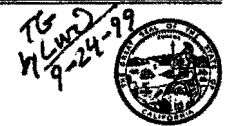


**CALIFORNIA COASTAL COMMISSION**

CENTRAL COAST DISTRICT OFFICE  
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**W13b**

Filed: 9/24/99  
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Staff: D. Carl  
Staff report: 9/24/99  
Hearing date: 10/13/99

**COASTAL DEVELOPMENT PERMIT APPLICATION**

**Application number** .....3-98-102, Panattoni Retaining Wall/Bulkhead & Pescadero Creek Restoration

**Applicant**.....Carl and Jane Panattoni

**Project location**.....Mouth of Pescadero Creek (with retaining wall construction along southern bank of creek mouth and restoration within the creek bed extending from the northern to southern banks) in Carmel-by-the-Sea, Monterey County (APNs 010-321-36, 37, & 38)

**Project description** .....Construct a two-tiered, 260 foot long, wood retaining wall/bulkhead anchored by steel beams in concrete caissons and restore the adjacent Pescadero Creek riparian wetland area. A portion of the application is the regular follow-up application for Emergency Permit 3-98-112-G (which allowed for the lower tier of the wall) and a portion is to restore the wetland/riparian area which was destroyed by site preparation activities without benefit of a coastal development permit.

**Approvals Received** .....City of Carmel: Retaining walls (9/30/98, CEQA emergency exemption)  
City of Carmel: Restoration plan (decision & CEQA pending 10/13/99)  
CDFG: Stream alteration agreement 1035-98 (9/24/98, expires 10/15/99)  
ACOE: CWA Section 404 authorization 23999S (1/15/99, expires 1/15/2001)  
RWQCB: Emergency authorization (2/23/99); regular authorization (8/23/99)  
RWQCB: CWA Section 401 water quality certification (pending)  
Monterey County: No approval necessary (8/16/99)

**File documents**.....Coastal development permit files 3-98-112-G (Panattoni), 3-92-018-A1 (Panattoni), and 3-92-018 (Ziegler/McFarland/Panattoni); City of Carmel staff report (RE 98-17); *Geotechnical Investigation for Panattoni Residence* (Haro, Kasunich & Associates, Inc., April 1999); *Riparian Habitat Restoration and Erosion Control Plan* (Paul Kephart, Rana Creek Habitat Restoration, September 1999); *Draft Initial Study/Negative Declaration for the Panattoni Project* (Denise Duffy & Associates, Inc., September 13, 1999); *Preliminary Archaeological Reconnaissance of APNs 010-321-036, -037, & -038, Carmel, Monterey County, California* (Archaeological Consulting, dated July 9, 1999); Carmel Beach Management Plan (CDPs P-980, P-79-320, 3-83-217-A1, 3-83-217-A2, 3-83-217-A3, and 3-83-217-A4); City of Carmel LCP Land Use Plan.

**Staff recommendation** ...Approval with Conditions



California Coastal Commission  
October 13, 1999 Meeting in Oceanside

Staff: D. Carl Approved by:

3-98-102 (Panattoni Retaining Wall) Staff Report for October 1999 Hearing.doc (9/24/99)

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## **A. Summary**

The Applicant proposes to install a two-tiered retaining wall/bulkhead structure along the southern bank of Pescadero Creek where it flows into the ocean at Carmel Beach, in order to halt shoreline/creek erosion to protect an existing (pre-Coastal Act) single family residence atop the bluff. The lower portion of this wall was authorized by Emergency Permit in December 1998. The bluff at the site is extremely unstable due to major flooding which removed 10 to 12 feet of bluff materials in February 1998, continued erosion since that time resulting in unstable bluff sections which are crisscrossed with tension cracks (defining future block failure sections in the area between the landslide scarps and the residence), and poorly consolidated old fill material which makes up the bluff sediments at this location. There are no feasible alternatives in this case to a hard protective structure, given that the bluff consists of unconsolidated materials, there is a low factor of safety on the bluff, a severe threat of rapid erosion and bluff collapse exists, and it is structurally unworkable to relocate the residence.

The retaining wall/bulkhead structure stays out of the stream channel, and is the most creek-sensitive hard protective solution that could be installed to protect the structure at risk. The wall heights and backfill criteria have been designed so as to mimic the natural bluff configuration as much as possible and the backfilled slopes would be reseeded and planted with cascading riparian species. The retaining wall/bulkhead project would retain approximately 2,437 cubic yards of sand materials that would otherwise enter into the Carmel Beach sand supply system over the retaining wall/bulkhead's design lifetime. Accordingly, the project is conditioned for a \$26,783 in-lieu fee to be used to mitigate the impact of this structure on Carmel Beach sand supply. The project is also conditioned for final plans specifying all bluff drainage and landscape parameters, a long term monitoring and maintenance plan, debris removal, as-built plans with surveyed benchmark measurements for future monitoring, no further creekward or seaward protective structures in the future, and an assumption of risk, waiver of liability and indemnity agreement for the coastal hazards.

The project includes a restoration plan for complete wetland restoration and enhancement at a 3:1 ratio for degraded Pescadero Creek riparian/wetland habitat on site. Conditions of approval will ensure that this restoration plan is comprehensively monitored, measurable performance standards and restoration success criteria met, and coordinated with upper bluff plantings. All aspects of the existing Emergency Permit site drainage and erosion control plan are part of the application and would remain in effect for all remaining construction activities at the site. In addition to protecting the residence, the subject development, as conditioned, will enhance biological productivity and the general quality of Pescadero Creek at this critical back beach location. The Pescadero Creek corridor on the Applicant's property is already subject to scenic and conservation easements for the protection of habitat and scenic values of the property.

The project also maintains the continuity of the historic Redondo Trail, a component of the Del Monte Forest Trail System. The Redondo Trail begins on the north bank of Pescadero Creek on the Applicant's property and extends inland along the route of Pescadero Canyon, connecting Carmel Beach to the formalized pedestrian and equestrian trail system which provides public access from the beach at this



location through the Forest and on to Pacific Grove. Conditions of approval of the Emergency Permit authorizing the lower retaining wall included requirements that this historic trail segment not be blocked by construction activities, and further required that the Permittee convey an easement ensuring that no interference with the use of the public beach or the Redondo Trail would occur in the future on the Applicant's property. Although there is public use on the site, previous easements on the property discouraged public access in this area. The Applicant, City staff, and Commission staff have come to an agreement on an easement that would rescind and supercede these previous easements, and ensure continued public access to the Redondo Trail. This approval is conditioned to ensure such continued public access to the Redondo Trail.

Finally, Coastal Act violations have occurred at the site. In early November 1998, the Applicant began construction in the Pescadero Creek channel, including major grading and redirection of the creek flow through a plastic culvert. Although this work was authorized by the California Department of Fish and Game (CDFG) through a stream alteration agreement, this work was undertaken without benefit of a coastal development permit. The Emergency Permit issued in December 1998 specifically excluded approval for any clearing, grading, or fill activities at the site. Subsequently, several conditions of emergency permit approval were not satisfied, including timely completion of work, regular permit approvals, and the easement regarding interference with access to the Redondo Trail or beach. This approval, as conditioned, is only for the retaining wall/bulkhead system and the restoration enhancement plan. Any unpermitted development at the site not expressly recognized through this coastal development permit, and any other violation of the Coastal Act that may have occurred here, will be resolved under a separate enforcement action pursuant to Chapter 9 of the Coastal Act.

The project, as conditioned, will protect the existing principal residence at the subject site, restore (to the extent feasible) and enhance the Pescadero Creek wetland riparian area at the mouth of the creek on the Applicant's property. Long-term resource benefits will ultimately be realized at this location through improved habitat and biological productivity of the Pescadero Creek system. Public access along the Redondo Trail also is protected.

