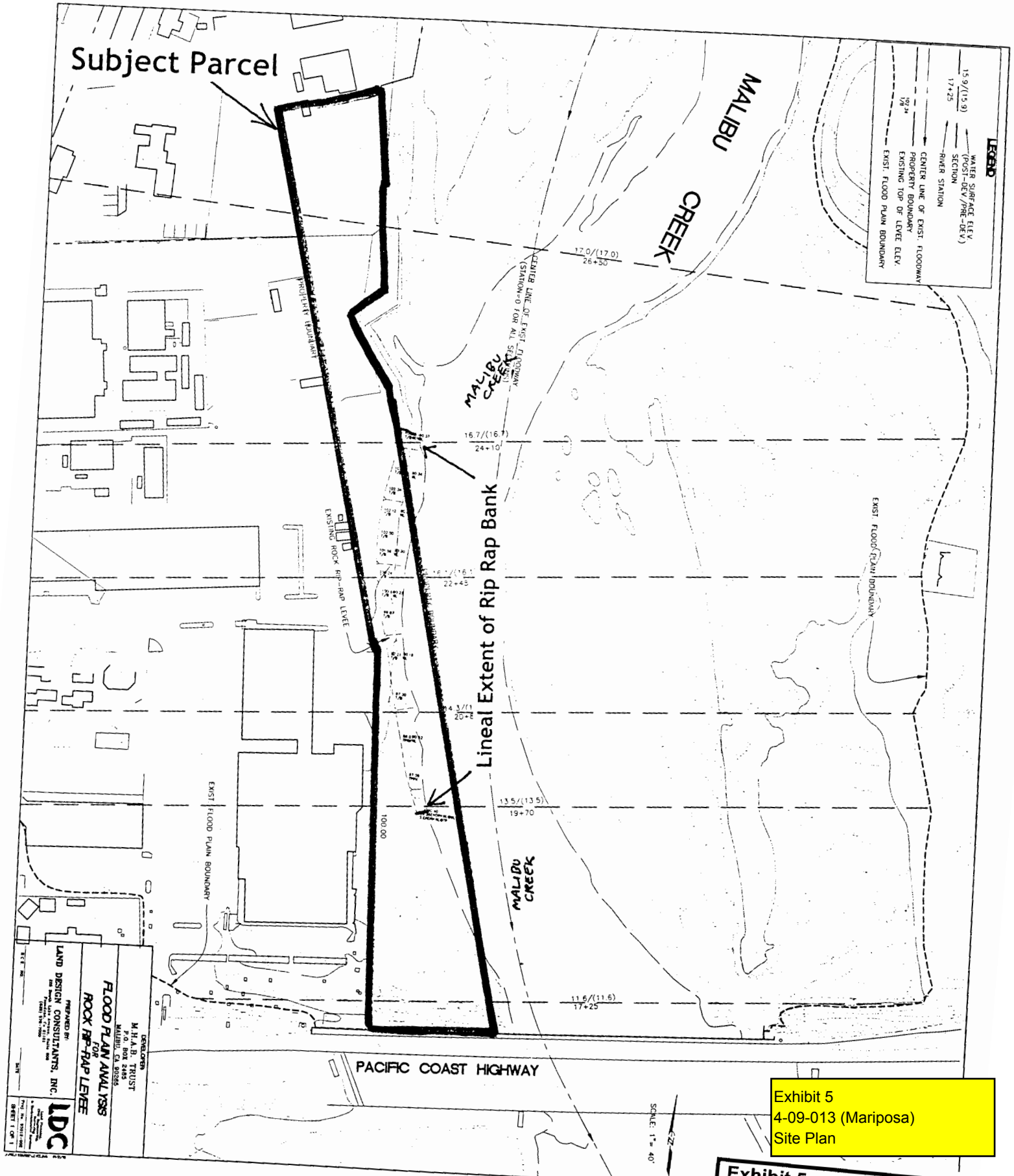


Exhibit 5
4-09-013 (Mariposa)
Site Plan

Exhibit 5
4-09-013 (Mariposa)

