

# Item W 10b

## CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA  
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## RECORD PACKET COPY

Filed: 11/21/03  
49<sup>th</sup> Day: 1/9/04  
180<sup>th</sup> Day: 5/19/04  
Staff: CAREY  
Staff Report: 3/3/04  
Hearing Date: 3/17/04



### STAFF REPORT: AMENDMENT

**APPLICATION NO:** 4-96-060-A2

**APPLICANT:** Serra Canyon Property Owner's Association **AGENT:** Rincon Consultants, Inc.

**PROJECT LOCATION:** Cross Creek Road at its intersection with Malibu Creek, City of Malibu, Los Angeles County

**DESCRIPTION OF PROJECT PREVIOUSLY APPROVED:** Repair and replacement of a concrete "Arizona Crossing" consisting of 23 pre-cast 4' x 12' x 7.5' concrete slabs placed across a 128' section of Malibu Creek which were destroyed or damaged by the Winter floods of 1995. The project also involves the installation of a mechanized automatic gate system on an existing gate located on Cross Creek Road approximately 1/3 of a mile south of the proposed crossing.

**DESCRIPTION OF AMENDMENT:** Removal of the concrete slab at-grade crossing and the construction of a concrete bridge that is 16 feet wide, 190 feet long with three piers and two abutments. The bridge is proposed to have one 12-foot wide lane for vehicular travel and a 4-foot wide pedestrian sidewalk. The proposed piers will be supported on spread footings extending approximately 12 feet below the streambed. The bridge deck will be six feet above the existing level of the streambed (11 feet above sea level). The bridge railings are designed to be collapsible because high stream flows will overtop the bridge. The applicant proposes to carry out the construction of the project only during the driest months of the year, between July 15 to October 15.

**LOCAL APPROVALS RECEIVED:** City of Malibu Approval in Concept

**SUBSTANTIVE FILE DOCUMENTS:** Permit 4-96-060

#### **SUMMARY OF STAFF RECOMMENDATION:**

Staff recommends approval of the amendment request, with special conditions relating to assumption of risk, wetland and riparian habitat restoration, implementation of construction phase best management practices, preparation of a plan for water diversion and dewatering, drainage and polluted runoff control, geologic recommendations, and public access. As conditioned, the project, as proposed to be amended, is consistent with the provisions of the City of Malibu Local Coastal Program.

**PROCEDURAL NOTE:** The Commission's regulations provide for referral of permit amendment requests to the Commission if:

- 1) *The Executive Director determines that the proposed amendment is a material change,*
- 2) *Objection is made to the Executive Director's determination of immateriality, or*
- 3) *The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.*

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material (§13166 of the California Code of Regulations).

## **I. STAFF RECOMMENDATION:**

### **MOTION**

*I move that the Commission approve with special conditions Coastal Development Permit Amendment 4-96-060-A2 per the staff recommendation as set forth below.*

### **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 a majority of the Commissioners present.

#### **Resolution to Approve the Permit:**

The Commission hereby approves an amendment to 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 Malibu Local Coastal Program. 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.

## **SPECIAL CONDITIONS.**

### **1. Assumption of Risk**

By acceptance of this permit, the applicant acknowledges and agrees to the following:

1. The applicant acknowledges and agrees that the site may be subject to hazards from flooding, high stream flows, debris flows, and erosion.
2. The applicant acknowledges and agrees to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development.
3. The applicant unconditionally waives any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards.
4. The applicant agrees 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 of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

### **2. Disposal of Excavated Material**

Prior to issuance of a coastal development permit, the applicant shall provide evidence to the Executive Director of the location of the disposal site for all excess excavated material, including the concrete slabs that comprise the existing crossing, from the site. If the disposal site is located in the Coastal Zone, the disposal site must have a valid coastal development permit for the disposal of fill material. If the disposal site does not have a coastal permit, such a permit will be required prior to the disposal of the material.

### **3. Wetland/Riparian Restoration and Mitigation.**

A. Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, a wetland and riparian habitat restoration and mitigation plan subject to the following provisions. Said plan shall be prepared by qualified biologists, ecologists, or resource specialists who are experienced in the field of restoration ecology, and who have a background knowledge of the various habitats associated with the Santa Monica Mountains and the project site.

1. The plan shall include revegetation for the areas that will be temporarily impacted by construction activities. These areas are 0.17-acre of freshwater marsh and 0.037-acre of riparian habitat.
2. The plan shall identify areas of disturbed or degraded wetland habitat of equivalent type and acreage sufficient to provide mitigation of the permanent wetland impacts at a

ratio of 3:1 for the 0.003-acre of freshwater marsh and the 0.01-acre of riparian habitat. The total area of created or restored freshwater marsh required is 0.009-acres. The total area of created or restored riparian habitat is 0.021-acres. Any habitat that is shaded by the bridge shall not be included in the total area of created or restored habitat for the purpose of mitigation as required by this condition.

3. The restoration plan shall include, at a minimum, the following information:

- a. Clearly stated goals and objectives that provide for the establishment of functions and values at least equal to those occurring at the impact site.
- b. Adequate baseline data regarding the biological, physical, and chemical criteria for the restoration area.
- c. Documentation that the project will continue to function as a viable restored wetland or riparian site, as applicable, over the long term.
- d. Sufficient technical detail on the restoration design including, at a minimum, an engineered grading plan and water control structures, methods for conserving or stockpiling topsoil, a planting program including removal of exotic species, a list of all species to be planted, sources of seeds and/or plants, timing of planting, plant locations and elevations on the restoration base map, and maintenance techniques.
- e. Documentation of performance standards, which provide a mechanism for making adjustments to the mitigation site when it is determined, through monitoring, or other means that the restoration techniques are not working.
- f. Documentation of the necessary management and maintenance requirements, and provisions for timely remediation should the need arise.
- g. A Monitoring Program to monitor the restoration. Said monitoring program shall set forth the guidelines, criteria and performance standards by which the success of the restoration shall be determined. The applicant shall submit, for the review and approval of the Executive Director, on an annual basis, for a period of five (5) years, a written monitoring report, prepared by a monitoring resource specialist indicating the progress and relative success or failure of the restoration on the site. This report shall also include further recommendations and requirements for additional restoration activities in order for the project to meet the criteria and performance standards. This report shall also include photographs taken from predesignated sites (annotated to a copy of the site plans) indicating the progress of recovery at each of the sites. At the end of the five year period, a final detailed report on the restoration shall be submitted for the review and approval of the Executive Director. If this report indicates that the restoration project has, in part, or in whole, been unsuccessful, based on the performance standards specified in the restoration plan, the applicant shall be required to submit a revised or supplemental program to compensate for those portions of the original program which were not successful. The revised or supplemental program shall be processed as an amendment to this permit. During the five year monitoring period, all artificial inputs shall be removed except for the purposes of providing mid-course corrections or maintenance to insure the long term survival of the restoration site. If these inputs are required beyond the first two years, then

the monitoring program shall be extended for every additional year that such inputs are required, the restoration shall be monitored for an additional year so that the success and sustainability of the restoration is insured. The restoration site shall not be considered successful until it is able to survive without artificial inputs.

B. The above noted restoration plan shall be implemented by qualified biologists, ecologists, or resource specialists who are experienced in the field of restoration ecology as soon as practicable after the completion of construction of the bridge, taking into consideration the optimal timing for the planting of freshwater marsh and riparian vegetation. The monitoring plan shall be implemented immediately following the revegetation.

#### **4. Water Plan**

Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, a plan detailing the provisions that will be used for the diversion and/or removal of water within the construction site. Said plan shall indicate the location, size, and details of all coffer dams, pumps, pipes, drains, etc. that will be utilized to divert flow or dewater. The plan shall detail the location, size, and capacity of the settling basin(s) utilized to remove sediments prior to the discharge of water. The plan shall show all proposed phases of construction, if the project will be phased. The plan shall be designed to minimize erosion and sedimentation. The plan shall comply with all requirements of the Regional Water Quality Control Board.

#### **5. Construction Phase Erosion Control Plan**

a) Prior to issuance of the coastal development permit, the applicant shall provide, for the review and approval of the Executive Director, an Erosion Control Plan for the construction site and the staging area, to reduce erosion and, to the maximum extent practicable, retain sediment on-site during and after construction. The plan shall be designed to minimize the potential sources of sediment, control the amount of runoff and its ability to carry sediment by retaining sediment that is picked up on the project site through the use of sediment-capturing devices. The plan shall also limit application, generation, and migration of toxic substances, and ensure the proper storage and disposal of toxic materials. The Erosion Control Plan shall incorporate the Best Management Practices (BMPs) specified below.

##### **1. Erosion & Sediment Source Control**

- a. Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. Land clearing activities should only commence after the minimization and capture elements are in place.
- b. Time the clearing and grading activities to avoid the rainy season (November 1 to March 31).
- c. Minimize the area of bare soil exposed at one time (phased grading).

- d. Clear only areas essential for construction.
  - e. Within five days of clearing or inactivity in construction, stabilize bare soils through either non-vegetative BMPs, such as mulching or vegetative erosion control methods such as seeding. Vegetative erosion control shall be established within two weeks of seeding/planting.
  - f. Construction entrances should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust.
  - g. Control wind-born dust through the installation of wind barriers such as hay bales and/or sprinkling. Any sprinkling should be performed as not to cause excessive runoff.
  - h. Soil and/or other construction-related material stockpiled on the designated stock-pile site shall be placed a minimum of 75 feet from all wetlands and drain courses. Stockpiled soils shall be covered with tarps at all times of the year.
  - i. Excess fill shall not be disposed of in the Coastal Zone unless authorized through either an amendment to this coastal development permit or a new coastal development permit.
2. Runoff Control and Conveyance
- a. Intercept runoff above disturbed slopes and convey it to a permanent channel or stormdrains by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.
  - b. Shorten the length of bare slopes by installing fiber rolls at regular intervals along the contours.
  - c. Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy.
3. Sediment-Capturing Devices
- a. Install sediment traps/basins at outlets of diversions, channels, slope drains, or other runoff conveyances that discharge sediment-laden water. Sediment traps/basins shall be cleaned out when 50% full (by volume).
  - b. Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. Silt fences should be inspected regularly and sediment removed when it reaches 1/3 the fence height. Silt fences shall never be placed on slopes. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.
4. Chemical Control
- a. Store, handle, apply, and dispose of pesticides, petroleum products, and other construction materials properly.
  - b. Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.

