CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800

W 8e

Filed:	2/2/09
180th Day:	8/1/09
Staff:	D. Christensen
Staff Report:	6/25/09
Hearing Date:	7/8/09

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-09-013

APPLICANT: Mariposa Land Company

PROJECT LOCATION: 3728 Cross Creek Road, City of Malibu, Los Angeles County

ASSESSOR PARCEL #: 4452-011-036

PROJECT DESCRIPTION: Follow-up to Emergency Coastal Development Permit No. 4-98-024-G for placement of rock rip-rap revetment along an approximately 500 foot long section of the west bank of lower Malibu Creek. The proposed project also includes revegetation of the revetment site to create approximately 0.59 acres of riparian and upland habitat.

MOTION & RESOLUTION: Pages 3-4

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **APPROVAL** of CDP No. 4-09-013 with **fifteen (15) special conditions** relating to assumption of risk, revised bank protection plans, revised revegetation plans, revegetation implementation and monitoring, construction timing and best management practices, dewatering plan, aquatic species protection, required approvals, future alterations, deed restriction, site inspection, condition compliance, State Parks permission, nesting bird protection measures, and implementation of approved project. The proposed project area lies within the City of Malibu, but falls within the Commission's area of retained original permit jurisdiction because development is proposed on lands that are below the mean high tide line and/or on public trust lands. The standard of review for the project is the Chapter 3 policies of the Coastal Act. In addition, the policies of the certified Malibu Local Coastal Program (LCP) serve as guidance.

The applicant is requesting authorization to permanently retain approximately 500 linear feet of rock rip-rap revetment that was installed along the west bank of lower Malibu Creek to protect an existing commercial development from flood waters pursuant to Emergency CDP No. 4-98-024-G. The revetment consists of 1,500 tons of 0.5 to 8-ton granite boulders placed at approximately 1:1 to 1.5:1 (H:V) slope and 14-16 feet in height (2-4 foot toe below stream bed). The applicant is also proposing to revegetate the revetment site by inserting willow bundles among spaces in the rock rip-rap and to plant the slope above the revetment with riparian plant species.

Continued on next page

In past permit actions concerning rock rip-rap in streams, the Commission has approved such development only where there is no feasible alternative to protect existing development and where revegetation with willows and other riparian species is incorporated into the actual construction. Given that the un-engineered revetment proposed here was not designed to accommodate plantings and was constructed at a very steep angle, it is not assured that the applicant's proposed revegetation will ensure that water quality, stability, scenic quality, and habitat value of the bank are all protected, consistent with the requirements of Chapter 3. It has not been demonstrated that the proposed project is the least environmentally damaging alternative or that it is sited and designed to be consistent with the Chapter 3 requirements for protection of habitat and scenic values of the riparian stream corridor of Malibu Creek.

However, an alternative has been identified that would function to adequately protect existing development in the floodplain as well as render the project consistent with the Chapter 3 protections for Malibu Creek ESHA, water quality, and visual resources. If the proposed project were revised, pursuant to the recommended special conditions, to re-construct the rock slope protection at a less steep slope in conjunction with incorporating filter fabric and willow stakes into the reconstructed rip rap design, the proposed project can be found consistent with Section 30230, 30231, 30236, 30251, 30253, and 30240 of the Coastal Act and the relevant policies of the Malibu LCP, which the Commission uses as guidance.

STAFF NOTE:

This application was brought to a Coastal Commission hearing on April 9, 2009. At the meeting, the Commission continued this item and directed staff to provide additional analysis regarding the revegetation-only alternative, and, conversely, the feasibility of laying the recommended vegetated rip rap design alternative back to a 3:1 (H:V) slope where possible. In addition, concern was raised regarding the impacts of potential construction dewatering on sensitive species. Since the April 9, 2009 hearing, staff has coordinated closely with Commission Staff Ecologist Dr. Jonna Engel and Commission Staff Coastal Engineer Lesley Ewing to consider and address the issues raised by the Commission. Regarding the revegetation-only alternative, sheer stresses in the subject reach of the channel have been determined to exceed what the use of vegetation only is capable of resisting, and therefore, this alternative is not recommended for this site, as described in detail on page 21 of this staff report. Regarding the alternative of laying back the vegetated rip rap design to a 3:1 slope, staff has taken a closer look at this option and found that there would be biological benefits to a more gradual bank gradient, and a 3:1 slope may be feasible along portions of the revetment where there is adequate space between the existing revetment toe and the adjacent commercial development and if determined to be hydraulically feasible, as discussed in greater detail in this report. Staff is now recommending that the rock slope protection be re-engineered to be laid back to a 3:1 (H:V) slope for all on-site areas where it is feasible; however, the re-engineered slope shall be no steeper than 2:1 (H:V) in any location. Where a 3:1 slope is determined to be infeasible by a registered engineer for any portion of the revetment, the applicant shall provide evidence demonstrating that a 3:1 slope is either hydraulically infeasible or spatially infeasible given site characteristics. Further analysis of water quality and ESHA impacts associated with the recommended revetment re-construction and potential dewatering are found on pages 27-28 of this staff report. Analysis of water quality and ESHA impacts associated with the proposed as-built revetment are found on pages 25-26. Finally, staff has considered the appropriate timing for construction of the approved project. Per Dr. Jonna Engel's recommendation, Special Condition No. 5 on page 7

regarding construction timing has been modified to confine grading and rock slope protection work to the months of June 1 through October 31, which is during the dry season and outside the estimated peak period of tidewater goby spawning and the non-migration period of steelhead trout.

SUBSTANTIVE FILE DOCUMENTS: Certified City of Malibu LCP; City of Malibu Approval-in-Concept, dated June 28, 2007; Emergency Coastal Development Permit No. 4-98-024-G (Mariposa Land Company); U.S. Army Corps of Engineers Regional General Permit No. 98-00315-AOA for emergency placement of rip-rap revetment, issued February 13, 1998; U.S. Army Corps of Engineers Jurisdictional Determination letter for the proposed vegetation restoration plan, dated March 6, 2008; Notification of Emergency Streambed Alteration Work for revetment sent to California Department of Fish & Game February 19, 1998 (no agency response); California Department of Fish & Game letter stating statutory deadline had lapsed to issue an agreement regarding Streambed Alteration Notification No. 1600-2005-0503-R5 (vegetation restoration plan), dated January 13, 2008; "Emergency Regional General Permit No. 52," Regional Water Quality Control Board, Los Angeles Region; "City of Malibu Initial Study 03-003 and Mitigated Negative Declaration 04-002, dated July 7, 2005; "Lower Malibu Creek and Lagoon Resource Enhancement and Management Plan," by Richard Ambrose and Anthony Orme, dated May 2000; "Preliminary Engineering Design Study for Lower Malibu Creek Emergency Revetment," prepared by Pacific Advanced Civil Engineering Inc. (PACE), dated March 28, 2006; "Addendum to the Preliminary Engineering Design Study for Lower Malibu Creek Emergency Revetment," prepared by PACE, dated May 25, 2007; "Response to Comments" Memo, by PACE, dated October 18, 2007; "Evaluation of Biological Impacts of Bank Stabilization Project," prepared by Hunt & Associates Consulting Biologists, dated September 5, 2000; "Floodplain Analysis for Rock Levee along Malibu Creek," prepared by Land Design Consultants Inc., dated September 23, 1998; "Vegetation Restoration Plan,", prepared by Impact Sciences Inc., dated August 2007; January 9, 2009 Letter from Impacts Sciences, Inc. Regarding Modification to the "Vegetation Restoration Plan"; Riprap Installation Letter by Roy Brothers' Drilling Company, dated January 7, 2009; Memorandum by Commission Ecologist Dr. Jonna Engel, dated January 9, 2009; Memorandum by Commission Coastal Engineer Lesley Ewing, dated January 7, 2009 and June 23, 2009; "Biological Analysis Malibu Creek Riprap Replacement," by Impact Sciences, dated April 3,2009; Memorandum by PACE, dated March 24, 2009, regarding HEC-RAS modeling results of staff recommendation.

I. JURISDICTION AND STANDARD OF REVIEW

The proposed project area lies within the City of Malibu, but falls within the Commission's area of retained original permit jurisdiction because development is proposed on lands that are below the mean high tide line and/or on public trust lands. The standard of review for the project is the Chapter 3 policies of the Coastal Act. In addition, the policies of the certified Malibu Local Coastal Program (LCP) serve as guidance.

II. STAFF RECOMMENDATION

MOTION: ***I move that the Commission approve Coastal Development Permit No. 4-09-013 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves Coastal Development Permit No. 4-09-013 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 and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. 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.

III. 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.

IV. SPECIAL CONDITIONS

1. Assumption of Risk

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion and flooding; (ii) 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; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

2. Revised Bank Protection Plans

Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the review and approval of the Executive Director, two (2) sets of revised rock slope protection/grading plans with representative cross-sections. The plans shall be prepared and stamped by a registered engineer. The revised plans shall demonstrate the following:

1. That the rock slope protection has been re-engineered to be laid back to a 3:1 (H:V) slope for all on-site areas where it is feasible; however, the re-engineered slope shall be no steeper than 2:1 (H:V) in any location. Where a 3:1 slope is determined to be infeasible by a registered engineer for any portion of the revetment, the applicant shall provide evidence, for the review and approval of the Executive Director, demonstrating that a 3:1 slope is either hydraulically infeasible or spatially infeasible given site characteristics. The rock slope protection shall be designed to an appropriate depth to minimize undercutting of the revetment and integrated with the adjacent existing grouted rock slope protection to the north and the natural bank to the south.