As conditioned, the proposed project is consistent with the policies of the California Coastal Act and staff is recommending approval.

## **B. Staff Recommendation on Coastal Development Permit**

The staff recommends that the Commission, after public hearing, **approve** the proposed project subject to the standard and special conditions below. Staff recommends a **YES** vote on the motion below. A yes vote results in approval of the project as modified by the conditions below. The motion passes only by affirmative vote of a majority of the Commissioners present.

*Motion: I move that the Commission approve Coastal Development Permit Number 3-98-102 subject to the conditions below and that the Commission adopt the following resolution:*



*Approval with Conditions. The Commission hereby grants a permit for the proposed development, as modified by the conditions below, on the grounds that the modified development is consistent with the requirements of Chapter 3 of the California Coastal Act of 1976 (Coastal Act), will not prejudice the ability of the City of Carmel to prepare a local coastal program conforming to Chapter 3 of the Coastal Act, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and recreation policies of the Coastal Act, and will not have any significant adverse effects on the environment within the meaning of the California Environmental Quality Act (CEQA).*

## **C. Conditions of Approval**

### **1. 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. **Compliance.** All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. **Inspections.** The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.
6. **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.
7. **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.



## **2. Special Conditions**

1. **Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit revised plans to the Executive Director for review and approval. The final plans shall include:
  - (a) Site plans and elevations substantially in conformance with the plans submitted to the Commission titled *Panattoni Retaining Walls* by Haro, Kasunich and Associates, Inc. dated September 24, 1998 as amended by sheets S.0 and S.1 by Haro, Kasunich and Associates, Inc. dated received in the Commission's Central Coast District Office July 7, 1999.
  - (b) Landscape and irrigation plans that clearly identify the type, size, extent and location of all plant materials, any proposed irrigation system and other landscape features for the blufftop area located between: (1) the approved retaining walls; and (2) the single family residence and driveway. Such plans shall provide for suitable plantings that will cascade over the retaining walls to minimize their visual impact as seen from the beach and Pescadero Creek environs below. The plant materials shall be drought and salt-water resistant, non-invasive species native to the Carmel coastal terrace area. Within 30 days of completion of the approved retaining walls, all blufftop landscaping shall be installed consistent with the approved landscape and irrigation plan.
  - (c) Drainage and erosion control plans that clearly identify all permanent measures to be taken to control and direct all site blufftop runoff, and which clearly show all drainage from the site collected in gutters, pipes, drainage ditches, swales, et cetera and directed away from the bluff edge. Runoff from rooftops and vegetated areas may be discharged directly from the site. Runoff from areas subject to automobile use shall be filtered by an engineered filtration system prior to discharge. Discharge locations must be clearly identified and appropriate energy dissipation devices utilized to minimize and/or eliminate erosion. The drainage and erosion control plans shall demonstrate that: run-off from the blufftop shall not increase sedimentation in Pescadero Creek; runoff from all roofs, patios, driveways, and other impervious surfaces and slopes on the blufftop shall be collected and discharged to avoid ponding or erosion on or off site. The drainage and erosion control plans shall provide for permanent maintenance of all drainage and erosion control facilities and shall include a schedule of regular monitoring and maintenance.
  - (d) Post-construction grading plan that shows that all rough grading of the site, described in *Riparian Habitat Restoration and Erosion Control Plan* by Rana Creek Habitat Restoration, dated September 1999, following completion of the retaining walls shall reestablish pre-construction stream and lagoon contours.
  - (e) Fencing and sign details for the protective fencing and signing described in Section VII(D)(1) of *Riparian Habitat Restoration and Erosion Control Plan* by Rana Creek Habitat Restoration, dated September 1999. Any such protective fencing shall not block public access to or along Carmel Beach or the segment of the Redondo Trail on the northern bank of Pescadero Creek



where it outlets to the beach. Fencing shall be of a material and height that will not substantively degrade the viewshed of Pescadero Creek. Any such signs shall not imply that access to or along the Redondo Trail or the beach is not allowed. All fencing and signs shall be shown on a site plan. Such fencing and signs may remain in place until the proposed plantings have been properly established to the satisfaction of the Restoration Contractor for the site.

All final plans shall be submitted with documentation from a licensed geotechnical engineer that the plans are consistent with the recommendations contained in the *Geotechnical Investigation for Panattoni Residence* by Haro, Kasunich & Associates, Inc. dated April 1999.

All plans shall be consistent with the *Riparian Habitat Restoration and Erosion Control Plan* by Rana Creek Habitat Restoration, dated September 1999 (as modified pursuant to Special Conditions 1(d) and 1(e) above and Special Condition 7 below) and shall be submitted with evidence of the review and approval by Rana Creek Habitat Restoration.

All plans shall be submitted with evidence of review and approval by the appropriate City of Carmel official.

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

2. **Sand Supply Mitigation Fee.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit evidence, in a form and content acceptable to the Executive Director, that a mitigation fee of \$26,783 has been deposited in an interest bearing account or other account designated by the Executive Director. Any interest earned on the fee shall be payable to the account for the purposes stated below.

The purpose of the account shall be to provide funding for implementation of the sand supply mitigation and/or beach nourishment measures in the Carmel Beach area. The funds shall be used for sand supply mitigation and/or beach nourishment measures to be identified in the updated Carmel Beach Management Plan to be developed by the City of Carmel (as required by coastal development permit 3-83-217-A4) if all of the following occur within five years:

- (a) The Commission has approved the Carmel Beach Management Plan.
- (b) The City of Carmel has an account established into which the money can be transferred.
- (c) The Coastal Commission has approved the specific project or projects for which the funds will be used.

If all of those things have not occurred within five years, then the funds may be used for alternative sand supply and/or beach nourishment purposes in the Carmel Beach area as directed by the Commission.



- 3. Monitoring and Maintenance Plan.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit to the Executive Director for review and approval a monitoring and maintenance plan prepared by a licensed geotechnical engineer that provides for:
- (a) Evaluation by a licensed geotechnical engineer of the condition and performance of the retaining wall/bulkhead system constructed on Assessor Parcel Number 010-321-37. Such evaluation shall at a minimum address whether any significant weathering or damage has occurred that would adversely impact its future performance, and identify any structural damage requiring repair to maintain the approved retaining wall/seawall system profile.
  - (b) Provision for the submittal of a report to the Executive Director of the Coastal Commission on May 1 of each year (beginning the first year after construction of the project is completed) for the first three years, and on May 1 of every third year after that for the life of the project. In addition, reports shall be submitted within two months of any major storm event. Each report shall be prepared by a licensed geologist or geotechnical engineer and shall cover the evaluation described in subsection a above. Each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project.
  - (c) An agreement that the Permittee shall apply for a coastal development permit or permit amendment within three months of submission of the report required in subsection b above (i.e., by August 1) for any necessary maintenance, repair, changes, or modifications to the project recommended by the report for which the Executive Director of the Coastal Commission has determined that a coastal development permit or permit amendment is necessary.

It is the Permittee's responsibility to maintain the retaining wall/bulkhead system in a structurally sound manner and its approved state. The Permittee shall undertake monitoring in accordance with the approved plans. Any change in the design of the project or future additions/reinforcement of the retaining walls beyond minor repairs or other exempt maintenance as defined in Section 13252 of the California Code of Regulations to restore the retaining walls to their original condition as approved herein, will require a coastal development permit. 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 required.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description and site plan of the Permittee's entire property. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.





