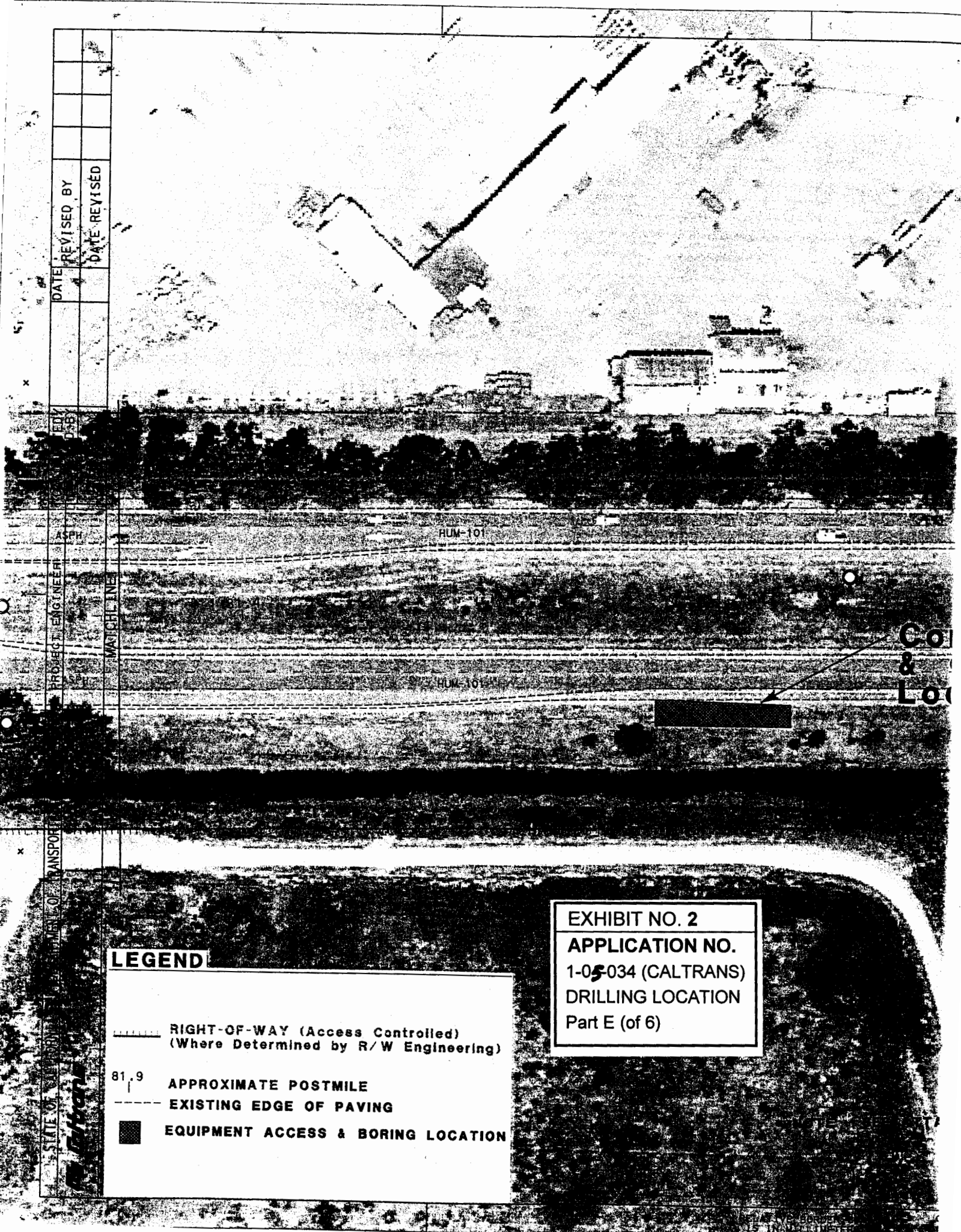
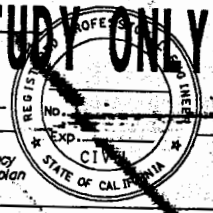
-  RIGHT-OF-WAY (Access Controlled)
(Where Determined by R/W Engineering)
- 81.9  APPROXIMATE POSTMILE
-  EXISTING EDGE OF PAVING
-  EQUIPMENT ACCESS & BORING LOCATION

EXHIBIT NO. 2
APPLICATION NO.
 1-05-034 (CALTRANS)
DRILLING LOCATION
 Part E (of 6)



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO	TOTAL SHEETS
01	HUM	101	128.6/135.8	7	35

FOR DESIGN STUDY ONLY



PLANS APPROVAL DATE

I, the undersigned, being a duly licensed Professional Engineer in the State of California, do hereby certify that I am the author of the design and drawings hereon, and that I am a duly licensed Professional Engineer in the State of California, and that I am responsible for the accuracy of the electronic copies of this plan.

To get to the web site, go to: <http://www.dca.ca.gov>

**Penetrometer Test
Geotechnical Drilling
Location 1**

EXHIBIT NO. 2
APPLICATION NO.
 1-05034 (CALTRANS)
DRILLING LOCATION
 Part F (of 6)

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