- c. Develop and implement spill prevention and control measures.
  - d. Provide sanitary facilities for construction workers.
  - e. Maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Thinners or solvents should not be discharged into sanitary or storm sewer systems. Washout from concrete trucks should be disposed of at a location not subject to runoff and more than 50 feet away from a stormdrain, open ditch or surface water.
  - f. Provide adequate disposal facilities for solid waste, including excess asphalt, produced during construction. All debris and trash at the project site shall be collected and disposed of in trash receptacles located above the channel at the end of each workday.
- b) The applicant shall undertake development in accordance with the final erosion control plans approved by the Executive Director. No proposed changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required. The applicant shall be fully responsible for advising construction personnel of the requirements of the Erosion Control Plan. Throughout the construction period, the applicants shall conduct regular inspections of the condition and operational status of all structural BMPs required by the approved Erosion Control Plan. The applicant shall repair or replace failed or inadequate BMPs expeditiously.

## **6. Drainage and Polluted Runoff Control Plan**

***Prior to the issuance of the coastal development permit***, the applicant shall submit for the review and approval of the Executive Director, two sets of final drainage and runoff control plans, including supporting calculations. The plan shall be prepared by a licensed engineer and shall incorporate structural and non-structural Best Management Practices (BMPs) designed to control the volume, velocity, and pollutant load of stormwater leaving the developed site. The plan shall be reviewed and approved by the consulting engineering geologist to ensure the plan is in conformance with geologist's recommendations. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

- (a) BMPs shall be implemented to capture and treat runoff from the bridge before it enters Malibu Creek. Selected BMPs (or suites of BMPs) shall be designed to treat, infiltrate or filter the amount of stormwater runoff produced by all storms up to and including the 85<sup>th</sup> percentile, 24-hour runoff event for volume-based BMPs, and/or the 85th percentile, 1-hour runoff event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs.
- (b) Runoff shall be conveyed to Malibu Creek or off site in a non-erosive manner.
- (c) Energy dissipating measures shall be installed at the terminus of outflow drains.



(d) The plan shall include provisions for maintaining the drainage system, including structural BMPs, in a functional condition throughout the life of the approved development. Such maintenance shall include the following: (1) BMPs shall be inspected, cleaned and repaired when necessary prior to the onset of the storm season, no later than September 30<sup>th</sup> each year and (2) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system or BMPs and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if amendment(s) or new Coastal Development Permit(s) are required to authorize such work.

### **7. Plans Conforming to Geologic Recommendations**

All recommendations contained in the submitted geologic reports, all prepared by Earth Systems Southern California; Geotechnical Engineering Report, dated March 2003 and Response to Review, dated October 10, 2003, as well as in all reports referenced therein shall be incorporated into all final design and construction including foundations, construction, grading, and drainage. Final plans must be reviewed and approved by the project's consulting geotechnical engineer. Prior to issuance of a coastal development permit, the applicants shall submit, for review and approval by the Executive Director, evidence of the consultant's review and approval of all project plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to foundations, construction, grading, and drainage. Any substantial changes in the proposed development approved by the Commission that may be required by the consultant shall require an amendment to the permit or a new Coastal Development Permit.

### **8. Public Access.**

By acceptance of this permit, the applicant acknowledges and agrees that the bridge sidewalk shall be kept available for public pedestrian access.

### **9. Native Bird and Raptor Protection Measures**

A qualified biologist, with experience in conducting bird surveys, shall conduct bird surveys 30 days prior to construction to detect any protected native birds in the habitat to be removed and any other such habitat within 200 feet of the construction area. The last survey should be conducted 3 days prior to the initiation of clearance/construction. If a protected native bird is found, the applicant should delay all clearance/construction disturbance activities in suitable nesting habitat or within 200 feet of nesting habitat until August 31 or continue the surveys in order to locate any nests. If an active nest is located, clearing/construction within 200 feet shall be postponed until the nest(s) is



vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest shall be established in the field with flagging and stakes or construction fencing. Construction personnel shall be instructed on the sensitivity of the area. The project biologist shall record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to protection of native birds.

In addition, a qualified biologist shall conduct a site survey for any active raptor nests two weeks prior to any construction. If an active raptor nest is located, then no construction work shall be conducted within a 200 foot radius from the nest until the young have fledged and are independent of the adults.

## II. FINDINGS.

### A. Amendment Description

The applicants propose to amend Permit 4-96-060 to: 1) remove the previously approved "Arizona" type at-grade crossing; and 2) construct a 16 foot wide, 190 foot long bridge supported on an abutment on each bank and three piers within the stream. The bridge is proposed to have one 12-foot wide lane for vehicular travel and a 4-foot wide pedestrian sidewalk. The proposed piers will be supported on spread footings extending approximately 12 feet below the streambed. The bridge deck will be six feet above the existing level of the streambed (11 feet above sealevel). The bridge railings are designed to be collapsible because high stream flows will overtop the bridge. The applicant proposes to carry out the construction of the project only during the driest months of the year, between July 15 to October 15.

The proposed project is located in Malibu Creek. The majority of the project is within Malibu Lagoon State Beach, although portions of the project on the banks of the creek are located on private property. The applicant, Serra Canyon Property Owner's Association holds an easement interest across the proposed project site. Pursuant to Section 30601.5, the individuals with fee interest in the four properties that underlie the project site have been notified of this amendment application.

### B. Other Approvals

The project has been reviewed by the United States Army Corps of Engineers (ACOE). Their review letter, dated August 4, 2003, states that the proposed project, subject to five conditions meets the general terms and conditions of two nationwide permits. The project was denied without prejudice pending approval of a Section 401 water quality certification from the Regional Water Quality Control Board and Coastal Commission approval. The required conditions are:

1. Provision of 0.21 acres of compensatory mitigation for impacts to waters of the United States;

2. Retention of a on-site biologist to supervise all work in wetlands and to ensure compliance with required mitigation;
3. Employment of BMPs during construction;
4. Maintenance of vehicle, staging, and storage areas in designated upland areas;
5. Submittal of a written compliance report following completion of the project.

The proposed project was referred by the ACOE for review by the United States National Marine Fisheries Service (NMFS) to ensure that it will not adversely affect the endangered steelhead (*Oncorhynchus mykiss*) in Malibu Creek. NMFS concluded that the proposed project would not create short-term conditions that would harm steelhead, based on its belief that steelhead would not be present in the project area at the time that the project will be constructed and that there are sufficient measures included in the project to minimize impacts downstream where steelhead may be rearing. NMFS recommended three conditions:

1. The underside of the bridge shall be elevated no less than 6 feet from the creekbed elevation of 11 feet.
2. The channel bed within the project area shall be returned to pre-project contours after construction is complete.
3. A written report shall be provided after completion of the project.

The project has been reviewed by the California Department of Fish and Game and the DFG has entered into a stream alteration agreement with the applicant. This agreement contains 93 provisions which include the following:

- No more than 0.003 acres of freshwater marsh habitat within the bed and no more than 0.01 acres of riparian habitat within the bank of the stream may be permanently lost. Removal of the existing crossing can mitigate for the loss of freshwater marsh, and restoration of degraded riparian habitat at a ratio of 4:1 will mitigate for riparian impacts.
- In-channel construction is confined to the driest portion of the year from July 15 to October 15, and when the stream is not actively flowing and no measurable rain is forecasted within 72 hours.
- If the project cannot avoid the breeding bird season (February 1 to August 15), weekly bird surveys must be conducted to detect any protected native birds in the habitat to be removed and within 200 feet of the construction work area. Measures must be taken to protect any nests.
- If the project cannot avoid the raptor nesting season (January 31 to August 15), a bird survey must be conducted two weeks prior to any work. Measures must be taken to protect any nests, including no work within 200 feet of any active nests.

The Regional Water Quality Control Board has reviewed the proposed project for a Section 401 Water Quality Certification. The applicant provided a copy of the RWQCB's request for information in which it stated that: "The Regional Board will consider the entire bridge as a permanent impact area (including shading)." and that: "A minimum mitigation ratio of 3:1 and 2:1 for permanent and temporary impacts will be required,

respectively". The applicant has not submitted evidence that the RWQCB has granted final approval.

The City of Malibu has reviewed the proposed project. The bridge has been approved in concept by the City after a plot plan review. Several mitigation measures were required, including a riparian habitat restoration plan, construction measures to minimize impacts, compliance with NMFS requirements for fish passage, a fish exclusion plan to ensure that impacts to tidewater gobies are minimized, and focused surveys for nesting birds. The City has also conducted a geologic/geotechnical review of the project.

### **C. Background**

The Commission approved Permit 4-96-060 in October 1996 for the: "Repair and replacement of a concrete "Arizona Crossing" consisting of 23 pre-cast 4' x 12' x 7.5' concrete slabs placed across a 128' section of Malibu Creek which were destroyed or damaged by the Winter floods of 1995. The project also involves the installation of a mechanized automatic gate system on an existing gate located on Cross Creek Road approximately 1/3 of a mile south of the proposed crossing".

In its approval of this project, the Commission found that there was evidence that the crossing of Malibu Creek in this area had existed in some form since 1899 and had been paved since the 1930's. The Commission further found that there was evidence that the Cross Creek access, including the creek crossing was the only deeded access for 34 properties within the Serra Canyon community, and that it provided a secondary access point for emergency personnel as well as a secondary escape route in the case of fire.

The approved project included the placement of the concrete slabs on the creek bottom to create a stable roadway for cars as well as fire trucks or other emergency vehicles. Slabs have been dislodged by high creek flows several times since the approval of this permit and additional slabs have been placed. Enforcement staff determined and notified the applicants that placement of new slabs required approval by the Commission, but no applications were submitted for such work. At some point, gravel fill and a small culvert was placed beneath the slabs, raising the grade of the crossing higher than the approved plans. This configuration of the crossing does empound water upstream and acts as a barrier to passage of fish. Exhibit 5 shows a photo of the crossing in 1996 and a photo of the crossing today.