   The toe of the slope protection shall not extend further into the creek than currently exists. If determined feasible, the footing portion of the rock slope protection may remain in place and only the upper portion of the rock shall be laid back per the requirement above.

2. That geotextile filter fabric and live willow stakes are incorporated into the re-engineered rock slope protection during construction, consistent with the Revised Revegetation Plan required as part of **Special Condition No. 3** below.

3. That where any fencing or unpermitted development exists along the bank that interferes with the re-engineered revetment required herein, as well as the associated Revised Revegetation Plan required as part of Special Condition 3 below, be removed from the site.

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

3. Revised Revegetation Plan

Prior to issuance of the Coastal Development Permit, the applicant shall submit, for the review and approval of the Executive Director, a revised "Vegetation Restoration Plan," that incorporates the following changes.

1. The "Vegetation Restoration Plan" (by Impact Sciences Inc., dated 8/2007 and amended 1/2009) shall be revised pursuant to the approved rock slope protection plan required by **Special Condition 2** above. The revised plan shall indicate that geotextile filter fabric with holes for willow plantings will be placed on the graded slope of the bank prior to rock placement to stabilize the soil. As the rock revetment is being installed, live willow stakes shall be inserted among the voids, making sure the stakes penetrate the fabric filter and underlying soil. Interstitial spaces in the rip rap shall be partially filled with a fine gravel, sand, and soil combination. In addition, alkali bulrush (*Scirpus maritimus*), yerba mansa (*Anemopsis californica*), creeping wild rye (*Leymus triticoides*), and mugwort (*Artemisia douglasiana*) shall be added to the plant palatte for revegetation of the revetment. Arroyo willow shall be planted throughout the rock slope; alkali bulrush and yerba mansa shall be planted in the frequently flooded zone; and creeping wild rye and mugwort shall be planted above the frequently flooded zone. For the portion of the creek bank that is south of the rock revetment, mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), and California wild rose (*Rosa californica*) shall be added to the proposed restoration plant palatte.

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

4. Revegetation Implementation and Monitoring

By acceptance of this permit, the applicant agrees to implement the approved "Vegetation Restoration Plan" (Impact Sciences Inc.) that is revised per Special Condition No. 3 above. The plan shall be carried out under the direction of qualified biologist or resource specialist. Successful site restoration shall be determined if the revegetation of native plant species on site is adequate to provide 90% coverage by the end of the five (5) year monitoring period and is able to survive without additional outside inputs, such as supplemental irrigation.

The applicant shall submit, upon completion of the initial planting, a written report prepared by a qualified resource specialist, for the review and approval of the Executive Director, documenting the completion of the initial planting/revegetation work. This report

shall also include photographs taken from pre-designated sites (annotated to a copy of the site plans) documenting the completion of the initial planting/revegetation work.

Five years from the initial planting completion date, the applicant shall submit for the review and approval of the Executive Director, a Revegetation Monitoring Report, prepared by a qualified biologist or resource specialist, that certifies whether the on-site revegetation is in conformance with the revegetation plan approved pursuant to Special Condition 3 and has been implemented consistent with, and restoration has been successful as defined by, this Special Condition. The monitoring report shall include photographic documentation of plant species and plant coverage.

If the monitoring report indicates the revegetation is not in conformance with or has failed to meet the performance standards specified in this condition or in the revegetation plan approved pursuant to this permit, the applicant, or successors in interest, shall submit a revised or supplemental revegetation plan for the review and approval of the Executive Director. The revised revegetation plan must be prepared by a qualified biologist or resource specialist and shall specify measures to remediate those portions of the original plan that have failed or are not in conformance with the original approved plan. The approved revised revegetation plan shall then be immediately implemented.

5. Construction Timing and Best Management Practices

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

a. Grading and rock slope protection work shall be confined to the months of June 1 – October 31, which is during the dry season and outside the estimated peak period of tidewater goby spawning and the non-migration period of steelhead trout. This period may be extended for a limited period of time if the situation warrants such a limited extension, if approved by the Executive Director.

b. No demolition or construction materials, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain, or tidal erosion and dispersion.

c. No demolition or construction equipment, materials, or activity shall be placed in or occur in any location that would result in impacts to environmentally sensitive habitat areas, streams, wetlands or their buffers.

d. Any and all debris resulting from demolition or construction activities shall be removed from the project site within 24 hours of completion of the project.

e. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters.

f. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.

g. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.

h. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.

i. All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.

j. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems.

k. The discharge of any hazardous materials into any receiving waters shall be prohibited.

l. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.

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

n. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

o. Silt screens, filter fabric covers, coffer damming, silt curtains, and/or other dewatering method appropriate for use in estuary and intertidal setting applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of the grading activities and shall be maintained throughout project construction to minimize erosion and sediment from runoff waters during construction. Additional siltation barrier materials shall be kept at the site and deployed as needed to reinforce sediment containment structures should unseasonable rainfall occur. All sediment shall be retained on-site unless removed to an appropriate approved dumping location either outside the coastal zone or to a site within the coastal zone permitted to receive fill.

6. Dewatering Plan

If it is determined that construction dewatering is required to reconstruct the rock slope protection, ***prior to issuance of the Coastal Development Permit***, the applicant shall submit a dewatering plan to the Executive Director for review and approval, and evidence that the dewatering plan has been approved by the Regional Water Quality Control Board, California Department of Fish and Game, and California Department of Parks and

Recreation, or evidence that any such approval is not necessary. The dewatering plan shall detail the provisions and Best Management Practices that will be used for the diversion and/or removal of water within the construction site, and indicate the location, size, and details of all dewatering devices that will be utilized. The plan shall also detail the location, size, and capacity of the settling basin utilized to remove sediments prior to the discharge of water.

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

7. Aquatic Species Protection

By acceptance of this permit, the applicant agrees to retain the services of a qualified aquatic species specialist to implement the following aquatic species protection measures if the approved project requires construction dewatering or work within the waters of Malibu Creek:

1. The qualified resource specialist shall survey for sensitive aquatic species (tidewater gobies and steelhead trout) within 100 feet of the project area prior to commencement of construction site dewatering work. If sensitive aquatic species are present, the qualified resource specialist and a crew working under his/her direction shall move, by hand, sensitive species from the area to be dewatered to safe locations elsewhere along the reach of Malibu Creek.

2. The qualified resource specialist shall inspect the dewatered areas and construction site regularly to detect whether any tidewater gobies or other fish are passing through the cofferdam/silt curtain and investigate whether tidewater goby protection measures are being implemented.

3. The qualified resource specialist shall be present when the cofferdams are removed and the construction area refilled with water to relocate any fish present in the construction area before completion of removal operations and to ensure successful reintroduction of aquatic habitat in the construction area.

4. The applicant shall cease work should the qualified resource specialist determine that any breach in permit compliance has occurred, or if any unforeseen sensitive habitat issues arise. If the Executive Director determines that significant impacts or damage have occurred to sensitive habitats or to wildlife species, the Executive Director may require the applicant to revise the project to adequately mitigate such impacts, which shall be processed as an amendment to this coastal development permit or a new coastal development permit.

8. Required Approvals

By acceptance of this permit, the applicant agrees to obtain all other Local, State, and/or Federal permits that may be necessary for all aspects of the approved project (including any necessary permits from the City of Malibu, California Department of Fish and Game, Regional Water Quality Control Board, and the U.S. Army Corps of Engineers).

9. Maintenance Activities and Future Alterations

The permittee shall maintain the permitted bank protection in its approved state. Any change in the design of the project or future additions/reinforcement of the approved structure beyond exempt maintenance as defined in Public Resources Code section 30610(d) and Section 13252 of Title 14 of the California Code of Regulations to restore the structure to its original condition as approved herein will require a coastal development permit. However, if (after inspection) it is apparent that repair and maintenance is necessary, the permittee shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance.

10. Deed Restriction

Prior to issuance of the Coastal Development Permit, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

11. Site Inspection

A. By acceptance of this permit, the applicant irrevocably authorizes, on behalf of itself and its successors-in-interest with respect to the subject property, Coastal Commission staff and its designated agents to enter onto the property to undertake site inspections for the purpose of monitoring compliance with the permit, including the special conditions set forth herein, and to document their findings (including, but not limited to, by taking notes, photographs, or video), subject to Commission staff providing 24 hours advanced notice to the contact person indicated pursuant to paragraph B prior to entering the property, unless there is an imminent threat to

coastal resources, in which case such notice is not required. If two attempts to reach the contact person by telephone are unsuccessful, the requirement to provide 24 hour notice can be satisfied by voicemail, email, or facsimile sent 24 hours in advance or by a letter mailed three business days prior to the inspection. Consistent with this authorization, the applicant and its successors: (1) shall not interfere with such inspection/monitoring activities and (2) shall provide any documents requested by the Commission staff or its designated agents that are relevant to the determination of compliance with the terms of this permit.