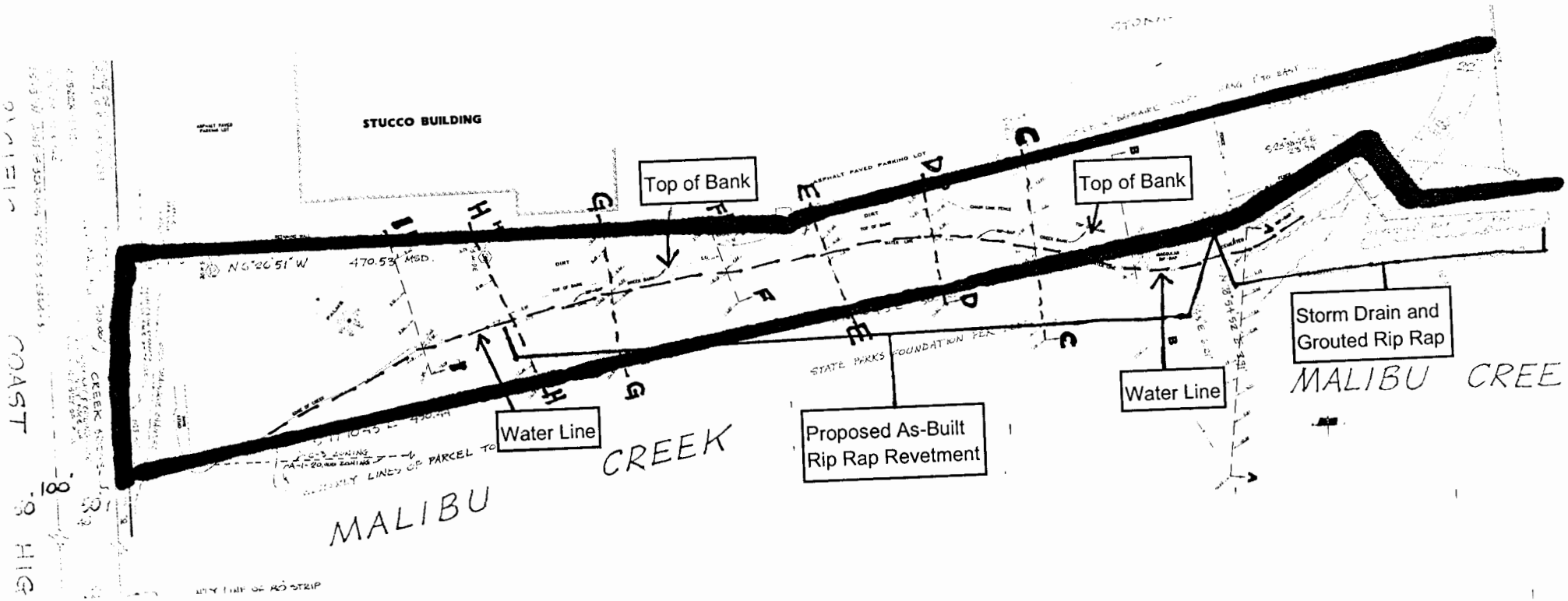
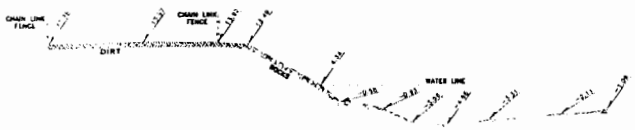


Exhibit 6
4-09-013 (Mariposa)
Surveyed Site Plan with Cross Sections

SECTION VIEW "C-C"



65% Slope
Top of Bank to Property Line: 45 ft.

SECTION VIEW "D-D"

81% Slope
Top of Bank to Property Line: 19 ft.

SECTION VIEW "E-E"

85% Slope
Top of Bank to Property Line: 18 ft.

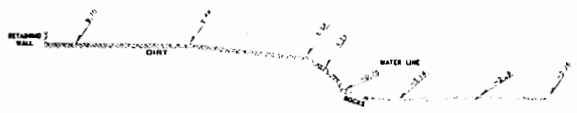
SECTION VIEW "F-F"

73% Slope
Top of Bank to Property Line: 22 ft.