### **D. Environmentally Sensitive Habitat Areas/ Wetlands**

The following policies of Chapter Three of the Coastal Act are incorporated as part of the City of Malibu LUP:

#### **Section 30230.**

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.**

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 30233.**

(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:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
- (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
- (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.
- (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.
- (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.
- (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
- (7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that not less than 80 percent of all boating facilities proposed to be developed or improved, where such improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.

(d) Erosion control and flood control facilities constructed on water courses can impede the movement of sediment and nutrients which would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for such purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

**Section 30240.**

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(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.

In addition, the following LUP policies pertain to stream crossings and wetland protection:

**3.33** Alteration of natural streams for the purpose of stream road crossings shall be prohibited, except where the alteration is not substantial, there is no other feasible alternative to provide access to public recreation areas or development on legal parcels, and the alteration does not restrict movement of fish or other

aquatic wildlife. Any other stream crossings shall be accomplished by bridging. Bridge columns shall be located outside streambeds and banks. Wherever possible, shared bridges shall be used for providing access to multiple home sites. Culverts may be utilized for the crossing of minor drainages lacking beds and banks and riparian vegetation. If enlargement, replacement or improvements to the existing at grade crossing of Malibu Creek at Cross Creek Road are determined to be necessary, alternative designs, including, but not limited to, a caisson-supported bridge, that minimize impacts to ESHA shall be considered. In any case, any new improvement to this crossing shall minimize impacts to the movement of fish or other aquatic wildlife to the maximum extent feasible.

**3.89** The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes may be permitted in accordance with all policies of the LCP, where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
- Restoration purposes.
- Nature study, aquaculture, or similar resource dependent activities.

Other uses specified in Section 30233 of the Coastal Act may only be allowed pursuant to an LCP amendment.

**3.90** Where any dike or fill development is permitted in wetlands in accordance with the Coastal Act and any applicable LCP policies, mitigation measures shall include, at a minimum, creation or substantial restoration of wetlands of a similar type. Adverse impacts will be mitigated at a ratio of 3:1 for seasonal wetlands, freshwater marsh and riparian areas, and at a ratio of 4:1 for vernal pools and saltmarsh, unless the applicant provides evidence establishing, and the City finds, that creation or restoration of a lesser area of wetlands will fully mitigate the adverse impacts of the dike or fill project. However, in no event will the mitigation ratio be less than 2:1 unless, prior to the development impacts, the mitigation is completed and is empirically demonstrated to meet performance criteria that establish that the created or restored wetlands are functionally equivalent or superior to the impacted wetlands.

**3.104** New roads, bridges, culverts, and outfalls shall not cause or contribute to streambank or hillside erosion or creek or wetland siltation and shall include BMPs to minimize impacts to water quality including construction phase erosion control and polluted runoff control plans, and soil stabilization practices. Where space is available, dispersal of sheet flow from roads into vegetated areas or other on-site infiltration practices shall be incorporated into road and bridge design.

Finally, the following section of the LIP addresses wetland impact mitigation:

A. Any new development that includes dike or fill development in wetlands for a use permitted under the Coastal Act and the LCP shall include mitigation for unavoidable impacts to wetland habitat. Wetland

impact mitigation shall include, at a minimum, creation or substantial restoration of wetlands of the same type as the affected wetland or similar type. The acreage of wetland habitat impacted shall be determined based on the approved project.

B. Prior to issuance of the coastal development permit, the applicant shall identify an area of disturbed or degraded wetland habitat of equivalent type and acreage sufficient to provide mitigation of the wetland impacts according to the following ratios (number of acres of created or restored habitat required for each acre of wetland habitat impacted), as applicable:

Seasonal wetlands	3 to 1
Freshwater marsh	3 to 1
Riparian areas	3 to 1
Vernal pools	4 to 1
Saltmarsh	4 to 1

C. These mitigation ratios shall be minimum standards unless the applicant provides evidence establishing, and the City finds, that creation or restoration of a lesser area of wetlands will fully mitigate the adverse impacts of the dike or fill project. However, in no event will the mitigation ratio be less than 2:1 unless, prior to the development impacts, the wetland creation or restoration proposed as project mitigation is completed and is empirically demonstrated, based upon a report provided by the applicant from a qualified biologist or resource specialist, to meet performance criteria that establish that the created or restored wetlands are functionally equivalent or superior to the impacted wetlands.

D. Prior to issuance of the coastal development permit, the applicant shall submit wetland habitat creation, restoration, management, maintenance and monitoring plans for the proposed wetland mitigation area prepared by a qualified biologist and/or resource specialist. The plans shall provide a 100 foot restored buffer as measured from the upland limit of the wetland area, and at a minimum include ecological assessment of the mitigation site and surrounding ecology; goals, objectives and performance standards; procedures and technical specifications for wetland and upland planting; methodology and specifications for removal of exotic species; soil engineering and soil amendment criteria; identification of plant species and density; maintenance measures and schedules; temporary irrigation measures; restoration success criteria; measures to be implemented if success criteria are not met; and long-term adaptive management of the restored areas for a period of not less than 10 years. The City shall determine that the proposed restoration site is of equivalent type and acreage to the impacted wetland habitat.

E. The area of wetland habitat to be restored shall be restricted from future development and permanently preserved through the recordation of an open space deed restriction that applies to the entire restored area and buffer. The open space deed restriction shall be recorded prior to issuance of the coastal development permit. The habitat restoration shall be carried out prior to or concurrently with construction of the development project. In any case, the wetland restoration or creation project shall be complete prior to the issuance of certificates of occupancy for any structures approved in the coastal development permit.

F. Performance bonds shall be required prior to the issuance of the coastal development permit to guarantee compliance with the restoration of wetland habitat prior to occupancy clearance as follows: a) one equal to the value of the labor and materials and b) one equal to the value of the maintenance and monitoring for a period of 10 years for the restoration of wetland habitat. Each performance bond shall be released upon satisfactory completion of items (a) and (b) above. If the applicant fails to either restore or maintain and monitor according to the approved plans, the City may collect the security and complete the work on the property. The permit shall contain conditions that set forth the above requirements.



The proposed project is located in Malibu Creek. Malibu Creek and its associated riparian corridor is designated environmentally sensitive habitat area by the City of Malibu LCP. The watershed for Malibu Creek is a 109-square-mile area that extends through Los Angeles County and into Ventura County. The Malibu Creek Watershed Natural Resources Plan (Topanga-Las Virgenes Resource Conservation District, United States Department of Agriculture, July 1995) states that:

The larger tributaries to Malibu Creek have become perennial through most or all of the year since irrigation and the use of reclaimed water have become widespread. Prior to this, most of these streams were intermittent to ephemeral with the exception of Las Virgenes Creek, lower Medea Creek, and Cold Creek, which were historically perennial to intermittent. Since the use of irrigation and releases of reclaimed water began, Malibu Creek, from Westlake Lake to Malibu Lagoon, has had flows at nearly all times, including drought periods. (Staff would note that since this report was prepared, releases of reclaimed water from the Tapia Wastewater Treatment Plant are prohibited during the dry season under the conditions of its permit from the Regional Water Quality Control Board)

Further south of the project site, Malibu Creek forms Malibu Lagoon, a large wetland (estimated to cover 58 acres) containing salt marsh and estuarine habitat. The Final General Management Plan and Environmental Impact Statement for the Santa Monica Mountains National Recreation Area (National Park Service, California State Parks, and Santa Monica Mountains Conservancy, July 2002) states that:

The lagoon provides habitat to a number of migratory water birds, supports a dense riparian forest, supports habitat to the endangered tidewater goby and supports the southernmost reliable run of the remaining steelhead trout runs in the United States.

The applicant has submitted a Biological Assessment, dated April 5, 2002, prepared by Rincon Consultants, Inc. The report, based on on-site surveys of the project site in September 2001, identifies the habitats present. Although the biological consultants did not prepare a formal wetland delineation, the report acknowledges that the areas within the channel contain freshwater marsh habitat. The report states that: "Freshwater marsh was dominated by emergent aquatic vegetation including cattails (*Typha* sp.), wild celery (*Apium graveolens*), sedge (Family Cyperaceae), and watercress (*Rorippa nasturtium-aquaticum*). Duckweed (Family Lemnaceae) and filamentous algae were the prominent aquatic vegetation". The habitat found on the banks of Malibu Creek is riparian woodland. The biological report states that:

The riparian woodland formed a dense, but discontinuous, canopy along the edge of Malibu Creek. This disturbed habitat formed a narrow band along the creek edge onsite and was dominated by willow (*Salix* spp.), western sycamore (*Platanus racemosa*), alder (*Alnus* sp.), and nonnative landscape trees and shrubs such as giant reed (*Arundo donax*), palms, eucalyptus, and myoporum (*Myoporum* sp.).

The tidewater goby is found in Malibu Lagoon. The biological report states that the goby is: "Documented in the general project area. Anticipated to use the project site". With regard to steelhead trout, the report states that: "Steelhead utilize Malibu Creek below

Rindge Dam. The project site is considered critical habitat for the Southern California ESU located within the Santa Monica Bay hydrologic unit".

The proposed bridge will consist of a concrete slab supported on an abutment at each stream bank and 3 piers located within the stream channel. The abutments will be located within the area of riparian woodland habitat and the piers will be located within the area of freshwater marsh habitat. As previously discussed, the existing at-grade crossing is 12 feet wide and extends the full width of the stream channel. There is also an existing concrete roadway (also approximately 12 feet in width) leading to the crossing on each bank of the creek. As such, there is an area 12 feet wide across the entire width of the creek banks and channel that has been filled wetlands and riparian habitat for as long as the crossing has existed.