4. **Assumption of Risk, Waiver of Liability and Indemnity Agreement.** By acceptance of this permit, the Permittee acknowledges and agrees: (a) that the site is subject to hazards from episodic and long-term bluff retreat, waves, flooding, liquefaction and erosion; (b) to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (d) 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; and (e) that any adverse effects to property caused by the permitted project shall be fully the responsibility of the landowner.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description and site plan of the Permittee's entire property. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

5. **Debris Removal.** Within 15 days of completion of construction of the approved retaining walls, the Permittee shall remove all debris deposited on the beach or in the channel between the retaining wall/bulkhead structure and the north bank of the bluff above Pescadero Creek as a result of construction of retaining walls. The Permittee shall also be responsible for the removal of all debris resulting from failure or damage of any portion of the protective device in the future.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description and site plan of the Permittee's entire property. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

6. **As Built Project Plans.** Within 60 days of completion of the project, the Permittee shall submit to the Executive Director for review and approval as-built plans of the approved retaining wall/bulkhead project which include one or more permanent surveyed benchmarks on the blufftop site for use in future monitoring efforts. The benchmark elevation shall be described in relation to National Geodetic Vertical Datum (NGVD). The as-built plans shall indicate vertical and horizontal reference distances from the surveyed benchmark to at least 5 survey points on each tier of the retaining walls. These survey points shall be located at each linear end of each retaining wall, and at



appropriate locations between each end for use in future monitoring efforts. The survey points shall be identified through permanent markers, benchmarks, survey position, written description, et cetera to allow measurements to be taken at the same location in order to compare information between years. Any future response to shoreline erosion requiring the placement of any type of protective structure, including, but not limited to, modifications to the approved structure, shall be constructed inland (to the south) of the lower tier retaining wall footprint as shown on the as-built plans.

The as-built plans shall be submitted with certification by a licensed geotechnical engineer, acceptable to the Executive Director, verifying the retaining wall/bulkhead system has been constructed in conformance with the approved final plans for the project.

Within 30 days of approval of the as-built plans by the Executive Director, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description and site plan of the Permittee's entire property. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

7. **Restoration Plan.** WITHIN 90 DAYS OF ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit revisions to the *Riparian Habitat Restoration and Erosion Control Plan* (by Rana Creek Habitat Restoration dated September 1999) to the Executive Director for review and approval. The revisions may be submitted in the form of an updated plan, or as an appendix to the September 1999 plan. In either case, such revised plan shall include:

- (a) Explicit performance standards for vegetation, hydrology, and wildlife, and a clear schedule and procedure for determining whether they are met shall be provided. Any such performance standards shall include establishment of a reference plot for comparison; identification of minimum goals for each herbaceous species, by percentage of total plantings and by percentage of total cover when defined success criteria are met; and specification of the number of years active maintenance and monitoring will continue after ten years once success criteria are met. All performance standards shall state in quantifiable terms the level and extent of the attributes necessary to reach the goals and objectives. Sustainability of the attributes shall be part of every performance standard. Each performance standard shall identify: (1) the attribute to be achieved; (2) the condition or level that defines success; and (3) the period over which success must be sustained. The performance standards must be specific enough to provide for the assessment of wetland performance over time through the measurement of attributes of wetland habitat and functions including, but not limited to, wetland vegetation, hydrology, and wildlife abundance.
- (b) Monitoring reports described in the *Riparian Habitat Restoration and Erosion Control Plan* shall be submitted for the review and approval of the Executive Director. If, after 10 years, plant establishment success and performance criteria have not been achieved to the satisfaction of the



Restoration Contractor and the Executive Director, all reporting, monitoring, and remedial measures specified in the *Riparian Habitat Restoration and Erosion Control Plan* shall continue annually. Only upon determination of restoration success by both the Restoration Contractor and the Executive Director may reporting, monitoring, and remedial measures cease at the site.

- (c) Revisions to the *Riparian Habitat Restoration and Erosion Control Plan* as a result of the City's California Environmental Quality Act review and/or approval of the Plan shall be summarized. Any such revisions that the Executive Director determines have weakened the Plan reviewed by the Coastal Commission shall be removed from the Plan.

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

WITHIN 90 DAYS OF ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description and site plan of the Permittee's entire property. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

8. **Redondo Trail Easement.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall record the Amended Scenic Easement Deed attached as Exhibit 7 of this staff report. Any suggested revisions to the Amended Scenic Easement Deed attached as Exhibit 7 of this staff report as a result of the City's review and concurrence shall be submitted for the review and approval of the Executive Director prior to recordation. Any such revisions that the Executive Director determines have weakened the Amended Scenic Easement Deed reviewed by the Coastal Commission shall be removed from the Amended Scenic Easement Deed prior to recordation. This easement shall not be extinguished or changed without a Commission amendment to this coastal development permit
9. **Public Rights.** The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights which may exist on the property. The Permittee shall not use this permit as evidence of a waiver of any public rights which may exist on the property.
10. **Condition Compliance and Enforcement.** Within 30 days of the Coastal Commission's approval of this coastal development permit application, or within such additional time as the Executive Director may grant for good cause, the Permittee shall satisfy all requirements specified in the conditions hereto that the Permittee is required to satisfy prior to issuance of this permit. Failure to



comply with this requirement will result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

## **D. Recommended Findings and Declarations**

The Commission finds and declares as follows:

### **1. Project Description & Background**

#### **1.1 Project Location**

The project is located at the mouth of Pescadero Creek along the northern boundary of the City of Carmel-by-the-Sea in Monterey County. Pescadero Creek separates the City from the Del Monte Forest (Pebble Beach) unincorporated area of Monterey County. The Applicant's residential property sits atop the bluff on the southern bank of the creek, while the 10<sup>th</sup> green and 11<sup>th</sup> tee of the Pebble Beach Golf Course are located on the blufftop on opposite side of the creek. To the west is the northernmost portion of the City of Carmel Beach and offshore Carmel Bay and the Pacific Ocean.

Pescadero Creek is a low flowing perennial stream that cuts through the mostly undeveloped heavily-forested Pescadero Canyon area, conveying runoff from the upper reaches of the watershed to Carmel Bay. The more inland portions of the canyon are characterized by steep slopes and are densely vegetated, primarily by native Monterey pine forest. The Monterey Peninsula is one of only four places in the world where native Monterey pine exist, and the Pescadero Canyon grove represents the largest undeveloped, privately-owned Monterey pine forest habitat remaining in the Monterey Peninsula area. The portion of the canyon at the stream outlet is less steep, and while likewise densely vegetated, is characterized predominantly by central coast arroyo willow riparian habitat. An annual lagoon is historically found where the creek meets the back beach area at the site. The Applicant's property encompasses all of the lower reach of the creek, extending perhaps 500 feet inland from Carmel Beach, within which can be found the Pescadero Creek wetland.

See Exhibit 1 for project location.

#### **1.2 Project Description**

The primary project element is the construction of a two-tiered, 260 foot long, wood retaining wall/bulkhead system extending from the existing seawall (fronting the southwest portion of the Applicant's property) around the bluff and inland along the creek bank. The lower portion of the wall would consist of 33 foot long steel I-beams standing on end anchored in concrete caissons embedded 24 to 29 feet below creek grade (-16 National Geodetic Vertical Datum (NGVD)). The I-beams would be anchored to the bluff by helical tieback anchors with pressure treated wood lagging installed between each I-beam member. Approximately 4 to 9 feet of the lower retaining wall would be visible above creek grade. The upper portion of the retaining wall would be staggered inland by about 9 feet and would



consist of 10 to 16 foot wood poles standing on end anchored in concrete caissons with pressure treated wood lagging members in between. The upper and lower retaining walls would be backfilled and vegetated. Approximately 3 to 7 feet of the upper wall would be visible above the back-filled grade. In tandem with the retaining walls, the perimeter foundation of the residence would be anchored into the underlying sandstone bedrock with underpinning helix screw anchors, and a short concrete block retaining wall would be constructed adjacent to the driveway entrance. Please see Exhibit 2 for site plan, elevations, and photos.