SECTION VIEW "G-G"

100% Slope
Top of Bank to Property Line: 35 ft.

SECTION VIEW "H-H"



75% Slope
Top of Bank to Property Line: 58 ft.

SECTION VIEW "I-I"

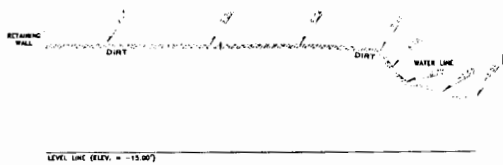
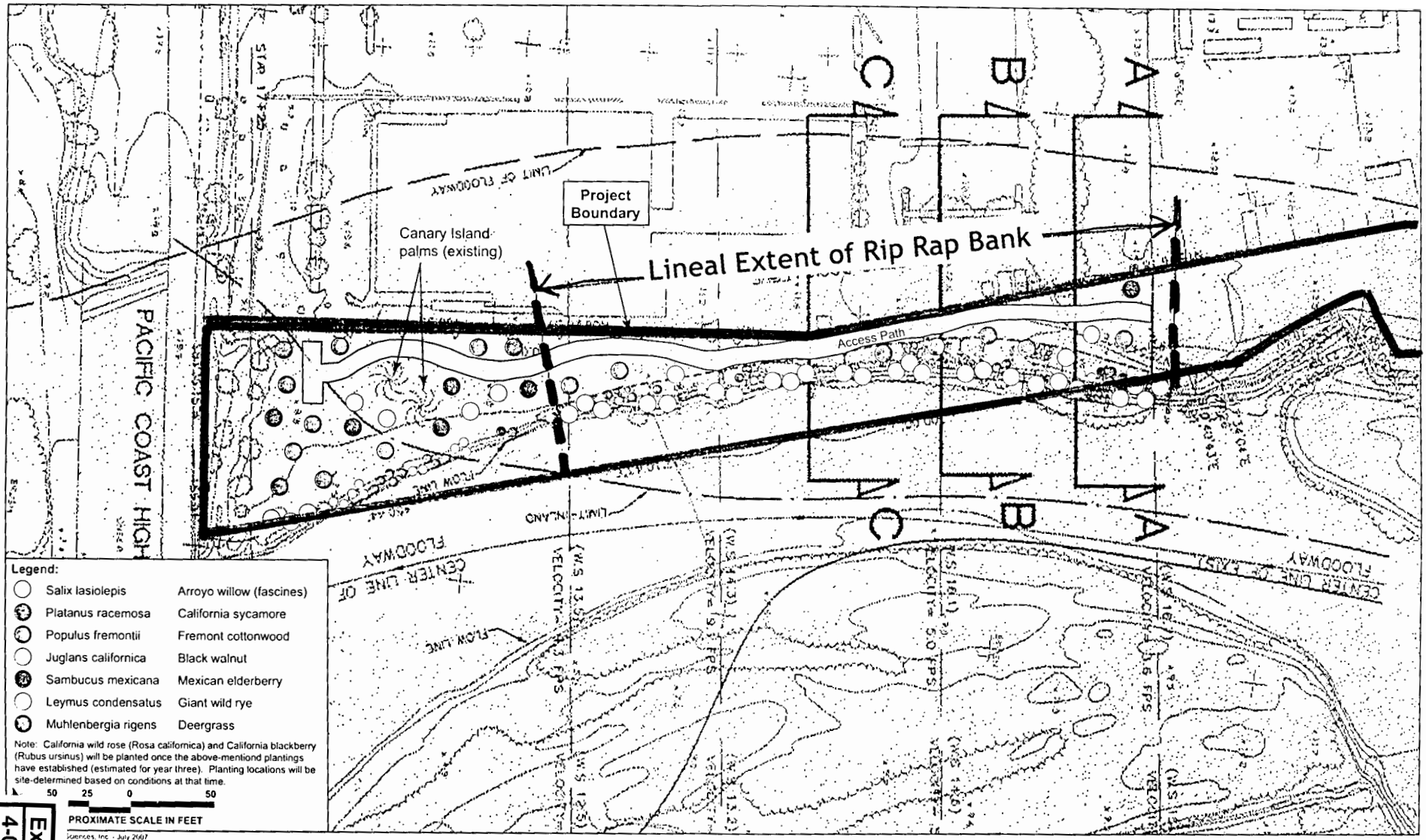