The proposed bridge will be 16 feet wide (one 12 foot wide lane of travel and one 4 foot wide pedestrian sidewalk) so the bridge will extend 4 feet outside of the footprint of the existing crossing. Although this additional four feet in width will not be filled, it will result in shading an area of freshwater marsh habitat that is not shaded or otherwise impacted by the existing crossing. The three proposed piers will fill freshwater marsh. Each pier will be approximately 38 feet long and approximately 1.5 feet wide. Each pier is at an angle to the bridge deck and extends upstream of the bridge deck. The applicant's engineer states that the pier extensions are sloped downward so that debris will be deflected upward to the water surface, out of the zone of highest velocity. The debris will be diverted to protect the footings of the piers. Each pier extends approximately 16 feet beyond the existing footprint. The area of each pier that is outside of the existing 12-foot wide footprint of the existing crossing represents new fill of freshwater marsh habitat. The area of new wetland fill resulting from the piers is 162 sq. ft. or 0.003-acres. Further, the applicant estimates that approximately 7,362 sq. ft. (0.17 acre) of freshwater marsh will be temporarily impacted during project construction.

Additionally, riparian vegetation will be permanently lost on the banks in the areas where the proposed 16 foot wide bridge extends beyond the existing 12 foot wide crossing. Additionally, the abutments, that are 20 feet long with 3 foot long wing walls at the end, will occupy riparian habitat area. The total area of riparian habitat that will be lost is approximately 340 sq. ft. (0.01 acre). Further, the applicant estimates that there will be approximately 1,600 sq. ft. (0.037 acre) of riparian habitat along the creek bank that would not be permanently lost but will be impacted by construction activities.

With regard to the fill of wetlands, the Land Use Plan allows such fill only for three types of development (Policy 3.89): incidental public service purposes, restoration purposes, or nature study, aquaculture, or similar resource dependent activities. In this case, the bridge cannot be considered an incidental public service since it will not be available to the public. The bridge will be part of Cross Creek Road which is a private drive that is gated on the west side near the Civic Center. This gate will also preclude any pedestrian use of the bridge by the public. Similarly, the bridge is not a restoration project, although it will have a beneficial effect in the long term on fish passage through

this section of Malibu Creek. Finally, the proposed bridge is not for nature study, aquaculture or any similar resource dependent activity.

However, Policy 3.33 of the City of Malibu Land Use Plan specifically provides for the construction of a bridge in this location. This policy pertains to the alteration of natural streams for the purpose of stream road crossings and requires that, except for limited circumstances, such crossings must be accomplished by a bridge that spans the streambed and banks. The policy specifically states the following regarding a bridge at Cross Creek:

If enlargement, replacement or improvements to the existing at grade crossing of Malibu Creek at Cross Creek Road are determined to be necessary, alternative designs, including, but not limited to, a caisson-supported bridge, that minimize impacts to ESHA shall be considered. In any case, any new improvement to this crossing shall minimize impacts to the movement of fish or other aquatic wildlife to the maximum extent feasible.

It is clear that the intent of the LUP is to allow for, if not encourage the construction of a bridge in this location that would not span the full width of the stream, even though this would require the placement of supports in the streambank and the fill of wetlands. This policy also requires the minimizing of impacts to ESHA and to the movement of fish.

Alternatives to the proposed bridge design were considered to determine if a different design could further minimize impacts to wetlands and ESHA. The applicant's engineer modeled three alternatives (Exhibit 4), namely the existing crossing, a bridge with one pier, and the proposed bridge with three piers to determine their comparative impact on the water surface elevation in the stream at various flows. The engineer concluded that the proposed bridge design would function best at higher flows. The engineer has stated that:

The number of piers was chosen so as to have a minimum deck thickness and less overall channel obstruction at high flows. A single pier configuration would have doubled the deck thickness, resulting in greater overall obstruction at high flows. Furthermore, a single pier configuration would require a complete redesign of the bridge, since it could no longer be constructed as a simple concrete slab type bridge.

Staff requested that the applicant to consider the effect of reducing the number of piers from 3 to 2 in order to reduce the amount of wetland fill. The applicant's engineer determined that reducing the number of piers would increase the deck thickness from the proposed 16 inches to 22 inches which would result in increased obstruction at high flows. Also, it would put the bridge on the outside edge of what could safely be built as a simple slab bridge. The applicant has therefore rejected these alternative designs.

Staff also asked the applicant to consider an alternative design that would delete the four foot wide pedestrian walkway. This would reduce the width of the bridge to 12 feet which is the same as the footprint of the existing crossing. Additionally, this would allow for the pier extensions to be reduced by 4 feet in length. The applicant has stated that the pedestrian sidewalk provides safe access across the stream for day workers who

must walk into the area. Staff would note that a sidewalk would also provide for safe evacuation of people on foot in case of an emergency (such as a fire). Given these factors and that the reduction in wetland fill realized under this alternative would not be substantial, this alternative was not chosen.

Therefore, the bridge has been designed to minimize impacts to stream flow, particularly during high flows. The project will have impacts on ESHA and wetlands. As described above, the area of new wetland fill resulting from the piers is 162 sq. ft. or 0.003-acres. Further, the applicant estimates that approximately 7,362 sq. ft. (0.17 acre) of freshwater marsh will be temporarily impacted during project construction. The total area of riparian habitat that will be lost is approximately 340 sq. ft. (0.01 acre). Further, the applicant estimates that there will be approximately 1,600 sq. ft. (0.037 acre) of riparian habitat along the creek bank that would not be permanently lost but will be impacted by construction activities

In order to ensure that impacts to the stream are minimized, the 0.17-acre freshwater marsh area and the 0.037-acre riparian area that will be impacted during construction must be revegetated. The applicant's consultant has stated that:

The freshwater marsh habitat is adapted to periodic removal by high flows within the creek that scour all vegetation from within the channel from bank to bank. The temporary construction effect would be similar to this natural scouring action and it is anticipated that the site will rapidly naturally revegetate within 1-2 years post construction.

Therefore, the applicant is not proposing to revegetate the impacted freshwater marsh habitat areas. The applicant is proposing to revegetate the riparian woodland areas that are impacted by construction with native riparian shrubs. It is important that the riparian areas on the banks are revegetated at the completion of construction, both to ensure that the habitat values of these areas are restored, but also to minimize erosion from disturbed slopes. For the same reasons, it is important that the freshwater marsh areas impacted by construction of the project be revegetated after the completion of construction. While it may be true that these areas will eventually revegetate on their own, the habitat value of these wetland areas will be enhanced during the period after construction if the areas are revegetated rather than waiting for natural regrowth. After all, these areas will not be impacted by natural processes in this case, but by construction. Special Condition No. 3 requires that the applicant develop and implement a restoration plan that includes revegetation of the freshwater marsh and riparian areas impacted by construction.

Further, the Malibu LCP requires that: "any new development that includes dike or fill development in wetlands for a use permitted under the Coastal Act and the LCP shall include mitigation for unavoidable impacts to wetland habitat. Wetland impact mitigation shall include, at a minimum, creation or substantial restoration of wetlands of the same type as the affected wetland or similar type". With regard to impacts to freshwater marsh and riparian habitat, the LCP requires that mitigation for the filling of wetlands and

riparian habitat be provided at a ratio of 3:1 (3 acres of mitigation habitat created or enhanced to each acre of existing habitat filled). In this case, 0.003-acre of freshwater marsh will be filled by the construction of the bridge piers. In order to provide the required mitigation, the applicant must create or enhance 0.009-acre of freshwater marsh habitat. The applicant has stated that the removal of the existing crossing (approximately 0.03 acre) will create new freshwater marsh habitat that should provide adequate mitigation for the fill of the bridge piers. However, this area will be completely shaded beneath the proposed bridge structure and is unlikely to contain the full range of habitat that would be expected in an area that is not impacted by shading. As such, Special Condition No. 3 requires the applicant to identify an area of disturbed or degraded freshwater marsh habitat of at least 0.009-acre in size that can be restored or enhanced to provide the necessary mitigation. Any habitat that is shaded by the bridge shall not be included in the total area of created or restored habitat for the purpose of mitigation as required by this condition. Additionally, 0.01-acre of riparian habitat will be lost in the bank areas where the new bridge will extend beyond the existing crossing. In order to mitigate for this unavoidable impact, Special Condition No. 3 requires the applicant to create or enhance an area of riparian habitat that is at least 0.03-acre in size.

In addition to the impacts discussed above, other impacts to Malibu Creek and its habitats can result from the construction phase of the project. Construction activities could disturb raptors or other sensitive bird species if they are nesting close to the project site. The timing of the proposed project should avoid most of the nesting season for such birds (February 1 to August 15). However, the applicants propose to begin the construction as early as July 15. In order to minimize any construction impacts to raptors and other native birds, the Commission finds it necessary to require the applicant to survey the area within 200 feet of the construction zone to detect the nests of any raptor or sensitive bird species, prior to the commencement of construction. If any such nests are found, measures must be taken to avoid impacts. These requirements are set forth in Special Condition No. 9.

The sensitive habitats found in the stream and Malibu Lagoon could also be adversely impacted by the construction of the proposed project through the introduction of construction materials (particularly concrete), chemicals, debris or sediment into the stream. Additionally, petroleum hydrocarbons including oil and grease from vehicles crossing the bridge will be introduced to the stream through runoff after throughout the life of the project. The discharge of these pollutants to coastal waters can cause cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity, which both reduce the penetration of sunlight needed by aquatic vegetation which provides food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior; and human diseases such as hepatitis and dysentery. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce

optimum populations of marine organisms and have adverse impacts on human health. It is particularly critical that these impacts are avoided given the presence of endangered steelhead and tidewater goby in Malibu Creek and Lagoon.

In addition, if there are still stream flows during the construction of the project, the applicant will need to divert the flow around the active work area. Further, the areas around each pier will need to be isolated with a cofferdam and the material dewatered for the applicant to construct the spread footings for each pier. Such activities have the potential alter the natural flows in the stream, to trap fish and to increase turbidity and sedimentation.