B. ***Prior to issuance of the Coastal Development Permit***, the applicant shall submit to Commission staff the email address and fax number, if available, and the address and phone number of a contact person authorized to receive the Commission's notice of the site inspections allowed by this special condition. The applicant is responsible for updating this contact information, and the Commission is entitled to rely on the last contact information provided to it by the applicant.

12. Condition Compliance

Within 180 days of Commission action on this coastal development permit application, or within such time as the Executive Director may grant for good cause, the applicant shall satisfy all requirements specified in the conditions hereto that the applicant is required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions Chapter 9 of the Coastal Act.

13. California Department of Parks & Recreation Permission

Prior to issuance of the Coastal Development Permit, the applicant shall provide to the Executive Director evidence that California State Parks has granted permission to undertake the portion of the project that is on State Parks property, or evidence that no permission is required.

14. Nesting Bird Protection Measures

A qualified biologist, with experience in conducting bird surveys, shall conduct bird surveys 30 days prior to construction activities to detect any active bird nests and any other such habitat within 500 feet of the construction area. The last survey should be conducted 3 days prior to the initiation of clearance/construction. If an active songbird nest is located, clearing/construction within 300 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. If an active raptor, rare, threatened, endangered, or species of concern nest is found, clearing/construction within 500 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 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 nesting birds.

15. Implementation of Approved Project

The applicant shall remove the existing as-built revetment and implement and complete the approved revetment project within 18 months of issuance of this coastal development permit. The Executive Director may grant additional time for good cause.

V. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND BACKGROUND

Background

On February 20, 1998, the Executive Director authorized Emergency Coastal Development Permit No. 4-98-024-G. The permit authorized Mariposa Land Company (Grant Adamson) to place approximately 500 linear feet of rock rip-rap revetment along the west bank of lower Malibu Creek, about 300 feet upstream of the Pacific Coast Highway bridge. The revetment consists of 1,500 tons of 0.5 to 8-ton granite boulders placed at approximately 1:1 to 1.5:1 (H:V) slope and 14-16 feet in height (2-4 foot toe below stream bed). The contractor who installed the rock used a backhoe to cut back the eroded vertical bank slope and notched a key at the toe of the slope to allow for a stable base surface for the rock. Rocks were then placed individually with the backhoe, starting at the key, and working upwards in sections. In the several months following the initial installation, boulders were adjusted and additional rocks were added to enhance the stability of the emergency revetment.

In the application for Emergency Permit 4-98-024-G, the applicant stated that the revetment was necessary to protect the subject property and an adjacent commercial development from further severe stream bank erosion in the face of potential continuing winter storms. Prior to placement of the revetment, approximately 20 feet of lateral erosion occurred along the subject stretch of creek bank following significant storm flows in February 1998. Conditions of approval of Emergency CDP No. 4-98-024-G required the applicant to apply for a regular CDP within 60 days in order to seek permanent authorization for the emergency work, and that the regular CDP application was to include an analysis of stream bank protection alternatives prepared by a qualified engineer (**Exhibit 10**).

On June 3, 1998, Mariposa Land Co. submitted a regular CDP application (No. 4-98-024) requesting permanent authorization for the rock rip-rap revetment that was installed under the emergency permit. However, the CDP application did not contain enough information to deem the application “complete” under the applicable regulations, and Commission staff sent the applicant an “incomplete” letter on June 24, 1998, outlining the needed application items. Additional information was not received from the applicant until July 2000. However, again, not all of the information requested in staff’s 1998 letter was included. Commission staff sent a follow-up letter in September 2000 outlining the

outstanding items. Over the next eight years the applicant submitted portions of the requested application items and numerous contacts were made by Commission staff to the applicant attempting to obtain the necessary information, particularly in regards to an engineering analysis of alternatives. In July 2006 and June 2007, the applicant provided an engineering design study/alternatives analysis for the proposed project. And in October 2007, the applicant revised the proposed project description to include planting of the rip-rap stream bank and top of bank with riparian and upland species, and submitted a "Vegetation Restoration Plan", prepared by Impact Sciences, Inc.

On May 21, 2008, the CDP application was deemed complete, and Commission staff tentatively scheduled the application for the Commission's November, 2008 hearing. In August 2008, it was brought to the attention of Commission staff that the as-built project plans submitted by the applicant and analyzed by their engineer were not based upon a detailed survey and therefore are not a reliable depiction of the actual configuration of the rip-rap slope across the project area. Commission staff requested the applicant provide accurate, detailed surveyed plans of the proposed project, prepared by a licensed land surveyor, to facilitate staff's analysis of the as-built project. The applicant provided staff with surveyed plans on October 10, 2008.

Application No. 4-98-024 was filed on May 21, 2008, and would have had to have been acted on by the Commission at its November 2008 meeting in order to comply with the Permit Streamlining Act (PSA). However, in order to allow staff adequate time to analyze the recently submitted surveyed as-built plans, the applicant extended the Commission's review time by 90 days. The application was then scheduled for the February 4, 2009 Commission hearing and a staff report was circulated on January 22, 2009. The February hearing was the last hearing the Commission could act upon the application before the 270th day PSA deadline. Therefore, since the applicant found they needed more time to respond to the January 22, 2009 staff report, the applicant withdrew permit application No. 4-98-024 two days before the scheduled hearing and re-submitted it as a new application. The re-submitted application is identical to the previous application, but it was assigned a new permit number (4-09-013) and filed on February 2, 2009. This application was brought to a Coastal Commission hearing on April 9, 2009. At the meeting, the Commission continued this item and directed staff to provide additional analysis regarding the revegetation-only alternative, and the feasibility of laying the recommended vegetated rip rap design alternative back to a 3:1 (H:V) slope where possible.

Environmental Setting

The Malibu Creek watershed covers approximately 110 square miles. It is the second largest watershed draining into Santa Monica Bay and the largest draining from the Santa Monica Mountains. Lower Malibu Creek watershed includes the steep and rugged Malibu Canyon, which cuts through the central axis of the Santa Monica Mountains. Downstream of Malibu Canyon the watershed emerges onto a coastal plain where channel slopes and flow velocities reduce and the Malibu Creek fluvial system begins to transition to a coastal estuarine lagoon system. Malibu Lagoon is a 31-acre shallow embayment at the terminus of Malibu Creek that empties into the Pacific Ocean at Surfrider Beach. However, depending on hydrologic conditions of the estuary system, the mouth of the lagoon may either be "open" with no barrier beach, or "closed" by the presence of a barrier beach and

lack of tidal inlet channel. When the lagoon is closed, the water level in the subject reach of creek ranges between 6 and 7 feet in depth.

Malibu Creek and its estuary provide habitat for a diversity of wildlife, including waterfowl, shorebirds, wading birds, songbirds, and raptors. A smaller number of mammals, amphibians and reptiles also inhabit the area. The significant species of fish that are known to utilize lower Malibu Creek are southern steelhead trout (*Oncorhynchus mykiss*), a state-listed threatened species, and tidewater goby (*Eucyclogobius newberryi*), federally listed as endangered and a California species-of-special-concern.

The subject 500 linear foot section of the west bank of lower Malibu Creek is situated along a westward meander cut bank approximately 300 feet upstream from the Pacific Coast Highway bridge and Malibu Lagoon (**Exhibits 1-3**). The project site is located on a narrow, relatively flat, 2.5-acre strip of vacant land owned by the applicant that is bound by a commercial shopping center development to the west and Malibu Creek to the east (**Exhibit 2**). The site is located within the 100-year floodplain for Malibu Creek, as designated by the Federal Emergency Management Agency (FEMA). Prior to severe storm erosion and subsequent placement of the proposed rip rap revetment on the property in the late 1990's, the subject stretch of creek bank was primarily disturbed and did not possess a well-developed riparian canopy due to its close proximity to a commercial shopping center and Pacific Coast Highway. Currently, the subject bank and rip rap is largely devoid of vegetation, with the exception of a small amount of arroyo willow at the northern end of the revetment and a small amount of mulefat at the southern end. The upland area above the revetment is dominated by weeds and non-native annual grasses. A footpath also exists on the upland area above the revetment. The width between the top of existing revetment and the adjacent commercial development/property varies between 18 feet and 60 feet (**Exhibits 3-4**).