EXHIBIT 6

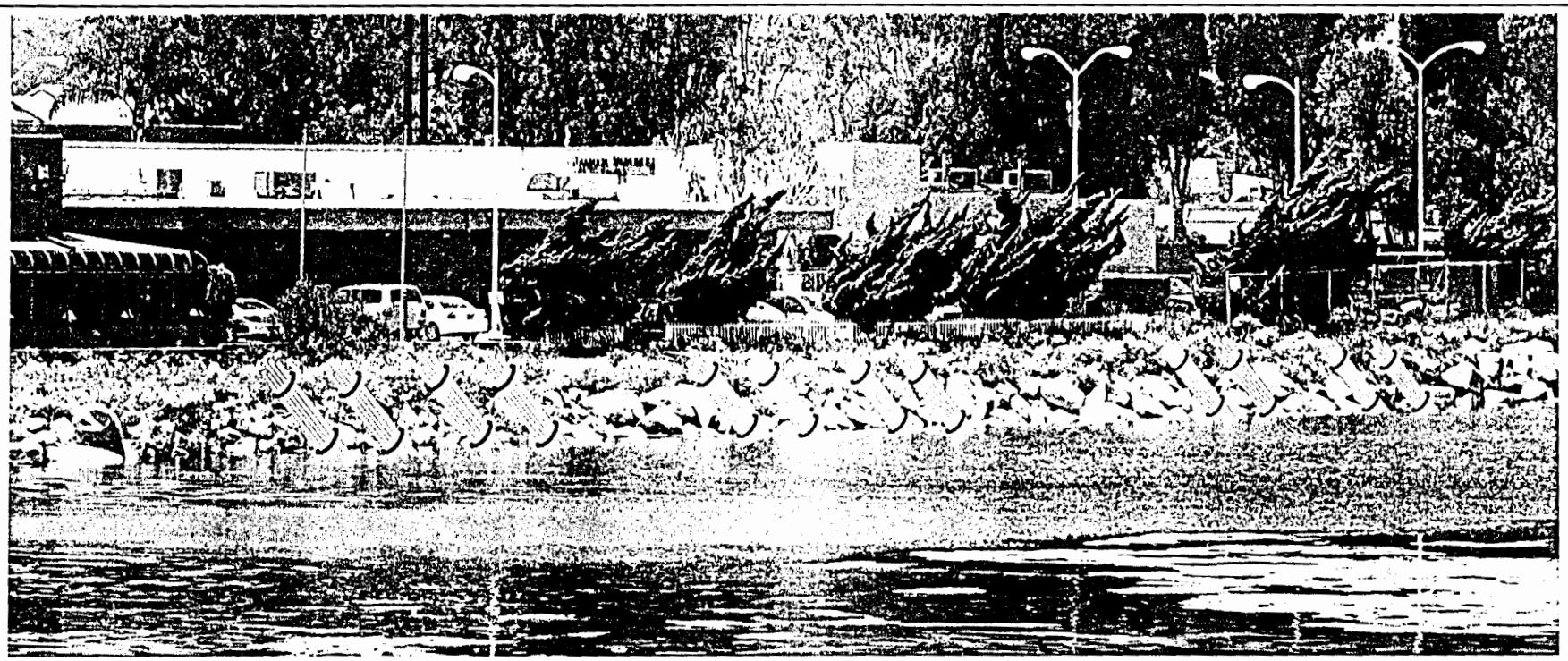


Sciences, Inc - July 2007

FIGURE 4

Planting Plan

Exhibit 7
4-09-013 (Mariposa)
Proposed Planting Plan



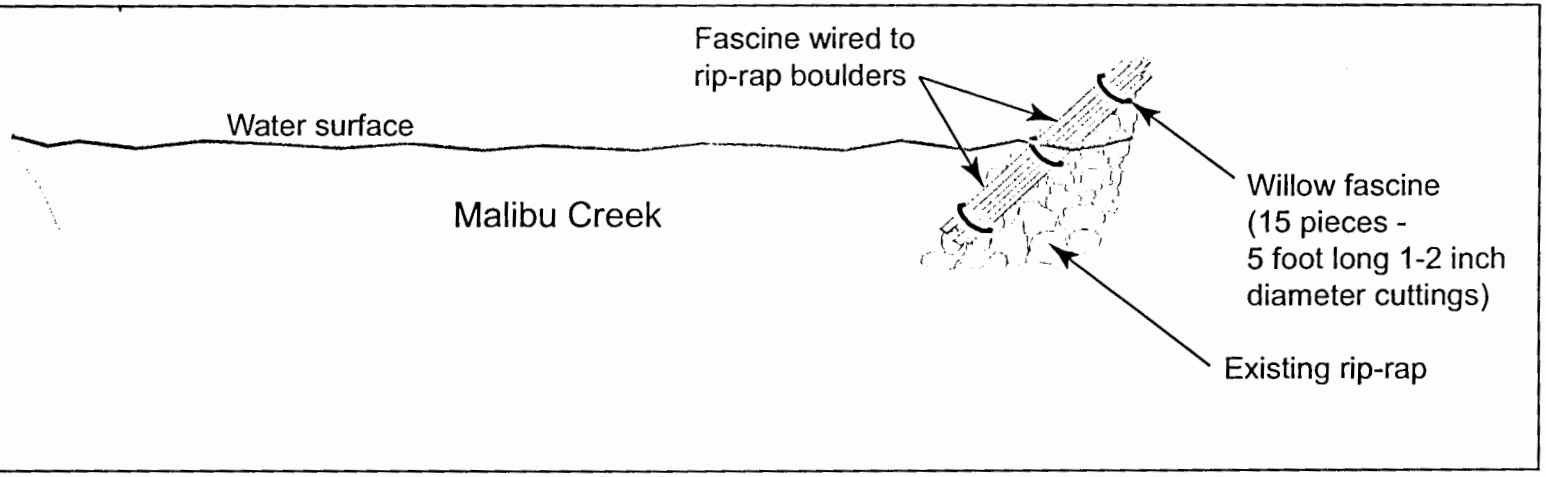


Exhibit 8
4-09-013 (Mariposa)
Willow Fascine
Schematic

O SCALE

ences - July 2007

FIGURE 5

Willow Fascine Schematic

IMPACT SCIENCES | 20 YEARS

January 9, 2009

California Coastal Commission
89 South California Street, Suite 200
Ventura, CA 93001-2801

Attn: Deanna Christensen

Re: Modification to the Mitigation Plan for Mariposa Land Company at Malibu Creek.

Dear Ms. Christensen:

Impact Sciences proposes to modify one aspect of the "Vegetation Restoration Plan – Malibu Creek", the restoration plan that was submitted as part of the application package for Malibu Land Company's pending final permit for bank stabilization along Malibu Creek. Specifically, Impact Sciences now proposes to use willow cuttings, rather than using the willow fascines fastened to the riprap.

In discussing the establishment of willows in riprap, particularly with Susan Litteral, NRCS Agricultural Engineer in the Templeton CA Field Office and Charles Davis, the State Conservation Engineer, the Natural Resources Conservation Service has been planting willows in riprap for over 25 years. According to Mr. Davis, "The key is the willow roots need to be in water." Mr. Davis provided the attached document entitled *"History of NRCS Streambank Protection Projects with Rock Slope Protection Completed under the NRCS Emergency Watershed Protection Program"*

Ms. Litteral indicated that fascines were most useful in establishing willows to protect otherwise unprotected banks where the fascines could be placed in contact with the soil. However, for areas already protected by riprap, particularly where the riprap had sufficient interstitial spaces between the riprap, and into the soil where it can be reached between the riprap, that cuttings should be placed through the riprap and into moist soil. Ms. Litteral, who has a number of project in San Luis Obispo County, recommended this method, including auguring holes for the cuttings, or using a water jet to excavate holes to place the cuttings into. Ms. Litteral also mentioned that typically, the initial growth of willow cutting planted during the winter is to have one or more leaves emerge in early spring, and for the cutting to then have root growth for a year or so before additional leaves emerge.