The applicant has proposed measures to minimize impacts resulting from the construction of the project. As part of the project description, the applicant proposes to only carry out the construction of the proposed project during the driest months of the year, July 15 to October 15. This timing restriction will should minimize the amount of water that will be within or flowing through the project site, in turn minimizing the amount of water that would need to be diverted. Additionally, the applicant is proposing to implement a fish rescue plan in the event that a diversion of the creek or foundation dewatering could cause the dewatering of pools occupied by native fish. These measures will minimize impacts from the construction of the project. The Commission also finds it necessary to require the applicant to implement the construction best management practices detailed in Special Condition No. 5 to further reduce potential impacts. Special Condition No. 4 requires the applicant to develop and implement a plan for the placement of all coffer dams, pumps, pipes, drains, etc. that will be utilized to divert flow or dewater. The plan shall detail the location, size, and capacity of the settling basin(s) utilized to remove sediments prior to the discharge of water. Said plan must meet the requirements of the RWQCB. Finally, Special Condition No. 6 requires the applicant to capture and treat runoff from the bridge before it enters Malibu Creek. As conditioned to mitigate for impacts to wetland, to implement construction best management practices, and treat runoff, the Commission finds that the project, as proposed to be amended, is consistent with the ESHA and wetland provisions of the City of Malibu Local Coastal Program.

#### **E. Hazards**

The following Chapter 3 policy of the Coastal Act is incorporated into the City of Malibu LCP:

##### **Section 30253**

New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding



area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

- (3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.
- (4) Minimize energy consumption and vehicle miles traveled.
- (5) Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.

In addition, the following LUP policies pertain to hazards:

- 4.2 All new development shall be sized, designed and sited to minimize risks to life and property from geologic, flood, and fire hazard.
- 4.5 Applications for new development, where applicable, shall include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard. Such reports shall be signed by a licensed Certified Engineering Geologist (CEG) or Geotechnical Engineer (GE) and subject to review and approval by the City Geologist.

Finally, the following LIP standard applies to projects within floodways:

G. Floodway zones are defined as areas subject to relatively deep and high velocity floodwater, and designated "Floodway Areas in Zone AE" on a Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM) released by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA). The following uses are allowed in a floodway zone:

1. Open recreation uses, such as public parks
2. Other uses such that:
  - a. Said use does not constitute an unreasonable, unnecessary, undesirable or dangerous impediment to the flow of floodwaters, or cause a cumulative increase in the water surface elevation of the base flood of more than one foot at any point, where base flood shall mean a flood having a one percent chance of being equaled or exceeded in every year (a 100-year flood)
  - b. Said use does not increase the need for construction of flood control facilities
  - c. Said use does not interfere with the protection of the health, safety, and general welfare of persons and property located within and adjacent to the floodway.
3. Bridges, such that their construction is consistent with Section 9.4.G.2 of the Malibu LIP. Such bridges shall be the preferred alternative over at-grade crossings (including fords and "Arizona Crossings") of streams and floodways.



The applicant has submitted the Geotechnical Engineering Report, dated March 2003, prepared by Earth Systems Southern California which addresses the proposed bridge. Additionally, the applicant submitted a City of Malibu Geology and Geotechnical Review Sheet, dated July 25, 2003 and a Response to Review, dated October 10, 2003, prepared by Earth Systems Southern California. The geotechnical consultants made several recommendations regarding the proposed project, including the proposed spread footings that will be used to support the three piers. Scour analyses carried out by the consulting engineers for the stream indicated that the maximum scour could reach an elevation 10 feet below the existing elevation of the streambed. The geotechnical consultants recommend that the pier footings are embedded a minimum of 2 feet below scour level to ensure that they are not undermined.

The geotechnical consultants conclude that:

Based on the findings summarized in this report, it is the professional opinion of this firm that the proposed construction will not be subject to a hazard from settlement, slippage, or landslide, provided the recommendations of this report are incorporated into the proposed construction. It is also the opinion of this firm that the proposed improvements and anticipated site grading will not adversely affect the geologic stability of the site or adjacent properties provided the recommendations contained in this report are incorporated into the proposed construction.

To ensure that the recommendations of the geologic and geotechnical engineering consultants are incorporated into all new development, Special Condition No. 7 requires the applicant to submit project plans certified by the consulting geologist and geotechnical engineer as conforming to all geologic and geotechnical recommendations, as well as any new or additional recommendations by the consulting geologist and geotechnical engineer to ensure structural and site stability. The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission relative to construction, foundations, grading, and drainage. Any substantial changes to the proposed development approved by the Commission that may be recommended by the consultants shall require an amendment to the permit or a new coastal development permit.

With regard to minimizing hazards from flooding, the City of Malibu LCP allows for bridges that occupy area within the floodway of a stream so long as they do not create an unreasonable, unnecessary, undesirable or dangerous impediment to the flow of floodwaters, or cause a cumulative increase in the water surface elevation of the base flood of more than one foot at any point, where base flood shall mean a flood having a one percent chance of being equaled or exceeded in every year (a 100-year flood). The applicant's engineer modeled three alternatives (Exhibit 4), namely the existing crossing, a bridge with one pier, and the proposed bridge with three piers to determine their comparative impact on the water surface elevation in the stream at various flows. As shown in the chart in this exhibit, the water surface elevation at the flow that corresponds to the 100-year flood (40544 cfs) with the existing crossing is 31.65 feet above sea level. The estimated water surface elevation at the same flow with the proposed bridge with 3 piers is 31.13 feet above sea level. The water surface elevation

then is anticipated to be slightly lower than the existing condition. As such, the proposed project is consistent with the LCP requirements regarding flood hazards.

Given the location of the proposed project in a stream, the bridge will be subject to hazards, particularly flooding and debris flows. At high flood flows, large rocks and other debris could impact the bridge, causing damage to the structure and/or forming a dam that could cause flooding upstream. The Commission finds that due to the possibility of these hazards, the applicant shall assume the risk of developing the proposed structure within a stream where it will be subject to such hazards as a condition of approval. Because this risk of harm cannot be completely eliminated, the Commission requires the applicant to waive any claim of liability against the Commission for damage to life or property that may occur as a result of the permitted development. Special Condition No. 1 requires the applicant to assume the risk of development by accepting this permit. As conditioned to assume the risk of development and to provide geologic review of the final plans, the Commission finds that the project, as proposed to be amended, is consistent with the hazard provisions of the City of Malibu Local Coastal Program.

#### **F. Public Access**

One of the basic mandates of the Coastal Act is to maximize public access and recreational opportunities within coastal areas and to reserve lands suitable for coastal recreation for that purpose. The Coastal Act has several policies which address the issues of public access and recreation within coastal areas. The following Chapter 3 policy of the Coastal Act is incorporated into the City of Malibu LCP:

##### **Section 30210**

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

##### **Section 30253**

*New development shall:*

*(5) Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.*

In addition, the following LCP policies are applicable in this case:

**2.1** *The shoreline, parklands, beaches, and trails located within the City provide a large range of recreational opportunities in natural settings which include hiking, equestrian activities, bicycling, camping, educational study, picnicking, and coastal access. These recreational opportunities shall be protected and, where feasible, expanded or enhanced as a resource of regional, state, and national importance.*

- 2.2 *New development shall minimize impacts to public access to and along the shoreline and inland trails....*
- 2.5 *New development shall be sited and designed to minimize impacts to public access and recreation to the shoreline and trails. If there is no feasible alternative that can eliminate or avoid all access impacts, then the alternative that would result in the least significant adverse impact shall be required. Impacts may be mitigated through the dedication of an access or trail easement where the project site encompasses an LCP mapped access or trail alignment, where the City, County, State, or other public agency has identified a trail used by the public, or where there is substantial evidence that prescriptive rights exist. Mitigation measures required for impacts to public access and recreational opportunities shall be implemented prior to or concurrent with construction of the approved development.*
- 2.6 *Mitigation shall not substitute for implementation of a feasible project alternative that would avoid impacts to public access.*
- 2.11 *Public land, including rights-of-way, easements, and dedications, shall be utilized for public recreation or access purposes, where appropriate and consistent with public safety and protection of environmentally sensitive habitat areas.*
- 2.17 *Recreation and access opportunities at existing public beaches and parks shall be protected, and where feasible, enhanced as an important coastal resource. Public beaches and parks shall maintain lower-cost user fees and parking fees and maximize public access and recreation opportunities. Limitations on time of use or increases in use fees or parking fees, which affect the intensity of use, shall be subject to a coastal development permit.*

The proposed bridge will be part of Cross Creek Road, a private drive that provides access to the Serra Canyon community. Cross Creek Road extends from Pacific Coast Highway through the Civic Center area. North of the Civic Center, there is a gate across Cross Creek Road that restricts vehicular access to only residents that have a card key or code to open the gate. No pedestrian access is provided through the gate. As described above, Permit 4-96-060 included the approval of the installation of a mechanized automatic gate system on the gate that existed in this location prior to 1996. The applicant proposed that modification to the gate in order to minimize the vehicular use of the at-grade crossing to minimize impacts to the stream.