Lower Malibu Creek in the project vicinity has changed significantly over time according to historic aerial photographs dating back to 1932. Stream flows had historically been confined to a rather straight channel leading up to the Pacific Coast Highway bridge, since much of the floodplain was in agricultural production, particularly the west side of the creek. In the 1960's, a shopping center was built in close proximity to the subject stretch of the west bank. An old rip rap revetment that extends along the west creek bank at least a thousand feet upstream from the Pacific Coast Highway bridge is evident in a 1972 aerial photograph. It appears this old revetment was constructed to protect the adjacent shopping center prior to 1972. The sinuosity of the lower Malibu Creek stream channel increased substantially between 1976 and 1985, which increasingly directed flows against the west bank in the project location. By 1998, it appears that most of the old rip rap revetment had fallen away due to changes in channel morphology. However, there still exists some grouted rip rap on either side of a storm drain outlet located on an adjacent parcel approximately 100 feet north of the proposed rip rap revetment. A canopy of healthy riparian vegetation is growing on the bank above the grouted rip rap section. The storm drain and grouted rip rap were installed by Los Angeles County Flood Control District in the 1970's. Although this grouted rip rap is connected to the stretch of proposed rip rap, it is not a part of the subject permit application since it is located on an adjacent parcel under separate ownership and appears to have been constructed prior to the Coastal Act. However, according to the applicant's site plan, it appears a small portion of

the proposed rip rap is located on an adjacent parcel owned by California Department of Parks & Recreation (4452-011-903). As such, **Special Condition No. Thirteen (13)** is required to ensure that State Parks permission is obtained prior to issuance of the permit.

Description of Proposed Project

The applicant is requesting authorization to permanently retain in its "as-built" condition approximately 500 linear feet of rock rip-rap revetment that was installed along the west bank of lower Malibu Creek to protect an existing commercial development from flood waters pursuant to Emergency CDP No. 4-98-024-G. The revetment consists of 1,500 tons of 0.5 to 8-ton granite boulders placed at approximately 1:1 to 1.5:1 (H:V) slope and 14-16 feet in height (2-4 foot toe below stream bed) (**Exhibits 5-6**). The applicant is also proposing to revegetate the revetment site to create approximately 0.59 acres of riparian and upland habitat ("Vegetation Restoration Plan," prepared by Impact Sciences, Inc., dated August 2007, amended January 2009). To vegetate the existing rock revetment, the applicant had proposed to secure fascines of willow cuttings to the rip rap with wire. The willow bundles would be oriented at a 45-degree angle, facing downstream, with one end placed into the creek. Once the willow fascines produced sufficient roots, the interstitial spaces would be filled with sand and fine gravel as a substrate for additional plantings. The applicant also proposes to plant the upland area above the revetment with a mixture of native shrubs and trees, such as mulefat, sycamore, black walnut, cottonwood, and elderberry (**Exhibits 7-8**).

In a letter dated January 9, 2009, Impact Sciences Inc. revised the proposed Vegetation Restoration Plan to omit the willow fascine element and to instead place willow cuttings that are at least one inch in diameter and six feet long into the interstitial spaces between rocks (**Exhibit 9**). Once the willows establish, the interstitial spaces would be filled with sand and fine gravel as a substrate for additional plantings. In researching examples where the concept of securing willow fascines to rock had been used successfully per the request of Commission staff, Impact Sciences found that willow fascines were not appropriate for use atop a rock slope protection and that the willows needed contact with moist soil beneath the rock. After consulting with the Natural Resources Conservation Service, Impact Sciences revised their revegetation plan to instead place willow cuttings into the spaces of the rip rap.

Agency Review/Approvals

The Commission has received the following agency correspondence from the applicant regarding the proposed project:

- U.S. Army Corps of Engineers Regional General Permit No. 98-00315-AOA (with concurrence from the U.S. Fish & Wildlife Service) for emergency placement of rip rap revetment, issued February 13, 1998;

- U.S. Army Corps of Engineers Jurisdictional Determination letter for the proposed vegetation restoration plan, dated March 6, 2008;

- Notification of Emergency Streambed Alteration Work for emergency placement of rip rap revetment, sent to California Department of Fish & Game February 19, 1998 (no agency response);

- California Department of Fish & Game letter stating statutory deadline had lapsed to issue an agreement regarding Streambed Alteration Notification No. 1600-2005-0503-R5 (vegetation restoration plan), dated January 13, 2008;

- Emergency Regional General Permit No. 52, Regional Water Quality Control Board, Los Angeles Region;

- City of Malibu Approval-in-Concept, dated June 28, 2007.

Correspondence Received

Commission staff has received correspondence from the following interested parties (letters attached as **Exhibit 13**):

a. Letter from Dr. J. Robert Hatherill, former faculty member of the UCSB Environmental Studies Program, dated August 11, 2008, expressing support for the proposed restoration plans to enhance the habitat value of the creek bank for tidewater goby and other native fauna.

b. Letter from Ron Schafer, California Dept. of Parks and Recreation District Superintendent, dated November 14, 2008, expressing concern regarding the proposed project. The letter states that the un-engineered revetment continues to contribute to an unstable site for establishment of riparian vegetation. Now that the emergency has passed, State Parks believes that the rip rap should be removed and the bank should be laid back at a less steep slope that is soft bio-engineered for greater water quality, stability, and habitat benefits.

c. Letter from Heal the Bay, dated June 23, 2009, asserting that portions of the proposed as-built riprap are failing, portions of the adjacent grouted riprap to the north are failing, and the stream bank south of the proposed riprap is unstable. Heal the Bay also asserts that there is evidence of unpermitted fencing and structures adjacent to the stream bank on the subject property. Heal the Bay provided GPS-mapping and photographs of the unpermitted development and bank failures. The issue of the compromised bank areas is addressed in Section V.B, page 26 of the staff report. Regarding the alleged unpermitted development on the subject property, staff has confirmed that there is a chain link fence enclosing a stockpile area and various structures at the northern portion of the property. The chain link fence runs parallel to the creek for several hundred feet, and is only a few feet from the top of bank of the subject rock revetment. It appears that the northern-most approximately 150 feet of the as-built/proposed revetment bank has a fence within feet of it. Some of the alleged unpermitted development on the subject property is unrelated to the proposed project in the subject permit application and in a location that is outside the Commission's retained jurisdiction. However, Commission enforcement staff has notified City of Malibu enforcement

staff of the alleged unpermitted development on the subject property. Although, regarding the development that is along the top of bank of the subject revetment where the applicant is proposing restoration, it appears this development would interfere with implementation of the approved project and should be removed. As such, Special Condition 2 of the staff recommendation has been modified to address this issue.

d. Letter from Heal the Bay, dated February 3, 2009 and April 6, 2009, expressing opposition to the proposed project and the staff recommendation. Heal the Bay states that stream bank armoring is an ineffective method for long-term bank stabilization and a major cause for downstream bank erosion and sedimentation. Heal the Bay recommends a soft solution in that the rip rap should be removed, the bank slope laid back at a 3:1 slope and re-vegetated, and if necessary, a floodwall installed next to the shopping center as far back as possible. Heal the Bay also believes that the subject stream bank should be designated ESHA. These comments and concerns are addressed in Section V.B of the staff report. Lastly, Heal the Bay states that the grouted rip rap at an upstream storm drain outlet and an adjacent fenced storage area are unpermitted and should be included in the scope of work for the subject permit. See staff response to bullet (c) above regarding the fenced storage area. Regarding the grouted rip rap at the upstream storm drain outlet, although it is connected to the stretch of proposed rip rap, it is not a part of the subject permit application since it is located on an adjacent parcel under separate ownership and appears to have been constructed prior to the Coastal Act.

e. Letter from Malibu Surfing Association, dated February 3, 2009 and April 7, 2009, joining in and concurring with Heal the Bay's letter described above.

f. Letter from Mark Abramson of Santa Monica Baykeeper (SMB), dated February 3, 2009 and April 7, 2009, expressing opposition to the proposed project and the staff recommendation. SMB states that stream bank armoring is an ineffective method for long-term bank stabilization and a major cause for downstream bank erosion and sedimentation. SMB recommends a soft solution in which the bank slope is laid back at a 3:1 slope and re-vegetated. In addition, SMB states that the subject stream bank should be designated an ESHA. These comments and concerns are addressed in Section V.B of the staff report. SMB also states that a grouted rip rap area upstream and an adjacent fenced storage area are unpermitted and should be addressed as part of the subject permit application. See staff response to bullet (c) above regarding the fenced storage area. Regarding the grouted rip rap at the upstream storm drain outlet, although it is connected to the stretch of proposed rip rap, it is not a part of the subject permit application since it is located on an adjacent parcel under separate ownership and appears to have been constructed prior to the Coastal Act.

g. Letter from Sandra Albers of the Santa Monica Mountains Resource Conservation District (SMM RCD), dated April 7, 2009, in opposition to the proposed project and the staff recommendation. The SMM RCD states that bioengineering techniques,

which provide valuable habitat for fish and wildlife species and improved water quality, should be utilized in this case.

h. Letter from the applicant's attorney, Sherman Stacey, dated March 31, 2009, objecting to the March 19, 2009 Staff Report and Recommendation and asserting that the staff recommended alternative will be more environmentally damaging than the proposed project.

Commissioner ex parte communications received to date are attached as **Exhibit 14**.

B. WATER QUALITY, STREAM ALTERATION, HAZARDS, AND SENSITIVE HABITAT

The proposed project area lies within the City of Malibu, but falls within the Commission's area of retained original permit jurisdiction because development is proposed on lands that are below the mean high tide line and/or on public trust lands. The standard of review for the project is the Chapter 3 policies of the Coastal Act. In addition, the policies of the certified Malibu Local Coastal Program (LCP) serve as guidance.