The lower section of the retaining wall system has already been partially constructed under emergency coastal development permit (Emergency Permit 3-98-112-G issued on December 17, 1998, see Exhibit 3). The lower wall was deemed by the Applicant to be an interim temporary measure necessary to immediately protect the subject residence at the site. Through this regular permit application, the Applicant has subsequently deemed that the lower retaining wall (as well as the other project components) is part of the permanent long-term protective solution at the site. Thus, this application is partially the regular follow-up coastal development permit application (required to make the lower wall a permanent measure) and partially a new development proposal. The Emergency Permit's construction drainage and erosion control plan is part of the project as well (see Exhibit 4).

To address the destruction of the Pescadero Creek wetland area due to construction and flooding impacts, the Applicant has proposed a restoration plan for the wetland riparian area that historically existed at the outlet of the Creek. This plan would restore and enhance approximately 26,800 square feet of degraded Pescadero Creek habitat. Restoration would occur on all bare soils of the primary creek channel, backfilled soils on the retaining wall, and riparian slopes adjacent to the creek extending inland from Carmel Beach about 500 feet. All bare soils would be revegetated with native riparian plants, and exotics would be eradicated. On steep banks and slopes, straw mulch, jute netting, and native grass would be applied for erosion control. The natural flow of Pescadero Creek would be restored and a series of pools and riffles would be created to improve habitat. In the areas nearest the beach, a transition zone to more salt-tolerant species would be established. The plan provides for monitoring and restoration maintenance over a 10 year period. Please see Exhibit 5 for the proposed plan.

### **1.3 Enforcement**

In early November of 1998, the Applicant began construction in the Pescadero Creek channel, including major grading and redirection of the creek flow through a plastic culvert. Although this work was authorized by CDFG through a stream alteration agreement, this work was undertaken without benefit of a coastal development permit. At the time, much of the channel and wetland area at the site had previously been scoured by an extreme flood event in February 1998. After the flood event, scoured areas naturally revegetated with some natives and several exotic species. Were the area to have been left alone, it would have been expected that over time natural revegetation and wetland recovery would have taken place at the subject site, and pre-flood habitat values restored. However, the November 1998 construction effectively removed all remaining vegetation in the creek channel and therefore constrained and/or prevented the occurrence of natural revegetation and wetland recovery.



The Applicant subsequently applied for and was granted an emergency coastal development permit to install the lower tier of the retaining wall system as a temporary protective measure (Emergency Permit 3-98-112-G issued on December 17, 1998, see Exhibit 3). At the time, Commission staff debated the merits of allowing a continued presence in the creek channel versus requiring an alternative construction method. For a number of reasons, including the fact that installation from the blufftop would have been near impossible, the creek channel had been fully graded and the Creek redirected by culvert, CDFG had signed-off on the project, and construction of the lower wall was to be completed within 30 days, the Emergency Permit allowed for continued staging and construction from the creek bed area. However, the emergency permit specifically excluded authorization for any clearing, grading, or fill activities in Pescadero Creek; any such activities at the site remain unpermitted development. The Emergency Permit required a complete drainage and erosion control plan (which was subsequently implemented) and a complete restoration plan to reestablish the Pescadero Creek wetland and to revegetate the natural vegetation and habitat value of the Pescadero Creek riparian corridor.

Unfortunately, as a result of difficulty in obtaining permits from other agencies, and extreme engineering difficulties in tying back the subject wall, the emergency work was not completed within the required 30 day time frame specified in the emergency authorization. The Applicant requested, and was granted, two extensions to this completion date. Ultimately, under the Emergency Permit and the granted time extensions, work was to be completed on the lower wall and a regular CDP granted by the Commission authorizing the work by May 16, 1999. The Applicant requested extensions to these time frames as well. These extensions were not granted by the Executive Director because the Applicant had failed to comply with all conditions of approval of the Emergency Permit. The Applicant was then informed that no further extensions would be considered unless and until all conditions of 3-98-112-G were satisfied. The Applicant has exceeded the Emergency Permit timing conditions (Conditions 3 and 4) and has not yet satisfied 3-98-112-G Condition 16 as of the date of this staff report (see also public access finding later). Non-compliance with the terms and conditions of an approved emergency permit constitutes a violation of the Coastal Act.

Notwithstanding the fact that the Applicant has not complied with all Emergency Permit conditions, work on the lower retaining wall continues today. In fact, the Pescadero Creek wetland riparian area remains degraded nearly a year after the unpermitted development took place. Although the drainage and erosion control plan has been in place for the duration, and conscientiously adhered to, the site remains bereft of habitat and ongoing adverse resource construction impacts continue.

Any unpermitted development at the site not expressly applied for or recognized through this coastal development permit will be handled under a separate enforcement action.

#### **1.4 Standard of Review**

The entire City of Carmel falls within the coastal zone, but the City does not have a certified LCP. The City has been granted a broad categorical exclusion (E-77-13) which, among other things, exempts most residential development from coastal permitting requirements. However, shoreline-fronting properties,



including the Applicant's properties, are not excluded by the exclusion order. As a result, the standard of review for the proposed development is the Coastal Act.

## **2. Geologic Conditions and Hazards**

Coastal Act Section 30235 addresses the use of shoreline protective devices:

*Section 30235. Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.*

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. Section 30253 provides, in applicable part:

*Section 30253. New development shall:*

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" solutions alter natural shoreline processes. Accordingly, with the exception of new coastal-dependent uses, Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion. The Coastal Act does not require the Commission to approve shoreline altering devices to protect vacant land or in connection with construction of new development. The Coastal Act provides these limitations because shoreline structures have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach.

In addition, the Commission has generally interpreted Section 30235 to require the Commission to approve shoreline protection only for existing *principal* structures. The Commission must always consider the specifics of each individual project, but has found that accessory structures (such as patios, decks, gazebos, stairways, etc.) are not required to be protected under Section 30235 or can be protected from erosion by relocation or other means that do not involve shoreline armoring. The Commission has historically permitted at grade structures within the geologic setback area recognizing they are



expendable and capable of being removed rather than requiring a protective device that alters natural landforms along bluffs and cliffs.

Under Coastal Act Section 30235, a shoreline structure may be approved if: (1) there is an existing principal structure in danger from erosion; (2) shoreline altering construction is required to protect the existing threatened structure; and (3) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply. The first and most important analytical test of this policy is to determine whether or not there is an existing principal structure in danger from erosion.

### **2.1 Existing Principal Structure at the Site**

For the purposes of shoreline protective structures, the Coastal Act distinguishes between coastal zone development which is allowed shoreline armoring, and that which is not. Under Coastal Act Section 30253, new blufftop development is to be designed, sited, and built to allow the natural process of erosion to occur without creating a need for a shoreline protective device. Coastal development permittees for new shorefront development thus are essentially making a commitment to the public (through the approved action of the Commission, and its local government counterparts) that, in return for building their project, the public will not lose public beach access, sand supply, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems. In other words, coastal zone development approved and constructed since the Coastal Act has been in effect should not require shoreline protection in order to "assure stability and structural integrity."

In contrast, coastal zone development approved and constructed prior to the Coastal Act went into effect was not subject to Section 30253 requirements. Although any number of local hazard policies were in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline protection. Accordingly, Coastal Act 30235 allows for shoreline protection in certain circumstances for these "existing" structures.