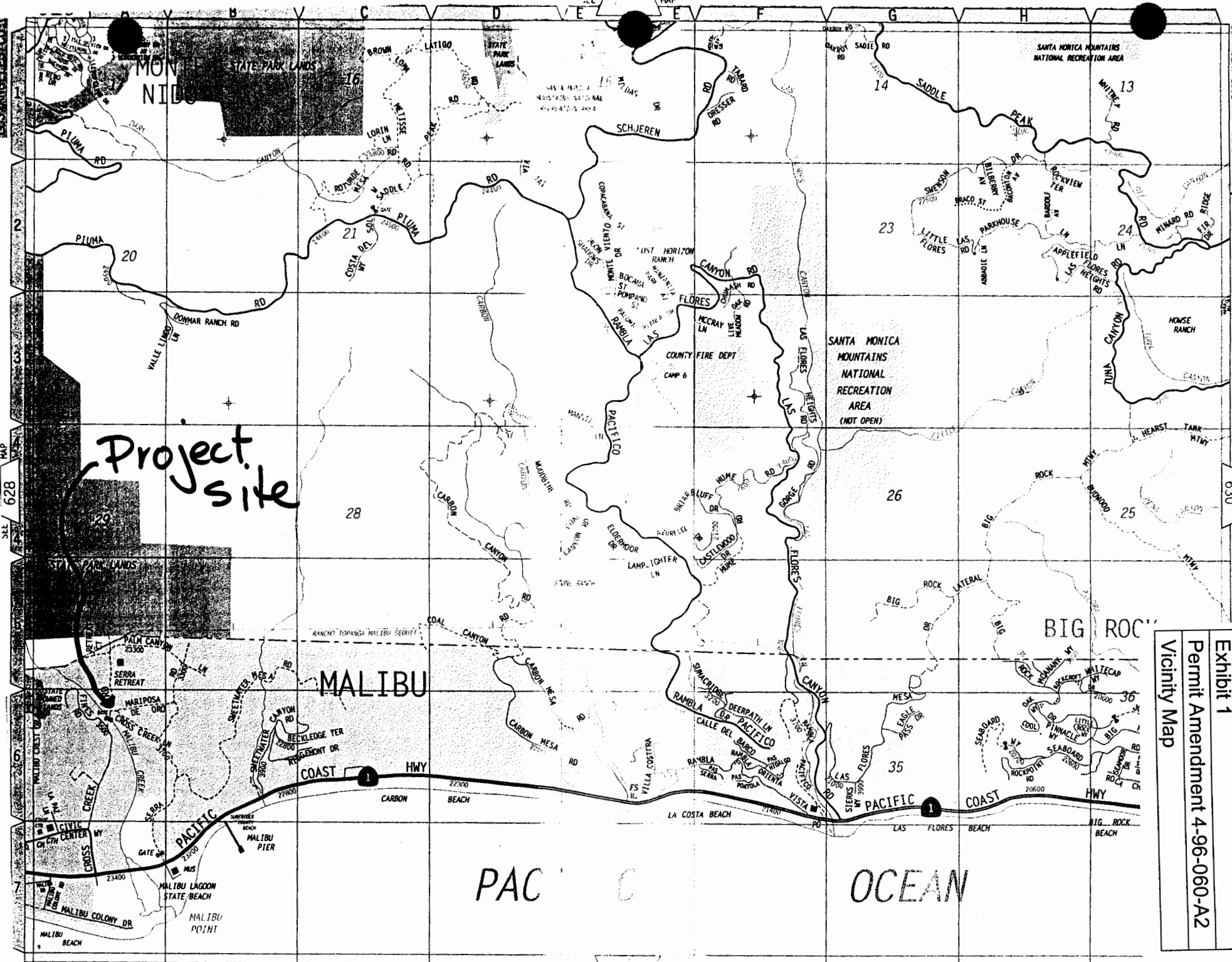
Commission staff asked the applicant if it intended to allow public access through the gate on Cross Creek Road, along Cross Creek Road to the bridge. In this way, the public could gain access from the Civic Center area to the trails on the east side of the creek. The applicant indicated that this route was private property and that it did not intend to offer public access across it. The applicant has indicated that the public can access the bridge from existing trails on the east side of Malibu Creek. One of these trails is located within State Parks property and generally follows the eastern bank of the creek. So, the bridge will not itself be blocked from public pedestrian use. However, as previously noted in Permit 4-96-060, there are no trails on the western side of Malibu Creek in the area of the project site. Staff is not aware of the development of any trails on the west side of the creek since that time.

As such, while the applicant will allow the public to walk on the pedestrian sidewalk of the bridge from the east side of the creek, this will not connect to any other trail or public route. Trail hikers could cross the bridge to gain a view of Malibu Creek upstream and downstream of the bridge. Additionally, it is possible that a trail available to the public could be provided in the future as part of some development proposal or within public property on the west side of the creek. The Commission finds it necessary to require the applicant to allow the public to use the pedestrian walkway of the bridge. Special Condition No. 8 requires the applicant to allow public pedestrian access on the bridge sidewalk by accepting this permit. As conditioned, the Commission finds that the project, as proposed to be amended, is consistent with the public access provisions of the City of Malibu Local Coastal Program.

#### **G. California Environmental Quality Act**

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

The Commission finds that, the proposed project, as conditioned, will not have any significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the City of Malibu Local Coastal Program.



Project site

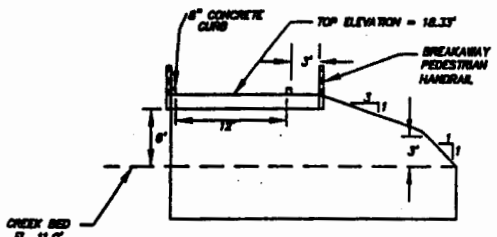
MALIBU

PAC

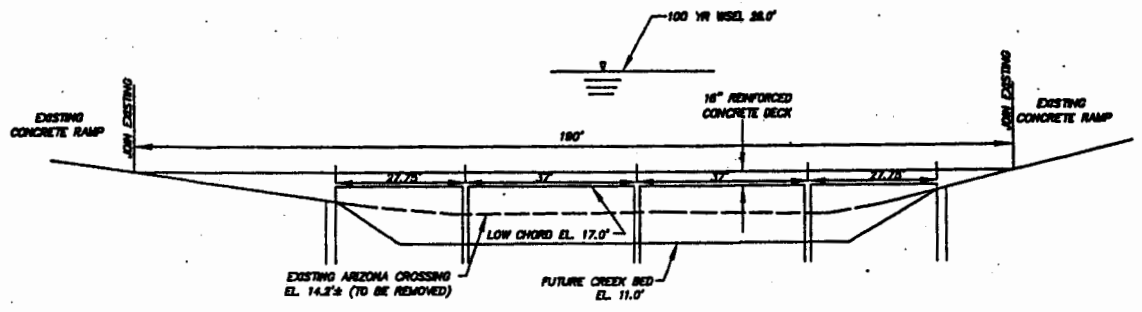
OCEAN

Exhibit 1  
Permit Amendment 4-96-060-A2  
Vicinity Map

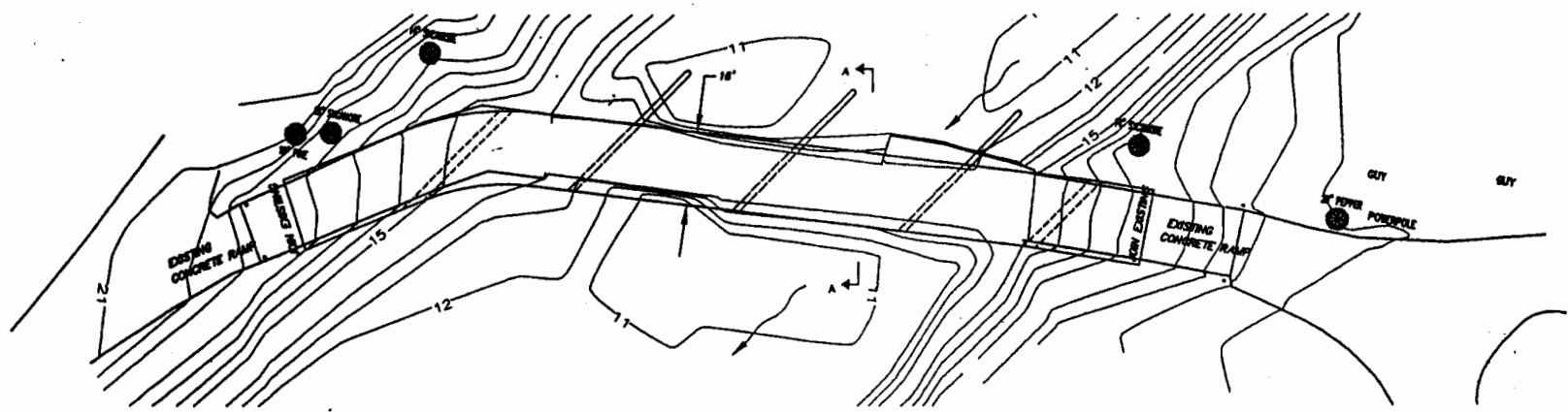
Exhibit 2  
 Permit Amendment 4-96-060-A2  
 Site Plan



SECTION A-A  
 DECK SECTION AT PIER  
 SCALE: 1"=10'



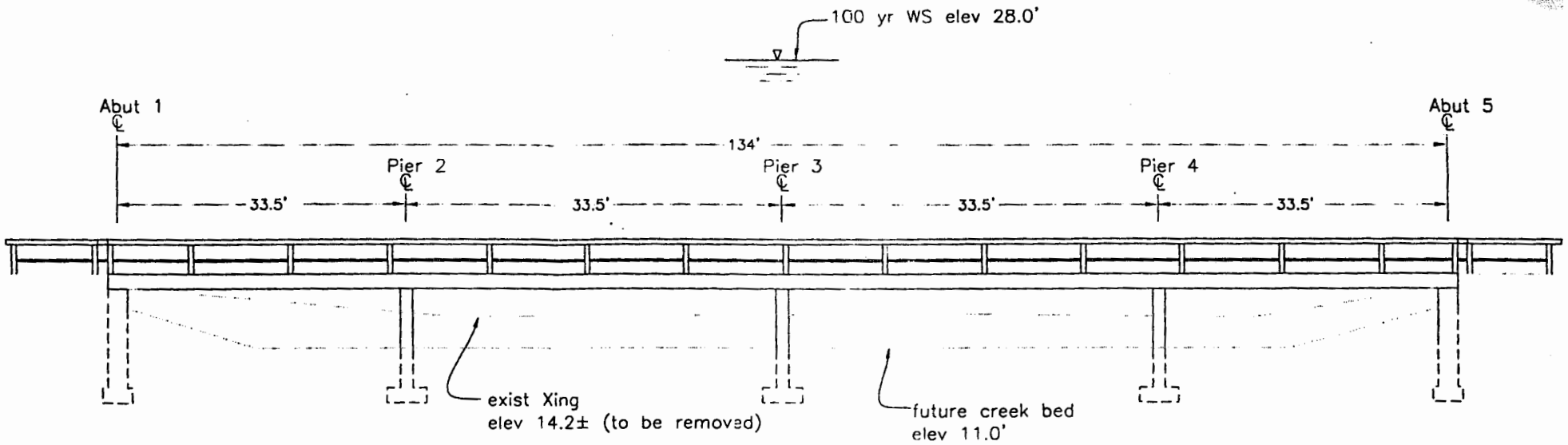
PROFILE  
 HORIZ. SCALE: 1"=20'  
 VERT. SCALE: 1"=10'



BRIDGE PLAN  
 SCALE: 1"=20'

NO GRADING PROPOSED WITH THIS PROJECT

MALIBU CREEK CROSSING AT CROSS CREEK ROAD  
 PROPOSED BRIDGE



**ELEVATION / SECTION B-B**

NO SCALE

Exhibit 3  
 Permit Amendment 4-96-060-A2  
 Cross Section



Malibu Creek  
Proposed Cross Creek Road Bridge  
Technical Summary

***Fish Passage Requirements***

Maximum velocity: 6.0 fps

Minimum depth of flow at low flow: 1 foot

***Structure***

The proposed alternative consists of a concrete slab bridge extending the width of the streambed. The deck will be mounted on three piers such that the lower chord of the bridge measures 6' above the current elevation of the streambed. Each pier will include upstream extensions to deflect debris. Dimensions of the bridge (deck thickness, width of piers, length of spans, etc.) will be determined during final design. The structure will be designed to withstand the 100-year flood.