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states that:

> ***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 30236 of the Coastal Act states:

> ***Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing***

development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Section 30253 of the Coastal Act states, in pertinent part, that 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.***

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

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 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.
(4) 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.
(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
(6) Restoration purposes.
(7) Nature study, aquaculture, or similar resource dependent activities.

Coastal Act Section 30240 affords protection of environmentally sensitive habitat areas as follows:

(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.

Section 30107.5 of the Coastal Act defines an environmentally sensitive area as:

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

Sections 30230 and 30231 of the Coastal Act mandate that marine resources and coastal water quality shall be maintained and, where feasible, restored through, among other means, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flows, maintaining natural buffer areas that protect riparian habitats, and minimizing alteration of natural streams. Special protection shall be given to areas and species of special significance, and uses of the marine environment shall be carried out in a manner that will sustain biological productivity of coastal waters. Section 30236 limits channelizations, dams, or other substantial alterations of rivers and streams to flood control projects necessary to protect public safety and existing development and two other types of projects, any of which must incorporate the best mitigation measures available and where there are no feasible alternatives. In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas shall be protected and that development within or adjacent to such areas must be designed to prevent impacts which could significantly degrade those resources.

In addition, the City of Malibu certified Local Coastal Program contains the following policy that specifically pertains to lower Malibu Creek:

> ***LUP Policy 3.34***
> ***Bioengineering methods or "soft solutions" should be developed as an alternative to constructing rock revetments, vertical retaining walls or other "hard structures" along lower Malibu Creek. If bioengineering methods are demonstrated to be infeasible, then other alternatives may be considered. Any applications for protective measures along lower Malibu Creek shall demonstrate [1] that existing development in the Civic Center is in danger from flood hazards, [2] that the proposed protective device is the least environmentally damaging alternative, [3] that it is sited and designed to avoid and minimize impacts to the habitat values of the riparian corridor along the creek and the recreational and public access use of State Park property along the creek, and [4] that any unavoidable impacts have been mitigated to the maximum extent feasible.***

The proposed project site is situated along a 500 linear foot section of the west bank of lower Malibu Creek, approximately 300 feet upstream from the Pacific Coast Highway bridge and Malibu Lagoon. The lower Malibu Creek watershed emerges onto a coastal plain where channel slopes and flow velocities reduce and the Malibu Creek fluvial system begins to transition to a coastal estuarine lagoon system. Malibu Lagoon is a 31-acre shallow embayment at the terminus of Malibu Creek that empties into the Pacific Ocean at Surfrider Beach. Malibu Creek and its estuary provide habitat for a diversity of wildlife, including waterfowl, shorebirds, wading birds, songbirds, and raptors. A smaller number of mammals, amphibians and reptiles also inhabit the area. The significant species of fish that are known to utilize lower Malibu Creek are southern steelhead trout (*Oncorhynchus mykiss*), a state-listed threatened species, and tidewater goby (*Eucyclogobius newberryi*), federally listed as endangered and a California species-of-

special-concern. Malibu Creek is a U.S.G.S. designated blue-line stream that supports a well-developed riparian corridor which constitutes ESHA. Malibu Creek and its riparian corridor is also designated as ESHA in the certified Malibu LCP.

Riparian habitats and their associated streams form important connecting links in the Santa Monica Mountains. These habitats connect all of the biological communities from the highest elevation chaparral to the sea with a unidirectional flowing water system, one function of which is to carry nutrients through the ecosystem to the benefit of many different species along the way. The streams themselves provide refuge for sensitive species including: the coast range newt, the Pacific pond turtle, tidewater goby, and southern steelhead trout. The health of the streams is dependent on the ecological functions provided by the associated riparian woodlands. These functions include the provision of large woody debris for habitat, shading that controls water temperature, and input of leaves that provide the foundation of the stream-based trophic structure.

The project site is located on a narrow, approximately 2.5-acre strip of vacant land owned by the applicant that is bound by a commercial shopping center development to the west and Malibu Creek to the east. Prior to severe storm erosion and subsequent placement of the proposed emergency rip rap revetment on the property in the late 1990's, the subject stretch of creek bank was primarily disturbed due to modifications to the creek's west bank and floodplain that created a highly disturbed riparian environment of presumably limited habitat value. Currently, the subject bank and proposed as-built rip rap remains largely devoid of vegetation, with the exception of a small amount of arroyo willow at the northern end of the revetment and a small amount of mulefat at the southern end. The upland area above the revetment is dominated by weeds and non-native annual grasses. A footpath also exists on the upland area above the revetment. The width between the top of revetment and the fence/wall that delineates the edge of a commercial shopping center varies between 18 feet and 60 feet.

For the reasons listed above, the Commission finds that Malibu Creek itself meets the definition of ESHA under the Coastal Act, but the disturbed west bank in the area of the proposed project does <u>not</u> meet the definition of ESHA under the Coastal Act.

The applicant is requesting authorization to permanently retain approximately 500 linear feet of rock rip-rap revetment that was installed along the west bank of lower Malibu Creek to protect an existing commercial development from flood waters pursuant to Emergency CDP No. 4-98-024-G. The revetment consists of 1,500 tons of 0.5 to 8-ton granite boulders placed at approximately 1:1 to 1.5:1 (H:V) slope and 14-16 feet in height (2-4 foot toe below stream bed). The applicant is also proposing to revegetate the revetment site to create approximately 0.59 acres of riparian and upland habitat. At the time of installation, the proposed rock was placed outside the stream channel and within the footprint of the excavated/eroded stream bank following a severe El Nino storm event. Therefore, no fill of wetland areas occurred at the time of installation.

Pursuant to Coastal Act Section 30236, the substantial alteration of coastal streams is limited to necessary water supply projects, habitat improvement projects, and flood control projects where flood protection is necessary for public safety or to protect existing structures in the floodplain and no other method of protecting the structures is feasible. In

this case, prior to placement of the emergency revetment, approximately 20 feet of lateral erosion occurred along the subject stretch of creek bank following significant storm flows in February 1998. The revetment was deemed a necessary measure to temporarily protect an adjacent commercial development from damage as a result of further severe stream bank erosion in the face of potential continuing winter storms. The applicant asserts that the existing rock slope protection is permanently needed in the project location to continue to protect adjacent development from future erosion and flooding. The subject 500 linear foot section of the west bank of lower Malibu Creek is situated along a westward meander cut bank. The hydraulics of the creek will likely erode the west bank, perhaps significantly during a severe storm event, and threaten the existing development if some form of bank protection is not utilized. In this case, the proposed flood control project is allowed to protect existing development consistent with Section 30236. However, Section 30236 further limits streambed alterations for flood control to situations where no other method for protecting the existing structures in the floodplain is feasible. In addition, Policy 3.34 of the Malibu LCP requires that bioengineering methods should be developed as an alternative to constructing rock revetments, vertical retaining walls or other "hard structures" along lower Malibu Creek. If bioengineering methods are demonstrated to be infeasible, then other alternatives may be considered provided they are demonstrated to be the least environmentally damaging alternatives and are sited and designed to avoid and minimize impacts to the habitat values of the riparian corridor along the creek. In other words, under the policies of the Coastal Act and the Malibu LCP, the project must be the least environmentally damaging feasible alternative.

Alternatives Analysis

The various alternatives to the proposed project that have been analyzed are discussed below:

1. **Revegetation of Creek Bank**: This alternative would involve removing the temporary emergency revetment that is in place and revegetating the subject bank with riparian vegetation. The applicant's engineer has indicated that this alternative is not hydraulically suitable to protect the bank because stream power and velocity values along this reach of cut bank exceed what re-vegetation alone is capable of resisting. Shear stresses in the channel exceed 3 lb/sq. ft. for most of the subject channel length, and greater than 5 lb/sq. ft. at the main bend in the project area. The use of vegetation alone for bank protection is not considered appropriate for shear stresses greater than 2.5 lb/sq. ft. Staff, including Commission Staff Coastal Engineer Lesley Ewing, finds this analysis to be valid. Therefore, this would not be a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

2. **Revegetation of Upper Bank with Rip Rap in Low Flow Channel**: This alternative would involve removing the temporary emergency revetment that is in place except for the rip rap in the low flow channel and revegetating the upper bank with riparian vegetation. The applicant's engineer has indicated that this alternative is not hydraulically suitable to protect the bank because erosion would occur within the channel behind the rip rap, which would eventually undermine the rip rap and cause it to fail. Staff finds this conclusion to be valid. Therefore, this

would not be a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

3. **Revegetation of Creek Bank Using Geotextiles**: This alternative would involve removing the temporary emergency revetment that is in place, with the exception of a rock or concrete footing upon which to anchor geotextile fabric to the bank. The geotextile slope would then be vegetated. The applicant's engineer has indicated that this alternative is not hydraulically suitable to protect the bank because stream power and velocity values along this reach of cut bank exceed what geotextiles are capable of withstanding in the long-term. Concrete block-based geotextiles have a higher velocity and shear tolerance, but due to the steep bank slope and constrained space, this alternative would require more grading and likely placing fill into the creek to achieve sufficient grade. Staff finds this conclusion to be valid. Therefore, this would not be a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