Therefore, we propose to modify the plan by eliminating the willow fascines, replacing them with willow cuttings, placed into the interstitial spaces

Exhibit 9
4-09-013 (Mariposa)
Amended Willow Planting Plan Memo

riprap, and into the soil where the soils is sufficiently moist on a permanent basis. Willow cuttings, which shall be at least one inch in diameter and six feet long, shall be planted at an average of one cutting per eight linear feet (63 - 65 cuttings), with some areas planted more closely than other areas to give a more natural appearance. The exact location of each willow cutting shall be determined by the project biologist.

All other parts of the "Vegetation Restoration Plan" remain unchanged. IF you have any questions, please call me at (805) 437-1900.

Sincerely,
Impact Sciences, Inc.

Larry Lodwick

Larry Lodwick
Associate Prinicpal

Cc: Grant Adamson
Daryl Koutnik

ex. 9

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 641-0142

EMERGENCY PERMIT

February 20, 1998

Applicant: **Grant Adamson (Mariposa Land Company)** **Permit No.: 4-98-024-G**

Project Location: **3728 Cross Creek Road (west bank of Malibu Creek)**

Work Proposed: **Placement of rock rip-rap along 450 feet of the west bank of Malibu Creek to protect property from erosion. The revetment will use 1,500 tons of .5 to 8 ton boulders and will be approximately 14 to 16 feet in height (2-4 foot toe below stream bed).**

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from the information submitted that an unexpected occurrence in the form of severe stream bank erosion resulting in a threat to a parking area and property requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 30 days unless otherwise specified by the terms of the permit;

(b) Public comment on the proposed emergency action has been reviewed if time allows; and

(c) As conditioned the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the reverse.

Very Truly Yours,

Peter M. Douglas
Executive Director

Chuck Damm

By: Chuck Damm
Title: Senior Deputy Director

Exhibit 10
4-09-013 (Mariposa)
Emergency CDP 4-98-024-G

CONDITIONS OF APPROVAL:

1. The enclosed form must be signed by the property owner and returned to our office within 15 days.

2. Only that work specifically described above and for the specific property listed above is authorized. Any additional work requires separate authorization from the Executive Director.

3. The work authorized by this permit must be completed within 30 days of the date of this permit.

4. Within 60 days of the date of this permit, the permittee shall apply for a regular Coastal Permit to have the emergency work be considered permanent. If no such application is received, the emergency work shall be removed in its entirety within 150 days of the date of this permit unless waived by the Director.

5. In exercising this permit the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.

6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies.

7. The regular coastal development permit application shall include an analysis of all other alternatives for shoreline, bluff, or stream bank protection prepared by a qualified engineer.

IMPORTANT

Condition #4 indicates that the emergency work is considered to be temporary work done in an emergency situation. If the property owner wishes to have the emergency work become a permanent development, a coastal permit must be obtained. A regular permit would be subject to all of the provisions of the California Coastal Act and may be conditioned accordingly.

If you have any questions about the provisions of this emergency permit, please call the Commission Area office.

Enclosures: 1) Acceptance Form; 2) Regular Permit Application Form

cc: Local Planning Department

File: gm/98-024g

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

January 7, 2009

TO: Deanna Christensen, Coastal Program Analyst

FROM: Lesley Ewing, Coastal Engineer.

SUBJECT: CDP# 4-98-024; Lower Malibu Creek West Bank Revetment

I have reviewed the Preliminary Engineering Design Study (Pacific Advanced Civil Engineering (PACE), May 25, 2007) and the Malibu Creek Survey (Grimes Surveying and Mapping, Inc. surveyed September 15, 2008) and had discussions about this project with both Commission staff and Mr. Dave Jaffe, PACE Project Engineer.