***Hydrology***

Daily stream gage records were obtained from L.A. County station #F130-R on Malibu Creek, below the confluence with Cold Creek. Though 3 miles upstream of the crossing, the watershed area upstream of the gage is only 5% less than the area above the crossing. Therefore, flows at this gage are considered representative of the flows at the crossing. An analysis of daily flow records shows that the 1% exceedence flow is 450 cfs. Analysis of low flow values indicates flow rates less than 1 cfs for the 95% exceedence level. Alternatively, a low flow minimum of 1 cfs is used.

***Sediment Concerns***

To assure fish passage under conditions of potential aggradation of the streambed, the bridge deck is elevated 6' above the current streambed. This will allow for as much as 5' of sediment deposition without restricting fish passage.

***Low Flow Hydraulics***

Fish passage is possible under the bridge at the design flow of 450 cfs under post-construction conditions and under conditions of maximum aggradation of the streambed. Minimum depth at low flows is assured because the bridge has a soft bottom that will allow for a natural low-flow channel to be formed.

***Storm Flow Hydraulics***

Hydraulic analysis was performed using the latest version of HEC-RAS, the U.S. Army Corps of Engineers software program used to model river systems. Three scenarios - a 4-span bridge, a 2-span bridge and the existing Arizona crossing - were modeled to determine their comparative impact on the water surface elevation in the creek at various flows. Results of the analysis are given on the following page.

Exhibit 4
Permit Amendment 4-96-060-A2
Technical Specifications

Table H-1 Comparative impact on water surface elevations in Malibu Creek of three crossing scenarios at various flow rates. Elevations are at a point just upstream of the crossing. Lowest elevations at a given flow rate are in boldface. The flow rate of 40544 cfs corresponds to the FEMA 100-year flood.

Q (cfs)	Water Surface Elevations (feet above sea level)		
	Existing Crossing	4 Span Bridge	2 Span Bridge
1000	16.54	15.60	<b>15.59</b>
2500	18.33	17.79	<b>17.76</b>
5000	<b>20.44</b>	20.53	21.00
8000	<b>22.31</b>	22.63	23.38
10000	<b>22.89</b>	23.11	25.26
20000	<b>26.49</b>	26.71	27.90
25000	27.88	<b>27.77</b>	29.43
30000	29.53	<b>29.33</b>	30.47
35000	30.67	<b>30.38</b>	31.09
40544	31.65	<b>31.13</b>	31.80
45000	32.35	<b>31.64</b>	32.32
50000	33.09	<b>32.45</b>	32.87

Though none of the three crossing scenarios functions best at all flows, it can be observed that the 4-span bridge functions best at the higher flows, flows that are of most concern to property owners with homes near the banks of the creek. As the top of bank is at approximately 27 feet, the table shows that the 4-span bridge actually decreases overbank flooding levels compared to the existing crossing. It should also be noted that this hydraulic analysis is based on existing conditions in the creek. If the existing crossing were to remain in place, it is certain that sediment will be deposited upstream of the crossing, thereby further decreasing the flood carrying capacity of the creek. A bridge, which includes the removal of the existing crossing and restoration of a natural streambed, will not impede the free movement of sediment at the crossing. This means that with the construction of the proposed bridge, the flood carrying capacity of the channel is less likely to be diminished by sediment deposition.

**J. J. DeVries, PhD, PE**  
324 Encina Avenue  
Davis, CA 95616

Hawks and Associates  
2259 Portola Road, Suite B,  
Ventura, CA93003  
Attention: Mr. Barry Rands

April 6, 2002

**Subject: Review of HEC-RAS Model – Malibu Creek**

Sirs:

I have reviewed the RAS models of Malibu Creek with the three alternative crossing structures: (the existing crossing, a 4-span bridge, and a 2-span bridge) prepared by your firm. My general opinion is that the HEC-RAS models have been developed correctly and represent the hydraulic conditions at the crossing within the limitations of the HEC-RAS program. HEC-RAS is the standard program for this type of analysis in the United States and is recommended for use by the US Army Corps of Engineers, the Federal Emergency Management Agency, and other agencies. The program permits the computation of water surface profiles in open channels with complex cross sections and includes the hydraulic effects of structures, such as bridges, culverts, and weirs.

The creek being modeled has a relatively steep slope (from the standpoint of hydraulics), and in some locations the flows will be supercritical (or rapid) flow. Along most of the modeled reach, the flows are near critical depth, either just above critical depth (subcritical flow) or just below critical depth (supercritical flow). The structures at the crossing (the existing structure and the bridges under study) cause the flow to pass through critical depth, so that the flow is typically supercritical just downstream and subcritical (or tranquil flow) just upstream from the crossing over most of the flows.

The crossings were modeled using a range of discharges for the stream, ranging from low flows that are contained within the banks to flows that are about 20 percent greater than the expected 1% annual exceedance discharge (the 100-yr flow). The locations of supercritical flow change with the stream discharge.

Supercritical flows give rise to standing waves. The standing waves are produced when the direction of the high velocity flow is changed by the stream banks or other features of the stream geometry. Theoretical procedures for the analysis of standing waves in supercritical flow are available for very simple channel geometry, but in a natural stream the problem is much more complex and difficult and the simple calculation procedures would not provide very accurate definitions of the standing waves.

HEC-RAS provides a solution of the one-dimensional equations of steady flow for conditions of mixed subcritical and supercritical water surface profiles. In HEC-RAS analyses it is assumed that the water surface is horizontal and that the energy grade line elevation is the same across the entire cross section of the stream. It uses the mean velocity of the entire section to represent the kinetic energy of the flow using a velocity head correction factor to account for non-uniformity of

the velocity in the cross section. At bridges and other structures hydraulic equations (for low flow, pressure flow and weir flow) may be used to characterize the flow conditions at the structure. However, when the structure becomes fully submerged it is most appropriate to use the energy equation to calculate the head loss and water surface elevation for the bridge. The Energy Method was used in this application. For high flows at the structures being studied, the structures are fully submerged. The area of the structure is a relatively small percentage of the total cross section area, and thus the structure does not reduce the total flow area by a large amount. The flow conditions at the bridge used in the HEC-RAS application is based on critical depth occurring at the bridge.

The existing crossing and the proposed bridges will act as a "control section" causing the flow to go through critical depth at the crossing for the higher discharges. There will be a hydraulic jump upstream from the bridge at the higher flows. The flow in the reach is mainly subcritical at very low flows, and the structures may not produce a "control" for some low flow cases. From the downstream of the reach to a relatively short distance downstream from the bridge, the profiles with the bridges are the same as for the existing crossing. Because the hydraulic characteristics the bridge are different from the current crossing when the structures are fully submerged, the water surface elevation upstream of the crossing point for all flows greater than 20,000 cfs will be slightly lower with the bridge than for the existing crossing.