In this case, the retaining wall/bulkhead system is proposed to protect the single-family residential structure poised atop the coastal bluff at the Pescadero Creek headland. The structure was constructed originally in 1929 and has been undergoing extensive remodeling for several years. Because it is also a principal structure (a house), it qualifies as an existing structure for the purposes of Section 30235.

### **2.2 Danger from Erosion**

The Applicant has submitted a geotechnical report that documents the geologic structure and recent history of the bluffs in the project area (*Geotechnical Investigation for Panattoni Residence* (Haro, Kasunich & Associates, Inc., April 1999). During the severe El Niño rain storms of early February 1998, a natural dam formed upstream of Carmel Way in Pescadero Canyon. When this dam finally broke, a flood of creek water and materials hurled down through the canyon wiping out the bridge across the Canyon at Carmel Way (cutting off vehicular access between the Del Monte Forest and Carmel) and scouring the mouth of the creek at the subject site. The force of this flood caused landsliding, erosion undercutting of the creek bank, and lowering of the creek bed at the subject site. Approximately 10 to 12





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feet of the blufftop adjacent to the subject residence fell into the creek bed, uprooting a number of eucalyptus and Monterey cypress and resulting in landslide scarps to within 9 feet of the house foundation. Over the course of the remainder of 1998, tension cracks formed in the area between the eroded landscape scarps and the home. By the end of 1998, the situation had deteriorated to the point that the City was prepared to red-tag the house when the emergency permit was issued (Emergency Permit 3-98-112-G; see Exhibit 3).

The danger to the residence was exacerbated at this location because the upper creek bank supporting the Applicant's residence is composed of old fill in a very loose condition that was pushed in place at the early part of the century (probably when the house was originally constructed). Borings at the site revealed 8 to 14 feet of loose fill overlaying a loose alluvial terrace deposit. Sandstone was ultimately encountered at elevations ranging from approximately -6 feet NGVD to +2 feet NGVD.

The geotechnical report goes on to state that the residence is located approximately 18 feet from the blufftop edge with deep tension cracks (defining the future top of bank) located within 8 feet of the foundation. Without protection, the geotechnical report indicates that the loose fill supporting the residence would be expected to retreat 9 to 12 feet per day during creek flood conditions. It further indicates that the creek bank at this location is susceptible to a 10 to 30 foot landslide. The geotech report indicates that:

*The northwest wing of the residence adjacent to the creek bank...is at present, unsafe to occupy due to loose fill which supports it, the tension cracks within the soil adjacent to it and the erosion and slump sliding which occurred along the creek bank in February and November 1998 and in February and March 1999. The driveway, short retaining walls and trash yard area could be severely impacted in one or two storm seasons and are unsafe to utilize without the proposed retaining walls.*

Ultimately, the geotechnical report concludes that:

*In our opinion, the weaken[ed] condition of the creek bank, the proximity of tension cracks projecting future landslides adjacent to the foundation system and the fact that the creek bank is composed of very loose fill, defines a critical, unstable solution requiring the proposed retaining wall...to contain the damaged creek bank and stabilize the foundation zone soils which support the home.*

To conclusively show that the residential structure is in danger from erosion, there must be an imminent threat to these structures. While each case is evaluated based upon its own merits, the Commission has generally interpreted "imminent" to mean that a structure would be imperiled in the next two or three storm cycles (generally, the next few years).

In this case, because of the loose fill materials supporting the existing pre-Coastal Act residence at site and the ongoing landsliding and erosion from the unstable slopes, it is likely that a portion of the residence would be undermined (and likely lost) in one storm event. The geotechnical report concludes



that additional Pescadero Creek flooding would likely remove 9 to 12 feet of the bluff in a day, and that a landslide would remove 10 to 30 feet of the bluff. This is consistent with observed impacts from the February 1998 storm event at the site. This is likewise corroborated from Commission staff field observations of the site. The bluff is currently crisscrossed with tension cracks defining future block failure sections in the area between the landslide scarps and the residence. The poorly consolidated fill is a precursor of serious erosion problems at this location. Overall, there appears to be significant near term risk to the Applicant's residence directly inland of the bluff's edge.

Thus, given the significant bluff collapse in February 1998, the documented erosion on the site since that time, the extreme erodibility of the loose fill materials supporting the residence, and the low factor of safety on the subject bluff, substantial evidence has been provided to document the erosion danger at the subject location and the Commission finds that existing principal blufftop structure at this location is in danger from erosion for the purposes of Section 30235.

This project, therefore, meets the first test of Section 30235 of the Coastal Act.

### **2.3 Feasible Protection Alternatives to a Shoreline Structure**

The second test of Section 30235 of the Coastal Act that must be met is that the proposal to alter the shoreline (with the placement of the retaining wall system) must be *required* to protect the existing structure. In other words, under the policies of the Coastal Act, the project must be the least environmentally damaging feasible alternative. Section 21080.5(d)(2)(A) of CEQA likewise 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. Any action the Coastal Commission may be required to take to protect the structure at this location must be consistent with this section of CEQA as well as the Coastal Act. Other alternatives typically considered include: the "no project" alternative; abandonment of threatened structures; relocation of the threatened structures; upper bluff retaining walls alone; sand replenishment program; and other drainage and maintenance programs on the blufftop itself. In this case, any effective alternative to the proposed retaining wall system would need to likewise address the source of bluff instability at the subject site; namely the loose fill which defines the blufftop at this location.

In this case, the "no project" alternative is not viable because the existing principal residence would likely be lost to erosion within one storm season – more likely within one major storm event. As discussed, this is not consistent with protecting the pre-Coastal Act structure in danger from erosion as provided for by the Act.

Relocation of the threatened structures inland on the subject lot is another alternative typically considered. However, in this case, the threatened structure is very large and the amount of space available inland on the subject property is minimal. The structure may also have some historical significance (originally built in 1929) and it is not clear that it could weather such a move, nor is it clear whether there would be historical structure/community character impacts. The City of Carmel has been wrestling recently with planning issues surrounding such older structures and their potential historical



connotations. In addition, even if the residence were moved inland on the property, it would not eliminate or likely substantially delay the need for the project due to the unconsolidated fill materials that make up the subject property.

A third alternative to a shoreline structure is to restore the failed bluff section, employ new drainage features, and revegetate the slope to its previous configuration. However, bluff restoration alone is not likely to sufficiently protect the residence at this location. Typical winter storms would likely produce enough erosion at this unconsolidated fill location as to undermine any such bluff restoration efforts as well as the residence.

Other options include upper bluff retaining walls alone and/or other drainage and maintenance programs on the blufftop itself. These types of measures can be very effective when the lower bluff is stable. In this case, as described above, the lower bluff is not stable.

According to the project geotechnical report:

*There is no feasible non-structural alternative to the proposed retaining walls. The loose fill which makes up the creek bank is very susceptible to strong creek flow and flood erosion and will recede yearly. There is no other feasible non-structural solution than a vertical retaining wall located along the base of the existing creek bank. Gravity retaining walls (gabion, reinforced earth) require a wide footprint and would undermine the Cypress trees on the creek bank and the residential structure at the top of the creek during their construction.*

In summary, the presence of the unconsolidated fill material presents a threat of rapid erosion and bluff collapse that must be addressed by a structural solution that effectively contains the unconsolidated bluff materials. Given the significant bluff collapse in February 1998, the documented erosion on the site since that time, the extreme erodibility of the loose fill materials supporting the residence, and the low factor of safety on the subject bluff, substantial evidence has been provided to document both the erosion danger at the subject location and the need for some combination of alternatives which act to contain the bluff materials in some way if the residence is to be protected. In short, there are not any "soft" fixes that could be pursued alone to ensure protection of the existing residence at this location. The Commission finds that there are no less-environmentally damaging feasible alternatives to the proposed project and that a shoreline altering device must be approved to protect the residence pursuant to Section 30235.