4. **Construction of Concrete Levee or Soil Cement Levee**: This alternative would involve removing the temporary emergency revetment that is in place, and installing a concrete or soil cement levee along the bank. The applicant's engineer has indicated that this alternative would be hydraulically feasible, but would require significant grading and costs to install. Staff finds this conclusion to be valid. Due to the intensive cost and environmental impacts associated with this alternative, it is not a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

5. **Construction of Crib Wall**: This alternative would involve removing the temporary emergency revetment that is in place, and installing crib walls (a three dimensional structure created from untreated timbers, fill, and live cuttings). Live cribwalls provide a means of long-term streambank stabilization and are best used as part of a system which includes a component to deter undercutting at the bed/bank interface, such as rock riprap or gabions. The applicant's engineer has indicated that this alternative is not hydraulically suitable for banks that experience lateral migration or in locations where bank roughness is an issue, such as the subject site. Staff finds this conclusion to be valid. Therefore this alternative is not a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

6. **Construction of Concrete Floodwall and Revegetation of Creek Bank**: This alternative would involve removing the temporary emergency revetment that is in place, installing a concrete floodwall next to the commercial development, lay back the bank between wall and channel, and revegetate bank. While this alternative would protect the adjacent development from flood waters permanently, the cut bank would continue to erode until there was no longer a natural bank between wall and channel. Such a solution is high cost and in the long run could result in the loss of any vegetated streambank area along this stretch of Malibu Creek. Therefore this alternative is not a feasible alternative that is consistent with all Chapter 3 policies of the Coastal Act.

7. **Laid-back Revetment with Revegetation**: This alternative would involve deconstructing the temporary emergency revetment that is in place, and reconstructing it at a more gradual slope and revegetating. The applicant's engineer has indicated that this alternative would significantly alter the hydraulics of the creek and increase turbidity/sediment delivery. The applicant's engineer also states that the subject bank was steep before and after placement of the emergency rip rap, which is a natural equilibrium slope for the cut bank. However, Commission Staff Coastal Engineer, Lesley Ewing, disagrees with the analysis of the applicant's engineer in regard to this alternative. In her memo dated January 7, 2009, Ms. Ewing states that, based on all information provided by the applicant, it appears feasible that the bank slope can be rebuilt at a more gradual 2:1 slope (**Exhibit 11**). Further, she states:

> "…This would require that the revetment be disassembled from the top, the bank be sloped back, and rock be placed again along the bank at a more gradual slope. The Preliminary Engineering Design Study by PACE (May 25, 2007) asserts that laying the top portion of the existing revetment back at a 2:1 (h:v) slope would result in increased turbidity. But, based the provided information, no evidence has been submitted to support this assertion. There is the potential for some temporary turbidity during construction; however this could be minimized through project scheduling, good work practices and implementation of best management practices. If the revetment were to be reconstructed along the bank at a more gradual slope, a bottom layer of filter fabric should be installed to reduce soil piping and reduce turbidity from high flow events. While it may be necessary to cut root holes into the filter fabric, the soil loss through these openings in the bottom layer would not be significant. Additionally, turbidity should be greatly reduced from the current revetment with rock covering a bare soil slope with no fabric filter layer at all..."

On April 6, 2009, several days before the initial hearing on this item, staff received a memo from the applicant's engineer (attached as part of Exhibit 13) who modeled this 2:1 bank slope alternative as well as the as-built bank slope to arrive at expected flow depths that would occur from each option for a 100-year flood event. Commission Staff Coastal Engineer, Lesley Ewing, reviewed the memo and the modeled output and found that flood depths vary slightly for each of the alternatives for most of the channel length and that overall the 2:1 laid back slope alternative would have flow depths of just +0.1 feet higher on average than the as-built rock slope. This represents an insignificant difference and a laid back revetment can certainly be designed to keep flow depths to levels that are below the effective protection level of the bank and revetment.

Additionally, Commission Staff Ecologist Dr. Jonna Engel, in her memo dated January 9, 2009, states that a less steep revetment slope than is proposed, in conjunction with incorporating filter fabric and willow stakes into the reconstructed rip rap design, would be more likely to result in successful riparian restoration along this stretch of Malibu Creek (**Exhibit 12**). As such, from both a biological and engineering standpoint, a bioengineered rip rap slope protection that is laid back at

a less steep slope is a feasible and preferred alternative, as discussed in more detail below.

Commission staff has received correspondence from the California Department of Parks and Recreation, Heal the Bay, and Santa Monica Baykeeper, all of whom recommend that the subject bank be laid back at a 3:1 slope to widen the channel and thereby reduce water velocities while also maximizing restoration of the riparian corridor. Staff has indicated that laying the bank slope back to no steeper than 2:1 is an environmentally preferred and feasible alternative in recognition of the fact that there is inadequate space between the top of bank and adjacent development along portions of the subject stretch of bank to accommodate a 3:1 slope. Laying the bank slope back to 3:1 would require increased grading of the upland area between the streambank and adjacent development, and require a larger area of the bank and upland area to be covered in rock rip-rap. However, the additional area covered by a 3:1 revetment bank slope would provide a wider area of streamside riparian habitat if native vegetation is integrated into the rock revetment design. A more gradual bank gradient would enhance plant establishment and persistence and also provide greater opportunity for a more diverse and multi-leveled structure of native plants within the riparian corridor. This in-turn provides for more diverse shelter and feeding sites for wildlife. Water quality is also enhanced by the increased water filtration and sediment removal capacity of a wider riparian corridor. In a memo to staff dated June 23, 2009 (attached as Exhibit 11), Staff Coastal Engineer Lesley Ewing addressed the feasibility of laying the rock protection slope back to 3:1. Ms. Ewing states that the proposed revetment should be no steeper than 2:1, but could be less steep, such as 3:1, in locations where conditions allow. The ends of the revetment should transition to the slope of the adjacent natural bank. Along most of the revetment, other than the end transitions, the slope can be laid back to a 2:1 or 3:1 slope, or vary between 2:1 and 3:1 slopes to accommodate site constraints (the distance between the top of the existing revetment and the adjacent commercial development/property varies between 18 feet and 60 feet in width). However, Ms. Ewing also notes that additional hydraulic analysis would be needed for the 3:1 lay back alternative to determine the new 100-year flow conditions. Small adjustments to the bank slope may be needed to keep the flow depths to levels that are below the effective protection level of the bank and slope protection. As such, the Commission finds that given the biological benefits of a wider area of streamside riparian habitat, laying the bank protection slope back to 3:1 where feasible, but no steeper than 2:1, is the environmentally preferred alternative.

Analysis of Proposed Project: The applicant is requesting permanent authorization for an un-engineered, as-built rip rap revetment, consisting of 1,500 tons of 0.5 to 8-ton granite boulders placed at approximately 1:1 to 1.5:1 (H:V) slope and 14-16 feet in height (2-4 foot toe below stream bed). Since the revetment site is almost completely devoid of native riparian vegetation, the applicant is also proposing to revegetate the revetment site to create approximately 0.59 acres of riparian and upland habitat. To vegetate the existing rock revetment, the applicant had, until recently, proposed to secure fascines of willow cuttings to the rip rap with wire. These willow bundles would be oriented at a 45-degree angle, facing downstream, with one end placed into the creek. Once the willow fascines

produced sufficient roots, the interstitial spaces would be filled with sand and fine gravel as a substrate for additional plantings. The applicant also proposes to plant the upland area above the revetment with a mixture of native shrubs and trees, such as mulefat, sycamore, black walnut, cottonwood, and elderberry. In a letter dated January 9, 2009, Impact Sciences Inc. revised the proposed "Vegetation Restoration Plan" to omit the willow fascine element and to instead place willow cuttings that are at least one inch in diameter and six feet long into the interstitial spaces between rocks. Once the willows establish, the interstitial spaces would be filled with sand and fine gravel as a substrate for additional plantings. In researching examples where the concept of securing willow fascines to rock had been used successfully per the request of Commission staff, Impact Sciences found that willow fascines were not appropriate for use atop a rock slope protection and that the willows needed contact with moist soil beneath the rock. After consulting with the Natural Resources Conservation Service, Impact Sciences revised their revegetation plan to instead place willow cuttings into the spaces of the as-built rip rap.

Technical studies prepared for the project have concluded that channel hydraulics of lower Malibu Creek are not significantly impacted by the proposed project and that the project will not cause erosion or other adverse impacts to adjacent banks. The applicant's engineer asserts that the subject bank was steep before and after placement of the emergency rip rap, and its steepness is a natural equilibrium slope for the cut bank. As mentioned previously, Commission Staff Engineer, Lesley Ewing, disagrees with the applicant engineers' assertion that a less steep bank in this location would significantly alter stream hydraulics. In her memo dated January 7, 2009, Ms. Ewing states that based on all information provided by the applicant it appears feasible that the bank slope can be rebuilt at a more gradual slope (Exhibit 11). In fact, laying the revetment back at a more gradual slope and incorporating a more bio-engineered design would substantially reduce turbidity and increase riparian and in-stream habitat value compared to the proposed un-engineered design. In the ten years that the existing revetment has been in place, vegetation has been unable to naturally establish along the majority of the rip rap, most notably along the steepest portions. It is the opinion of Commission Staff Ecologist, Dr. Engel, that site restoration would be more successful if the rip rap revetment were to be laid back at a lesser slope angle, such as 3:1 but no steeper than 2:1, which is more typical for vegetated rip rap stabilization designs.