It is my understanding that in 1998 rock was placed along the western bank of the lower Malibu Creek as an emergency measure to address a situation of on-going erosion during a high-flow event, likely in association with one of the severe El Niño storms. The property owner has been attempting to make permanent some form of bank stabilization that will protect the bank from future erosion. And, while the need for bank stabilization has been demonstrated, staff has been requesting that the applicant develop some alternative permanent bank stabilization alternatives that will allow for the propagation of native vegetation to reduce some of the impacts from stabilized banks.

The as-built stabilization is quite steep, approaching 1:1 in some locations. The applicant's engineer asserts that the steepness of the bank stabilization is intended to mimic the natural bank cut that developed on the outer bank of the creek bend. However, this steepness does not readily allow for plants to colonize in the voids between the rocks and, from inspection of photographs of the stabilized bank it appears that most of the bank is void of vegetation.

The current bank and stabilization can feasibly be recontoured to achieve a less steep slope. 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. The applicant would need to prepare a revised engineering design for the new revetment. Also management plans would be needed to control silt and turbidity and schedule the revetment rebuilding to minimize impacts to coastal resources. Based on all information provided by the applicant, it appears feasible that this slope can be rebuilt at a more gradual 2:1 slope.

I will be happy to further discuss this project with you at your convenience, or to discuss it with the applicant's engineers. I can be reached at the main office number above, by my direct line (415/904-5291) or by e-mail (lewing@coastal.ca.gov).

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE AND TDD (415) 904- 5200
FAX (415) 904- 5400

June 22, 2008

TO: Deanna Christensen, Coastal Program Analyst
FROM: Lesley Ewing, Sr. Coastal Engineer
SUBJECT: Lower Malibu Creek West Bank, Emergency Protection

As we have discussed several times in phone conversations, protection of the west bank of Lower Malibu Creek poses several difficulties. The existing rock slope protection is not optimal for bank protection or for habitat enhancement. I understood the Commissioners to be recommending a more vegetated creek bank that could use some rock for stability. The proposed rock slope armoring should be no steeper than about 2:1, but in some locations, could be less steep, for example, 3 to 1, where conditions would allow. There are several constraints to the more gradual revetment slope. At the ends, where the revetment transitions to the natural bank, the slope of the revetment should transition to the slope of the natural bank. Along most of the revetment, other than the end transitions, the slope can be a uniform 2:1 or 3:1 or can vary between these slopes to accommodate parts of the upper bank that are not wide enough for a 3:1 slope, where the added slope would encroach into the maintenance path, or other possible constraints. Thus, while the mid-section of the revetment may be the most appropriate location for the more gradual slope, it may not be the part of the revetment that can easily accommodate the greater bank area.

Modifications to the bank slope will also result in small changes to the creek hydraulics. The applicant's engineer has modeled a 2:1 bank slope and the existing rock slope design and provided us with the expected flow depths that would occur from each option for a 100-year flood event. The flood depths vary slightly for each of these alternatives for most of the channel length. At the downstream end of the proposed project, from section 1616.66 through section 1568.5 (a section at least 48 feet long) flow depth for the emergency rock slope protection would be from +0.3 to +0.6 feet higher than the 2:1 slope. From section 1531.5 through section 1500 (a section at least 31.5 feet long), flow depth for the 2:1 slope would be 0.9 to 0.5 feet higher than for the emergency rock slope protection. Overall, the 2:1 slope would have flow depths +0.1 feet higher than the emergency rock protection slope. It may be useful to make small adjustments the revetment height if increased flow heights would exceed bank height. It is feasible to use a 2:1 bank slope, and a more gradual slope in some locations.

If the slope is to be reduced to 3:1 and vegetation is to be added for most of the project length, additional hydraulic analysis will be needed 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. Conversely, small adjustments to the bank slope protection may be needed to improve the effectiveness of the slope protection. Once an overall slope concept plan is developed, it would be important to check the hydraulic characteristics of this concept plan.

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

MEMORANDUM

FROM: Jonna D. Engel, Ph.D.
Ecologist

TO: Deanna Christensen
Coastal Program Analyst

SUBJECT: Malibu Creek Vegetation Restoration Plan, CDP# 4-98-024; Lower Malibu Creek West Bank Revetment

DATE: January 9, 2009

Documents Reviewed:
Impact Sciences, Inc. August 2007. Vegetation Restoration Plan – Malibu Creek. Prepared for the Mariposa Land Company, Malibu, California.