The project, therefore, meets the second test of Section 30235 of the Coastal Act.

#### **2.4 Sand Supply Mitigation**

The third test of Section 30235 (as previously cited) that must be met in order to allow Commission approval is that shoreline structures must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply. There are a number of adverse impacts to public resources associated with the construction of shoreline protection. The natural shoreline processes referenced in Section 30235, such



as the formation and retention of sandy beaches, can be significantly altered by construction of protective structures, since bluff retreat is one of several ways that beach quality sand is added to the shoreline. Bluff retreat and erosion is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse, saturation of the bluff soil from ground water causing the bluff to slough off and natural bluff deterioration. Shoreline armoring directly impedes these natural processes.

Some of the effects of engineered armoring structures on the beach (such as scour, end effects and modification to the beach profile) are temporary or difficult to distinguish from all the other actions which modify the shoreline. Such armoring also has distinct qualitative impacts to the character of the shoreline and visual quality. However, some of the effects that a structure may have on natural shoreline processes can be quantified, including: 1) loss of the beach area on which the structure is located; 2) the long-term loss of beach which will result when the back beach location is fixed on an eroding shoreline; and 3) the amount of material which would have been supplied to the beach if the back beach or bluff were to erode naturally.

Beach material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullyng, et cetera. Coastal dunes are almost entirely beach sand, and wind and wave action often provide an on-going mix and exchange of material between beaches and dunes. Many coastal bluffs are marine terraces – ancient beaches which formed when land and sea levels differed from current conditions. Since the marine terraces were once beaches, much of the material in the terraces is often beach quality sand or cobble, and a valuable contribution to the littoral system when it is added to the beach. While beaches can become marine terraces over geologic time, the normal exchange of material between beaches and bluffs is for bluff erosion to provide beach material. When the back beach or bluff is protected by a shoreline protective device, the natural exchange of material either between the beach and dune or from the bluff to the beach will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. Since sand and larger grain material is the most important component of most beaches, only the sand portion of the bluff or dune material is quantified as beach material.

In this case, the proposed retaining wall system would extend primarily inland along the bluff headland fronting the mouth of Pescadero Creek. Recreational sandy beach area does not extend inland to the bluff at the point of beginning for the retaining wall, so there is no loss of sandy beach due to the structural footprint. The geology at this location is effectively a stream bank. Furthermore, although the retaining wall system would tie into an existing seawall fronting Carmel Beach protecting the subject residence on the ocean side of the property (installed in 1983), it would not itself fix the back beach location at this site. The back beach was effectively “fixed” when the existing on-site seawall was installed in 1983. Thus, the sand supply impact in this case is limited the retention of sand generating bluff materials.

Sand supply at Carmel Beach is somewhat atypical in that the sand supply system is essentially self-



contained within Carmel Bay. This west facing beach is bounded by granitic headlands that effectively prevent the migration of beach sand up and down the coast. For most sandy beaches, sand is supplied from the littoral drift of materials from upcoast and downcoast sources miles away. In contrast, most of the sand on Carmel Beach is probably derived locally from erosion of sandstone and granitic bedrock. In addition to Pescadero Creek, the Carmel River, south of the subject site, also contributes materials into the sand supply system.

Although the precise dynamics of the Carmel Beach sand supply system are uncertain, there will be a quantifiable loss of sand to the system from this project. The volume of total material which would have gone into the sand supply system over the lifetime of the shoreline protective device would be the volume of material between (a) the likely future bluff face location with shoreline protection; and (b) the likely future bluff location without shoreline protection.

#### **2.4.1 Sand Retention Calculations**

If natural erosion were allowed to continue at the site (absent the proposed armoring), some amount of beach material would be added to the Carmel Beach sand supply system. This contribution can be quantified using the Commission's scientific sand supply methodology.

Since actual erosion cannot be precisely predicted, the total erosion of the affected reach of bluff must be approximated by the average annual long-term erosion of the bluff multiplied by the number of years that the structure would be in place. Also, since the main concern is with the sand component of this material, the total material lost must be multiplied by the percentage of bluff material which is beach sand, giving the total amount of sand which would have been supplied to the littoral system for beach deposition if the proposed device were not installed. For conditions where the upper bluff retreat will closely follow the lower bluff, this volume will approach a volume of material equal to the height of the total bluff, the width of the property and a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed. For conditions where the upper bluff has retreated significantly and would not be expected to retreat further during the time that the seawall is in place, this volume would approach the volume of material immediately behind the seawall, with a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed.

As discussed in the Commission's methodology, the quantification of this impact is expressed in the following equation:

$$V_b = (S \times W \times L) \times [(R \times h_s) + (1/2h_u \times (R + (R_{cu} - R_{cs})))]/27$$

In this case, the annual retention of sand from the bluff at the site if the retaining wall system were in place ( $V_b$ ) is 2,437 cubic yards where:

**$V_b = 2,437$  cubic yards.** Volume of beach material that would have been supplied to the beach if natural erosion continued, based on the long-term bluff retreat rate, design life of the retaining wall system, percent of beach quality material in the bluff, and bluff geometry. This is equivalent



to the long-term reduction in the supply of bluff material to the beach resulting from the structure.

**S = 53%.** Fraction of beach quality material in the bluff material. Through creek bank samples and sieve analysis, the Applicant estimated that the beach quality sand content of these materials was approximately 53%.

**W = 260 feet.** Width of property to be armored (length of lower tier of retaining wall calculated from project plans).

**L = 50 years.** Design life of retaining wall system (estimated by Applicant).

**R = 0.5 feet/year.** Long-term bluff retreat rate without the retaining walls based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted techniques. The Applicant's consulting geotechnical engineer estimated a long term erosion rate at the site ranging from 0.2 to 0.5 feet per year based upon historical air photo evidence. The consulting geotechnical engineer also quantified an erosion rate of 9 to 12 feet per day during creek flood conditions. The erosion rate in this case is uncertain because the storm event of February 1998 uncovered a different geologic formation; namely unconsolidated fill material. It is this unconsolidated fill material that in large measure defines the threat to the principal residence in this case. As a result, the historic erosion rate in this instance undercounts predicted long term erosion at the site absent armoring because the expected erosion rate in these unconsolidated materials is higher than the historic rate. Likewise, the flood rate provided by the Applicant doesn't directly translate into an expected long term erosion rate. To account for these rate uncertainties, the sand supply calculation uses 0.5 feet per year (the high end of the long-term rate provided by the Applicant) as the erosion rate in this instance. The actual erosion rate in the unconsolidated fill materials exposed by flooding is likely to be higher than this figure.

**$h_s = 13.6$  feet (average).** Height of the retaining wall system from the base to the top (as estimated from elevations in project plans). The average of 11 different points on the wall were utilized.

**$h_u = 5.5$  feet (average).** Height of the unprotected upper bluff, from the top of the retaining wall system to the crest of the bluff (as estimated from elevations in project plans). The average of 11 different points on the wall were utilized.

**$R_{cu} = 0.5$  feet/year.** Predicted rate of retreat of the crest of the bluff, during the period that the retaining wall system would be in place, assuming no seawall were installed. This value can be assumed to be the same as R unless the Applicant provides site-specific geotechnical information supporting a different value. See comments for "R" above.