The existing un-engineered revetment has resulted in adverse impacts to aquatic, semi-aquatic, and terrestrial habitats through loss of cover continuity and shade along the bank. Loss of shade and cover results in loss of protective foliage for animal movement, increased water temperatures, and loss of areas to seek shelter from predators. In addition, without filter fabric stabilizing the bank soils beneath the revetment, sediment transport and turbidity are increased during winter flows. As discussed above, the applicant is proposing to carry out a re-vegetation effort to install willows within the rock rip-rap and to plant the slope above the revetment with riparian plant species. In past permit actions concerning rock rip-rap in streams, the Commission has approved such development only where there is no feasible alternative to protect existing development and where revegetation with willows and other riparian species is incorporated into the actual construction. Such projects can be designed to include planting areas in the interstitial spaces between individual rocks in order to accommodate the planting of

willows and other riparian plants. It is much more difficult to retrofit an existing revetment that has not been designed to accommodate plantings. Given that the revetment proposed here was not designed to accommodate plantings and was constructed at a very steep angle, it is by no means assured that the applicant's proposed revegetation will be successful. While the proposed insertion of willow cuttings into the existing rock revetment may serve to improve stream and riparian habitat value to an extent, the steepness of the revetment and the unconventional methodology for bioengineering it will not ensure that water quality, stability, and habitat value of the bank are all protected consistent with the requirements of Chapter 3 of the Coastal Act. It has not been demonstrated that the proposed project is the least environmentally damaging alternative and is sited and designed to avoid and minimize impacts to the habitat values of the riparian stream corridor of Malibu Creek. As such, the Commission finds that the proposed project is *not* the least environmentally damaging alternative and does not protect Malibu Creek ESHA from significant disruption of habitat values or restore the biological productivity and water quality of Malibu Creek to maintain optimum aquatic populations. The project is therefore not consistent with Section 30230, 30231, 30236, and 30240 of the Coastal Act. In addition, the proposed project cannot be found consistent with Policy 3.34 of the Malibu LCP, which the Commission uses as guidance.

Additionally, Heal the Bay asserts that upon surveying the as-built revetment from Malibu Creek they have found evidence of undercutting and loose rock along the bank, which may indicate that the revetment is unstable. Heal the Bay has provided photographs of portions of the revetment that appear to be exhibiting signs of loosening and undercut. However, staff does not have enough information to confirm that the as-built revetment is being progressively undercut. Regardless, the Commission finds that the temporary, as-built rock revetment is resulting in adverse impacts to Malibu Creek ESHA and its proposed retention will not ensure that water quality, stability, and habitat value of the stream are all protected consistent with the requirements of Chapter 3 of the Coastal Act. The recommended alternative of redesigning and reconstructing the revetment at a more gradual slope and incorporating plantings will serve to ensure that the revetment is properly engineered for maximum function and stability.

An alternative has been identified that would function to adequately protect existing development in the floodplain as well as render the project consistent with the Chapter 3 protections for water quality and ESHA. As discussed previously, this alternative would involve deconstructing the temporary emergency revetment that is in place, and reconstructing the revetment at a more gradual slope along the bank (3:1 (H:V) slope where feasible, however, no steeper than 2:1 (H:V) in any location). This would also include incorporating filter fabric and plants into the reconstructed rip rap design, and revegetating the riparian corridor. The Commission's staff Coastal Engineer, Ms. Ewing, has stated that this alternative is feasible from an engineering standpoint. A more gradual revetment bank slope, such as 3:1, would provide a wider area of streamside riparian habitat if native vegetation is integrated into the rock revetment design. A more gradual bank gradient would enhance plant establishment and persistence and also provide greater opportunity for a more diverse and multi-leveled structure of native plants within the riparian corridor. This in-turn provides for more diverse shelter and feeding sites for wildlife. Water quality is also enhanced by the increased water filtration and sediment removal capacity of a wider riparian corridor.

Therefore, in order to protect Malibu Creek ESHA from significant disruption of habitat values and to restore the biological productivity and water quality of Malibu Creek to maintain optimum aquatic populations, **Special Condition No. Two (2)** requires revised rock slope protection plans demonstrating that the rock slope protection has been re-engineered to be laid back to a 3:1 (H:V) slope for all on-site areas where it is feasible, however, the re-engineered slope shall be no steeper than 2:1 (H:V) in any location. Where a 3:1 slope is determined to be infeasible by a registered engineer for any portion of the revetment, the applicant shall provide evidence, for the review and approval of the Executive Director, demonstrating that a 3:1 slope is either hydraulically infeasible, or spatially infeasible (in other words that there is not sufficient distance between the top of existing revetment and the adjacent commercial development/property to allow for a 3:1 slope) given site characteristics. However, the toe of the slope protection shall not extend further into the creek than currently exists. If determined feasible, the footing portion of the rock slope protection may remain in place and only the upper portion of the rock shall be laid back. **Special Condition No. Two (2)** also requires that a geotextile filter fabric with holes for willow plantings be placed on the graded slope of the bank prior to rock placement in order to stabilize soils. **Special Condition No. Three (3)** requires revised revegetation plans for the re-engineered bank protection that incorporates live willow cutting stakes among the rock voids, making sure the stakes penetrate the fabric filter and underlying soil. Installing willow cutting into the soil as the revetment is being constructed is a typical design for bioengineered rock slope protection, as it ensures the vegetation has a good foundation to root in throughout the slope. Pursuant to the recommendations of Commission Ecologist, Dr. Engel, the interstitial spaces in the rip rap shall be partially filled with a fine gravel, sand, and soil combination, and planted with appropriate native plants. In addition to willow, Dr. Engel recommends that alkali bulrush (*Scirpus maritimus*), yerba mansa (*Anemopsis californica*), creeping wild rye (*Leymus triticoides*), and mugwort (*Artemisia douglasiana*) shall be added to the plant palatte for revegetation of the revetment in order to add to the species diversity within the restored riparian corridor. Lastly, to ensure that the creek bank south of the rock revetment is also stabilized and revegetated with a rich mix of riparian plant species, Special Condition 3 requires that mugwort (*Artemisia douglasiana*), mulefat (*Baccharis salicifolia*), and California wild rose (*Rosa californica*) be added to the plant palatte of the applicant's proposed restoration plan. The revised plans required by **Special Conditions 2 and 3** will serve to minimize impacts to the habitat values of the riparian stream corridor of Malibu Creek to the maximum extent feasible.

To ensure that the revegetation plan is successful and that the subject area is adequately revegetated, **Special Condition No. Four (4)** requires implementation of the revised revegetation plan, monitoring for a five year period, submission of a Revegetation Monitoring Report at the end of the five year period for the review and approval of the Executive Director, and supplemental planting/seeding be implemented as necessary, to ensure successful restoration that is in compliance with the specified guidelines and performance standards outlined in the revegetation plan.

Staff has confirmed that there is a chain link fence enclosing a stockpile area and various structures at the northern portion of the property. The chain link fence runs parallel to the creek for several hundred feet, and is only a few feet from the top of bank of the subject

rock revetment. It appears that the northern-most approximately 150 feet of the as-built/proposed revetment bank has a fence within a few feet of it. It appears this development would interfere with implementation of the project and should be removed. As such, the Commission finds that removal of any fencing or unpermitted development along the bank that interferes with the re-engineered revetment required as part of Special Condition 2, or the Revised Revegetation Plan required as part of Special Condition 3, is required, as detailed in Special Condition 2.

Construction activities could disturb raptors or other sensitive bird species if they are nesting in or close to the project site. 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 500 feet of the construction zone to detect the nests of any raptor or sensitive bird species, 30 days 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. Fourteen (14)**.

Although the conditions described above render the project sufficiently stable to satisfy the requirements of Section 30253, no project is wholly without risks. Due to the fact that the project is located in an area subject to an extraordinary potential for damage or destruction from erosion and flood flows, those risks remain substantial here. If the applicant nevertheless chooses to proceed with the project, the Commission requires the applicant to assume the liability from these associated risks. Through the assumption of risk condition, the applicant acknowledges the nature of the flood flow and erosion hazard that exists on the site and that may affect the safety of the development. Therefore, **Special Condition No. One (1)** is required, as determined in the findings above, to assure the project's consistency with Section 30253 of the Coastal Act and as a response to the risks associated with the project.

At the time of installation, the proposed rock was placed outside the stream channel and within the footprint of the excavated/eroded stream bank following a severe El Nino storm event. Therefore, no fill of wetland areas occurred at the time of installation. However, if it is determined that the toe portion of the revetment must be reconstructed pursuant to the revised bank protection plans specified in Special Condition No. 2, the revised revetment toe may not extend further into the creek than currently exists, as required in **Special Condition No. Two (2)**. Extending the toe of the revetment streamward would constitute fill of wetlands for flood control, which is not an allowable use of wetland fill under the requirements of Section 30233 of the Coastal Act.