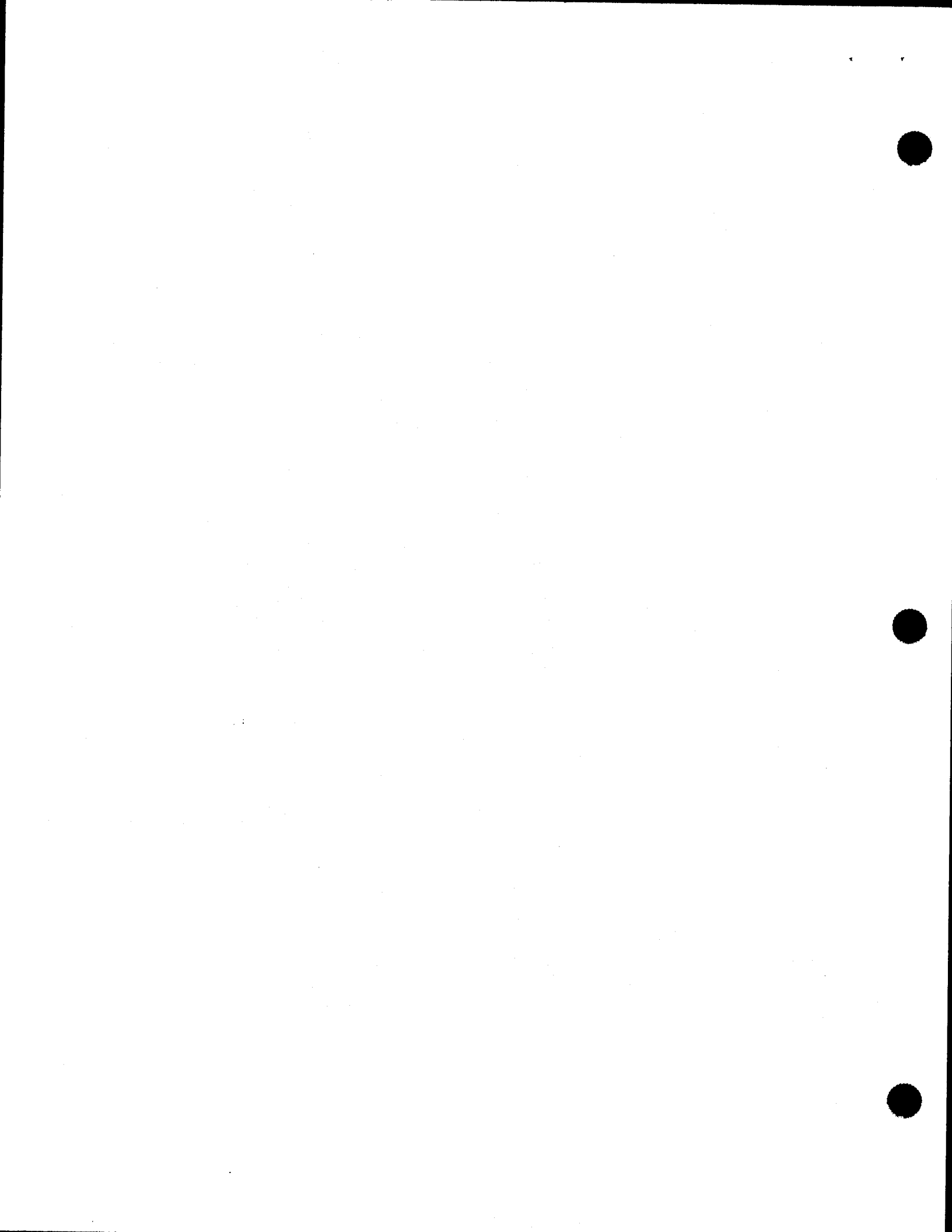
1. Are waves and turbulence caused by the bridge? In my judgment the bridge will act as a feature that will dampen waves and large scale turbulence in the stream flow. For low flows the bridge will act in a similar fashion as the current crossing. For very high flows, in my judgment, it will reduce waves because the flow will be slowed down to a greater degree by the bridge than for the existing crossing and waves will be dampened. There is no mechanism in the flow that will act as a forcing function and produce waves.

2. What are the downstream effects of the bridge? The water surface profiles are essentially identical for the case with the bridge and the existing crossing until you are just downstream from the bridge.

3. Has the bridge been modeled appropriately? The bridge solution used by RAS is the Energy Method. I think that the Energy Method is the most appropriate for this bridge. The deck and abutments do not act as a weir and for high flows the bridge does not occupy a very large percentage of the total flow area at the cross section.

4. Are there ways to modify the bridge's profile to smooth out the flow and/or enhance hydraulic efficiency? I don't think that changing the bridge geometry will have an effect on the flow downstream. The bridge itself will not cause transient waves that affect downstream water surfaces. The bridge will primarily affect the water surface profile upstream and downstream effects will be minor.

J. J. DeVries, PhD, PE  
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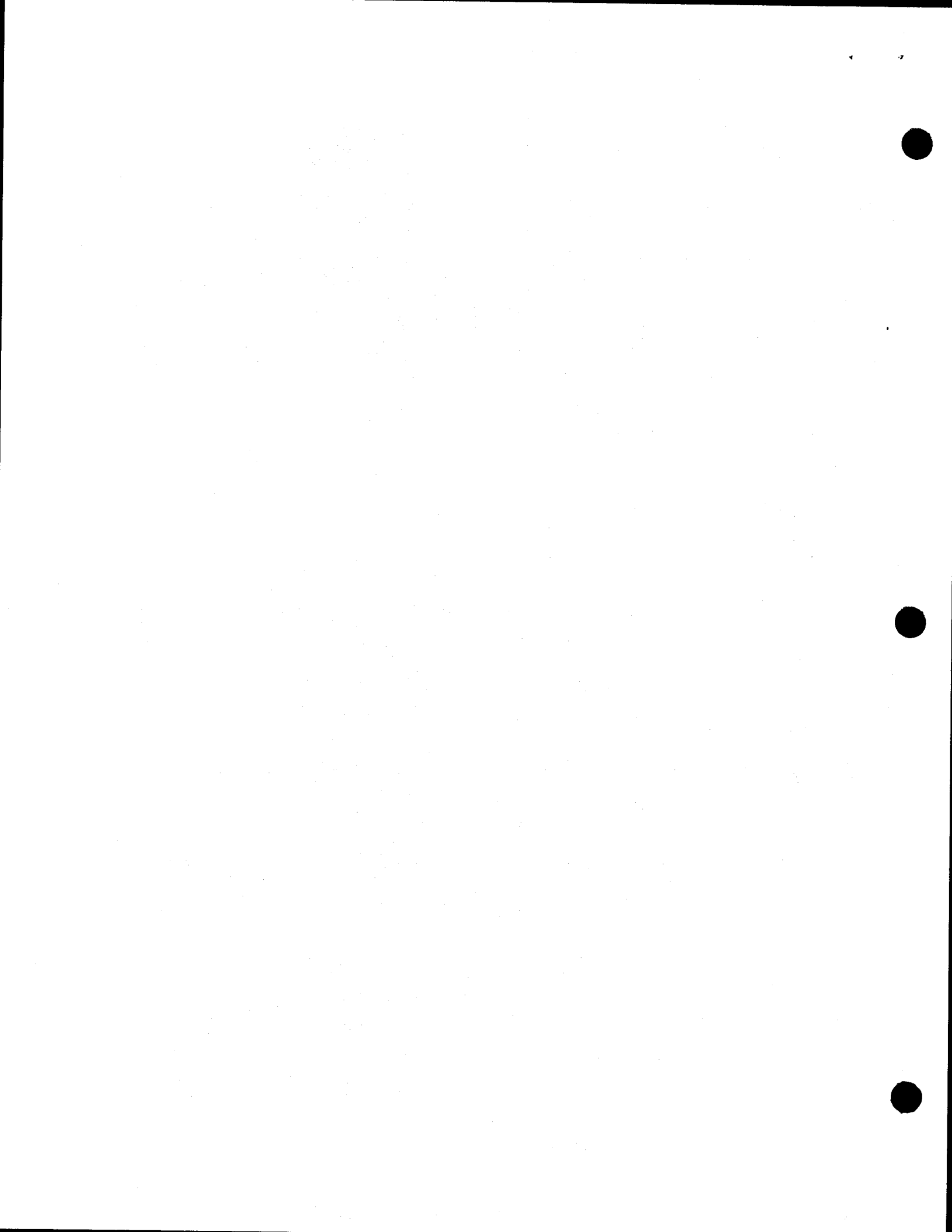


Cross Creek Crossing, March 1996

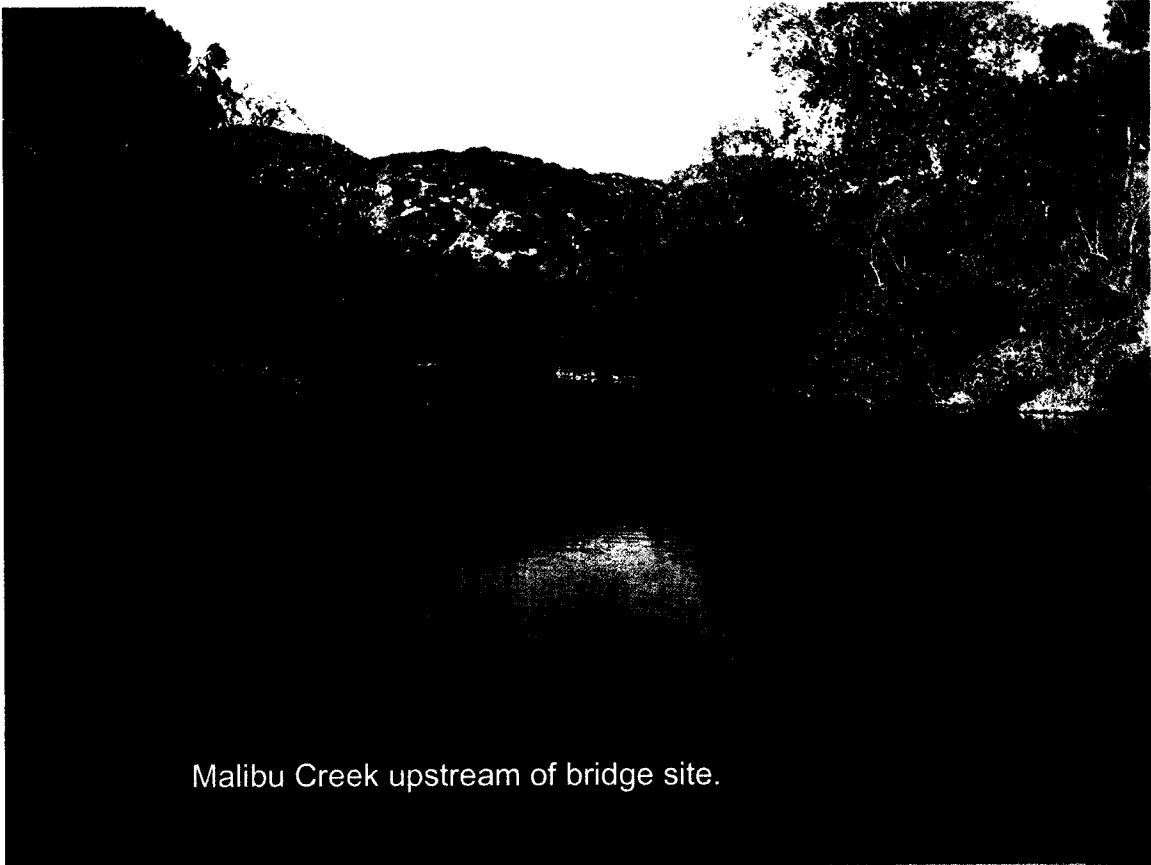


Cross Creek Crossing, January 2004

Exhibit 5
Permit Amendment 4-96-060-A2







Malibu Creek upstream of bridge site.



Malibu Creek downstream of bridge site.