**$R_{cs} = 0.0$  feet/year.** Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the retaining wall system has been installed. This value will



be assumed to be zero unless the Applicant provides site-specific geotechnical information supporting a different value.

**Divide by 27.** Since the dimensions and retreat rates are given in feet and volume of sand is usually given in cubic yards, the total volume of sand must be divided by 27 to provide this volume in cubic yards, rather than cubic feet.

The retention of 2,437 cubic yards of sand is the quantifiable sand supply impact of the project based on the Commission's methodology.

The Applicant's geotechnical report also separately estimated that the total amount of materials that would be contained as a result of the retaining wall system over its lifetime would be approximately 1,887 cubic yards. This was based upon an identified triangular wedge of materials 21 feet high, 21 feet wide, and 231 feet long that would be present behind the structure (and not allowed into the sand supply system). This calculation is in error in at least as much as the length of the wedge is concerned because the length of the proposed lower wall is 260 linear feet. Using 260 feet instead of 231 feet, the amount of materials in the Applicant's identified wedge calculates to 2,123 cubic yards. Using the estimated sand content multiplier (53%), 1,125 cubic yards of sand would be blocked from entering the sand supply system using the Applicant's calculation.

The 1,125 cubic yards of sand estimated by the Applicant's methodology is less than half the 2,437 cubic yards estimated by the Commission's sand supply methodology. This is puzzling given that the Commission's methodology used an erosion rate of 0.5 feet per year when the rate that might be expected in the unconsolidated fill materials would be *higher* than this historic rate. In fact, it is because of this threat of rapid erosion in the fill material that the Applicant has been working in the Pescadero Creek channel for the better part of a year to forestall this threat. The Commission's calculation, if anything, underestimates the erosion rate that would be expected at this location and, as a direct result, underestimates the sand that would be blocked from the system by the project. Accordingly, the retention of 2,437 cubic yards of sand is the quantifiable sand supply impact of the project.

The loss of 2,437 cubic yards of sand material that will be a direct result of this project can be balanced or mitigated by obtaining similar quality and quantity of sediment from outside the sand supply regime and adding this sediment to the system (there are sources of beach sand quality sediment that can be drawn upon to obtain new sediment for the littoral cell).

#### **2.4.2 In-Lieu Mitigation Fee**

Although, in this case, it is not feasible to use sand replenishment as a means of protecting the home on the top of the bluff, it is feasible to pursue a sand replenishment strategy that can introduce an equivalent amount of sandy material back into the system to mitigate the loss of sand that will be caused by the protective device. Obviously, such an introduction of sand, if properly planned, can feed into the Carmel Beach sand system to mitigate the impact of the project. However, absent a comprehensive program that provides a means to coordinate and maximize the benefits of individual mitigation efforts in the area



now and in the future, the success of such piecemeal mitigation efforts is questionable. Without a program that evaluates the natural processes and existing conditions in order to establish the most appropriate sites and methods for introducing sand material so that it will mitigate this project's impacts and maximize benefits to the sandy beach, the Commission cannot specify a direct in-kind placement of sandy material as mitigation.

As an alternative mitigation mechanism, the in-lieu fee is used by the Commission when in-kind mitigation of impacts is not presently available. In-lieu fees are particularly appropriate in this case because: (1) there is an outstanding requirement for the City to develop and implement a program to address the impacts of shoreline structures on local sand supply; and (2) in-kind replacement today, by a single Applicant, is not an undertaking likely to result in successful resource impact mitigation. The in-lieu fee that can be used to implement this program is calculated by the cost, per cubic yard of sand, to purchase an equivalent amount of Carmel Beach-quality material and to deliver this material to Carmel Beach. Several different estimates from sand supply companies in the Carmel area ranged from \$10.<sup>22</sup> to \$31.<sup>23</sup> per cubic yard. This cost is based upon delivering sand similar to the quartz and feldspar, clean white sand found on Carmel Beach. Using the lowest estimate (\$10.<sup>22</sup> per cubic yard) and the estimated sand supply impact from above (2,437 cubic yards), Special Condition 2 of this approval requires an in-lieu fee in the amount of \$26,783 as mitigation for impacts of the proposed retaining wall system on beach sand supply and shoreline processes.

In situations where ongoing sand replenishment programs are in place, the in-lieu sand mitigation fee can be applied directly to such programs. In this case, the program for the Carmel Beach area has not yet been completed. The City is, however, required to update the Carmel Beach Management Plan with such a program as a condition of approval of the City's most recently installed shoreline protective structure (in 1997). The Carmel Beach Management Plan was originally approved by the Commission in 1974 (CDP P-980) and has been amended by coastal permit several times since (P-79-320, 3-95-045-G, and 3-83-217-A1, -A2, -A3, -A4). This plan describes the judicious use of shoreline protection structures and landscaping to stabilize slopes to protect inland development, and describes the preeminent need to protect the character of the Carmel Beach itself. Concerned about the effects of shoreline protection on sand supply to Carmel Beach, the Commission conditioned their 1997 approval to require the City to address the issue. Special Condition 8 of 3-83-217-A4 states:

8. ***Beach Management Plan. WITHIN TWELVE (12) MONTHS OF COMPLETION OF THE REVETMENT, the permittee shall submit to the Executive Director for review and approval an update of the Carmel Beach Management Plan as amended by coastal permit (i.e., P-980, P-79-320, 3-83-217-A1, 3-83-217-A2, 3-83-217-A3, and 3-83-217-A4). This updated plan shall describe the extent of existing protective works and other beach development, and shall include a description of development both approved and contemplated in the future on Carmel Beach and bluffs. This plan shall include, but not be limited to, (1) a discussion of sand supply dynamics and sand supply impacts due to protective work, based upon existing studies, (2) erosion patterns, (3) maintenance and repair procedures for protective work, protective work landscaping, and public access facilities (i.e., stairways), and (4)***





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*appropriate mitigation measures for any identified resource and/or public access impacts associated with implementing the plan. In order to implement the updated Carmel Beach Management Plan, the City shall either:*

- a) submit an application for a coastal development permit to implement the plan at the same time that the updated Carmel Beach Management Plan is submitted for review and approval of the Executive Director; or*
- b) WITHIN THREE (3) MONTHS OF COMPLETION OF THE REVETMENT, submit to the Executive Director for review and approval a timeline for local coastal program (LCP) completion to consist of an updated land use plan (LUP) and an implementation plan (IP) incorporating the updated Carmel Beach Management Plan. If the LCP is not certified by the California Coastal Commission WITHIN TWELVE (12) MONTHS OF COMPLETION OF THE REVETMENT, the City shall submit an application for a coastal development permit to implement the updated Carmel Beach Management Plan.*

The condition is structured so that the City has two choices on how to process the required update. The City has responded by including the prescribed update to its Beach Management Plan as part of its LCP completion grant work plan and is currently in the process of hiring consultants to complete the work over the next year. The program finally developed for addressing sand loss will be reviewed by the Commission both through its oversight of the terms and conditions of the grant as well as through its subsequent review of the LCP implementation plan certification. Furthermore, any development projects described in the plan for mitigation works will be processed by either the Commission or by the City depending on jurisdiction. Thus the Commission will review plan details prior to the commitment of the in-lieu fee funds required as a condition of this permit.

Staff notes that in the unanticipated event that the City fails to bring forward an LCP submittal with the required sand mitigation program, the City is then required to submit the updated Management Plan separately for Executive Director review and approval under the terms and conditions of CDP 3-83-217-A4. If this were to occur, the Commission would still have an opportunity to review the plan as supporting information for the permit to implement its' provisions. In any case, if after five years the Commission has not approved the Carmel Beach Management Plan, the City of Carmel has not established an account into which the money can be transferred, and the Commission has not approved a specific project (or projects) for which the funds would be used, then the funds would be used for alternative sand supply and/or beach nourishment purposes in the Carmel Beach area as directed by the Commission. See Special Condition 2.