The project, as revised, would involve some soil disturbance and vegetation removal along the bank during the revetment re-construction. The work will take place along a bank that has obviously been disturbed over the years, both by the erosive forces of Malibu Creek and by disturbance from adjacent development in the floodplain. As such, the subject bank is not considered ESHA. However the project area is adjacent to the Malibu Creek channel that is considered to be ESHA and the potential exists for impacts to the water quality of the creek, particularly from erosion of sediment from the site. Although implementing the revised project will ultimately enhance the habitat value of lower Malibu Creek, there is potential for <u>temporary</u> adverse impacts to water quality and biological productivity of Malibu Creek through the release of sediment. Soil disturbance

and vegetation removal adjacent to the creek could result in the discharge of sediment into Malibu Creek, causing increased turbidity and adversely affecting fish and other sensitive aquatic species. Sediment is considered a pollutant that affects visibility through the water, and affects plant productivity, animal behavior (such as foraging) and reproduction, and the ability of animals to obtain adequate oxygen from the water. Sediments may physically alter or reduce the amount of habitat available in a watercourse by replacing the pre-existing habitat structure with a stream-bottom habitat composed of substrate materials unsuitable for the pre-existing aquatic community. In addition, sediment is the medium by which many other pollutants are delivered to aquatic environments, as many pollutants are chemically or physically associated with the sediment particles. It is particularly critical that these impacts are avoided given the presence of endangered southern steelhead and tidewater goby in Malibu Creek and Lagoon during certain times of the year.

Conducting work for the revised rock slope protection plan when stream flows are minimal during the dry season will minimize erosion into the creek, associated turbidity, and will minimize the potential for disturbing local amphibians and fishes. As such, **Special Condition No. Five (5)** outlines construction timing and best management practices to be implemented during all approved work activities. In particular, grading and rock slope protection work shall be conducted in the dry season, within the months of June through October to avoid tidewater goby peak spawning period (April-May) and southern steelhead migration period (winter season).

If it is determined that the approved revised rock slope protection plans will require work within stream waters, **Special Condition No. Six (6)** requires that the applicant submit a dewatering plan, for the review and approval of the Executive Director, and evidence that the dewatering plan has been approved by the Regional Water Quality Control Board (RWQCB), California Department of Fish & Game, and California State Parks, or evidence that such approvals are not required. In order to minimize potential impacts to tidewater gobies and southern steelhead, **Special Condition No. Five (5)** also limits grading and rock slope protection work to the dry season, and particularly the months of June through October to avoid tidewater goby peak spawning period (April-May) and southern steelhead migration period (winter season).

If the revised project requires construction dewatering or work within the waters of Malibu Creek, measures to protect sensitive aquatic species are necessary. Therefore, **Special Condition No. Seven (7)** requires that a qualified resource specialist survey for sensitive aquatic species (tidewater gobies and steelhead trout) within 100 feet of the project area prior to commencement of construction site dewatering work. If sensitive aquatic species are present, the qualified resource specialist and a crew working under his/her direction shall move, by hand, sensitive species from the area to be dewatered to safe locations elsewhere along the reach of Malibu Creek. The qualified resource specialist shall inspect the dewatered areas and construction site regularly and be present when the dewatering device is removed. The qualified resource specialist shall require the applicant to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to sensitive habitats or to wildlife species, the applicant shall be required to revise the project to adequately mitigate such

impacts, which shall be processed as an amendment to this coastal development permit or a new coastal development permit.

In addition, the revised project may require review by other regulatory agencies such as RWQCB, U.S. Army Corps of Engineers, California Dept. of Fish & Game, or City of Malibu. Therefore, **Special Condition No. Eight (8)** requires the applicant to obtain all other permits that may be necessary for the approved project.

To ensure that the permitted bank protection is maintained in its approved state and future repairs or additions to the approved structure receive the appropriate approvals, **Special Condition No. Nine (9)** requires the applicant to contact the Executive Director for a determination of whether a coastal permit or permit amendment are legally required when it is apparent that repair and maintenance is necessary. **Special Condition Ten (10)** requires the applicant to record a deed restriction that imposes the terms and conditions of this permit as restrictions on use and enjoyment of the property and thereby provides any prospective purchaser of the site with recorded notice that the restrictions are imposed on the subject property.

In order to ensure that the project, as required to be revised, is implemented in a timely manner, **Special Condition Nos. Twelve (12) and Fifteen (15)** require that the applicant satisfy all conditions of this permit which are prerequisite to the issuance of this permit within 180 days of Commission action and implement and complete the approved project within 18 months of issuance of this coastal development permit. The Executive Director may grant additional time for good cause.

Finally, in order to ensure that the terms and conditions of this permit are adequately implemented, **Special Condition Eleven (11)** authorizes Commission staff to enter onto the property (subject to 24 hour notice to the property owner) to undertake site inspections for the purpose of monitoring compliance with the permit.

As such, the Commission finds that, with the mitigation measures discussed above, the project will (a) protect the ESHA from any significant disruption of habitat values, (b) not significantly degrade adjacent ESHA, (c) be compatible with the continuance of the habitat area, (d) restore the biological productivity and water quality of Malibu Creek to maintain optimum aquatic populations, and (e) minimize risks to life and property and assure stability. Therefore, the project, as conditioned, is consistent with Section 30230, 30231, 30233, 30236, 30253, and 30240 of the Coastal Act. In addition, the project, as conditioned, is consistent with Policy 3.34 of the Malibu LCP, which the Commission uses as guidance.

C. VISUAL RESOURCES

Section 30251 of the Coastal Act states, in part:

> ***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.

Section 30251 of the Coastal Act requires scenic and visual qualities to be considered and preserved. Section 30251 also requires that development be sited and designed to protect views of scenic areas, minimize alteration of landforms, and be visually compatible with the surrounding area.

The project is located along a 500-foot section of the west bank of lower Malibu Creek, approximately 300 feet upstream from Pacific Coast Highway and Malibu Lagoon State parkland. The project site is located on a narrow, approximately 2.5-acre strip of vacant land owned by the applicant that is bound by a commercial shopping center development to the west and Malibu Creek and State parkland to the east. The subject site is visible from State parkland to the east, as well as Pacific Coast Highway to the south, a designated scenic highway.

The proposed as-built rock revetment is composed of light-colored granite boulders that was not constructed to encourage natural recruitment of riparian vegetation. As such, the stream bank is almost entirely devoid of natural vegetation that would have acted to screen views of the armored stream bank from public viewing areas. While the proposed insertion of willow cuttings into the existing revetment may serve to soften public views of the rock to an extent, it has not been demonstrated that the steepness of the revetment and the unconventional methodology for bioengineering it will maximize revegetation success. As discussed above, an alternative project design is required to render the project consistent with the Chapter 3 protections for water quality and ESHA. The revised revetment design, will result in the slope of the revetment being 3:1 where feasible and no steeper than 2:1, and is required to utilize filter fabric, and to incorporate planting areas in the interstitial spaces between the rocks. Finally, this alternative will include the revegetation of these planting areas with willows or other riparian plant species, and the planting of the area adjacent to and above the revetment with a diverse mix of riparian and upland native plants. As conditioned, the revised revetment will be vegetated and the area landward of the revetment will be vegetated with plants appropriate for the riparian and upland areas of the project site. This will reduce the reflective effect of the light colored rocks and soften, if not obscure, the view of the revetment from Malibu Creek State Beach and other public viewing areas.

The following special conditions are required to assure the project's consistency with Section 30251 of the Coastal Act:

Special Condition 2. Revised Bank Protection Plans
Special Condition 3. Revised Revegetation Plans
Special Condition 4. Revegetation Implementation and Monitoring

For the reasons set forth above, the Commission finds that the proposed project, as conditioned, is consistent with Section 30251 of the Coastal Act.

D. 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 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 that the activity may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed in detail above, project alternatives and mitigation measures have been considered and incorporated into the project. Five types of mitigation actions include those that are intended to avoid, minimize, rectify, reduce, or compensate for significant impacts of development. Mitigation measures required to minimize impacts include requiring best management practices (water quality and ESHA), limitations on construction timing (water quality and ESHA), revised revegetation plans (ESHA, water quality, visual resources), revised plans (ESHA, water quality, visual resources), and dewatering plan with aquatic species protection measures (ESHA).

The following special conditions are required to assure the project's consistency with Section 13096 of the California Code of Regulations:

Special Conditions 1 through **15**

As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the project, as conditioned to mitigate the identified impacts, can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

List of Exhibits
4-09-013

Click here for Exhibits 1-4

Click here for Exhibits 5-12

Click here for Exhibits 13-14

1. Vicinity Map
2. Parcel Map
3. Aerial Views
4. Site Photos
5. Site Plan
6. Surveyed Site Plan with Cross Sections
7. Proposed Planting Plan
8. Willow Fascine Schematic
9. Amended Willow Planting Plan Memo
10. Emergency CDP 4-98-024-G
11. Lesley Ewing Memos
12. Dr. Jonna Engel Memo
13. Correspondence
14. Ex Parte Communications