I have reviewed Impact Sciences "Vegetation Restoration Plan – Malibu Creek" for the nearly 500 feet of rip rap placed, under emergency permit conditions, on the west side of Malibu Creek to address the severe erosion caused by the 1997-1998 winter and spring high stormwater flows. Approximately 0.25 acre of land was lost that winter, creating a steep cut bank. Rip rap was placed on the bank to prevent further erosion from impinging on Mariposa Land Company property. Impact Sciences estimates that the rip rap slope angle is approximately 1:1 and that it stands 15 in height. A primary goal of the restoration plan is to plant the rip rap that remains bare as well as the undeveloped area between Malibu Creek and the Cross Creek Shopping Center to create 0.585 acre of native riparian habitat. To plant the rip rap, fascines of willow cuttings are proposed to be fastened along the length of the revetment to begin to fill in the interstitial spaces in order to create overhanging vegetation adjacent to Malibu Creek. The restoration plan also states that "interstitial spaces will be filled with sand or fine gravel as a substrate for additional plantings (estimated to take place during year three)."

Direct observation and photos demonstrate that along the bank areas where there is a less than 1:1 slope angle, vegetation has been able to naturally recruit among the rip rap. However, plants are unable to establish on the majority of the rip rap which stands at a steep 1:1 slope angle. It is my opinion that the streambank restoration would be more successful if the proposed rip rap were to be laid back at a lesser slope angle, such as 2:1, which is more typical for vegetated rip rap bank stabilization designs.

Lesley Ewing, Commission Coastal Engineer, has reviewed this project and stated that it is feasible from an engineering standpoint to recontour the current bank and

Exhibit 12
4-09-013 (Mariposa)
Dr. Engel Memo

revetment to attain a less steep slope (e.g. 2:1) that will support native riparian vegetation[1]. Ms. Ewing also points out that placement of a bottom layer of fabric filter under the rip rap will reduce soil piping and turbidity from high flow events while acknowledging that root holes in the fabric filter may be necessary to facilitate plant establishment. I am in agreement with Ms. Ewing's opinion that fabric filter should be placed under the rip rap with root holes for plants. I also recommend that willow cuttings be stuck directly into the interstitial spaces within the rip rap throughout the area. and that interstitial spaces be partially filled with a fine gravel, sand, soil combination..

The plant palette for the upland area, surrounding the rip rap, is provided in Table 2 of the proposed restoration plan and consists of California sycamore, Freemont cottonwood, black walnut, Mexican elderberry, arroyo willow, mulefat, giant wild rye, deergrass, California wild rose, and California blackberry. In addition to these species, I recommend that mugwot, *Artemisia douglasiana* and yerba mansa, *Anemopsis californica* be added to the proposed plant palette for the rip rap and upland area in order to add to the species diversity within the riparian corridor.

Impact Science's vegetation restoration plan provides appropriate plans for mitigation site preparation, non-native plant control and eradication, irrigation, plant maintenance and weeding. Impact Science states that "the site shall attain 75 percent cover after three years and 90 percent cover after five years for the life of the project." In addition they state that "all plantings shall have a minimum of 80 percent survival the first year and approaching 100 percent survival at the end of the five-year monitoring period." The goals and objectives of the mitigation project will be met by adhering to these performance standards. Impact Science's plan includes a well designed monitoring program that will be conducted for five years and will include annual reports. They have taken into consideration unforeseen situations by including an adaptive management and contingency measures section in their report by which they will be able to address any problems that may arise.

In conclusion, it is my opinion that a less steep revetment slope than is proposed, in conjunction with incorporating filter fabric and willow stakes into the reconstructed riprap design, would be more likely to result in successful riparian restoration along this stretch of lower Malibu Creek bank.

[1] Ewing, L. January 7, 2009. CDP# 4-98-024; Lower Malibu Creek West Bank Revetment Memorandum to Deanna Christensen, Coastal Program Analyst.

ex. 12