In conclusion, while there is not a City program in place at the moment, it is anticipated that one will be in the relatively near future. In the meantime, the funds will be placed in a separate, interest bearing account pending their release to assist in funding the City program. Since the Applicant's project will affect Carmel Beach sand supply as documented above, and the City is developing a plan for addressing just such impacts, it is appropriate in this case for the Applicant to pay his proportionate share of implementing this plan. Accordingly, the subject in-lieu beach sand mitigation fee would be applied to



the mitigating actions developed by the City to implement the updated Carmel Beach Management Plan (see Special Condition 2). The in-lieu fee will aid in the goal of reducing shoreline structure impacts on sand supply at Carmel Beach and will help to insure available sandy beach for recreational uses in the future.

The project, therefore, meets the third test of Section 30235 of the Coastal Act.

### **2.5 Long Term Structural Stability**

Coastal Act Section 30253 (previously cited) requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. There are three main issues of concern: (1) upper bluff drainage and vegetation; (2) long-term monitoring and maintenance; and (3) the Applicant's assumption of risk.

#### **2.5.1 Drainage and Upper Bluff Controls**

Although the project geotechnical report recommends that all drainage be controlled (surface and below surface) to ensure long-term success of the project, the submitted project plans do not include runoff controls. Accordingly, Special Condition 1 requires the Applicant to submit final plans for the project which identify all runoff controls to be implemented consistent with the project geotechnical report. Such final plans shall show the retaining wall system and all drains, pipes, ditches, et cetera that will be utilized to direct site drainage away from the bluff edge. In addition, upper bluff landscape plans have not been provided, though the geotechnical recommendations describe such vegetation. Landscaping between the residence and the bluff must adequately stabilize the upper bluff soils; any required irrigation should be consistent with the need for controlling site drainage. Accordingly, Special Condition 1 likewise requires the submittal of final landscape plans for the blufftop area between the retaining walls and the subject residence. In this way, overall site conditions which could adversely impact the stability of the bluff have been addressed.

#### **2.5.2 Monitoring and Maintenance**

If the proposed wall was damaged in the future (e.g. as a result of flooding, landsliding, wave action, storms, etc.) it could threaten the stability of the site, which could lead to need for more bluff alteration. In addition, damage to the retaining walls could adversely affect the beach by resulting in debris on the beach and/or creating a hazard to the public using the beach. Therefore, in order to find the proposed retaining wall system consistent with the Coastal Act, the Commission finds that the condition of the seawall in its approved state must be maintained for the life of the retaining walls. Further, in order to ensure that the Permittee and the Commission know when repairs or maintenance are required, the Permittee must monitor the condition of the retaining wall system annually for three years and at three year intervals after that, unless a major storm event occurs. The monitoring will ensure that the Permittee and the Commission are aware of any damage to or weathering of the retaining wall system and can determine whether repairs or other actions are necessary to maintain the system in its approved state before such repairs or actions are undertaken. This is consistent with the monitoring recommendations of



the consulting geotechnical firm for the project (additional information in Haro, Kasunich and Associates, Inc. letter report dated July 7, 1999).

Therefore, Special Condition 3 of this approval requires the Applicant to submit a monitoring report that evaluates the condition and performance of the seawall and overall site stability, and submit an annual report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. Special Condition 3 likewise notifies the Applicant that they are responsible for maintenance of the herein approved bluff protection; such maintenance includes removal of any debris deposited on the beach during and after construction of the structures (Special Condition 5). Special Condition 3 also indicates that, should it be determined that maintenance of the seawall is required in the future, the Applicant shall contact the Commission office to determine if permits are required.

To ensure that the retaining wall system has been constructed consistent with the approved plans and the project geotechnical report, Special Condition 6 requires that, within 60 days of completion of the project, as built-plans and certification by a licensed geotechnical engineer be submitted. As described by the geotechnical report, such plans shall provide vertical and horizontal reference distances from a surveyed benchmark to selected points on the retaining wall structures for use in future monitoring efforts.

### **2.5.3 Assumption of Risk**

The experience of the Commission in evaluating the consistency of proposed developments with Coastal Act policies regarding development in areas subject to problems associated with geologic instability, flood, wave, or erosion hazard, has been that development has continued to occur despite periodic episodes of heavy storm damage, landslides, or other such occurrences. Oceanfront development is susceptible to bluff retreat and erosion damage due to storm waves and storm surge conditions. Past occurrences statewide have resulted in public costs (through low interest loans and grants) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden on the people of the state for damages, the Commission has regularly required that Applicants acknowledge site geologic risks and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed.

The risks of the proposed development include that the retaining wall/seawall system will not protect against damage to the residence from bluff failure and erosion. In addition, the structure itself may cause damage either to the Applicant's residence or to neighboring properties by increasing erosion at the sides of the structure. Such damage may also result from wave action that damages the retaining wall/seawall system. Although the Commission has sought to minimize these risks, the risks cannot be eliminated entirely. Given that the Applicants have chosen to construct the retaining wall/seawall system despite these risks, the Applicant must assume these risks. Accordingly, this approval is conditioned for the Applicant to assume all risks for developing at this precarious blufftop location (see Special Condition 4). Specifically, Special Condition 4 requires the Applicant to record a deed restriction that evidences their acknowledgment of the risks and that indemnifies the Commission against claims for damages that



may be brought by third parties against the Commission as a result of its approval of this permit.

In summary, the Applicant has documented that the existing bluff top principal structure is in danger from erosion and subsequent bluff failure, and that a hard protective structure is required to protect the threatened residence. Thus, the Commission is required to approve the proposed protection. There are no other less damaging alternatives available to reduce the risk from bluff erosion. Since the project will deplete sand supply, Special Conditions require the Applicant to pay an in-lieu mitigation fee to offset this impact. Therefore, only as conditioned can the proposed project be found consistent with Coastal Act Sections 30235 and 30253.

### **3. Marine Resources, Wetlands and Sensitive Habitat**

Coastal Act Sections 30230 and 30231 provide:

*Section 30230. Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

*Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act Section 30240 states:

*Section 30240(a). Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

*Section 30240(b). Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

In addition Coastal Act Section 30233(a), 30233(c) and 30233(d) state:

*Section 30233(a). The diking, filling, or dredging of open coastal waters, wetlands, estuaries,*



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*and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

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

*Section 30233(c). In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division. ...*

*Section 30233(d). Erosion control and flood control facilities constructed on water courses can impede the movement of sediment and nutrients which would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible*



*mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for such purposes are the method of placement, time of year of placement, and sensitivity of the placement area.*

### **3.1 Resource Background**

The proposed project is located on the coastal terrace directly above and adjacent to the Pescadero Creek wetland riparian area where Pescadero Canyon meets Carmel Bay and the Pacific Ocean. The Applicant has prepared a habitat restoration plan (see Exhibit 5) which describes the habitat at this location (*Riparian Habitat Restoration and Erosion Control Plan*, Paul Kephart, Rana Creek Habitat Restoration, September 1999). As described in this plan, this habitat area has been historically characterized by central coast arroyo willow and wet meadow dominated by emergent vegetation. Native vegetation exists within a tangle of exotic pest species. The dominant native species historically present include arroyo willow, elderberry, creeping wild rye, Santa Barbara sedge, California blackberry, and stinging nettle. Saturated areas in the creek channel itself historically supported moisture-dependent plants such as watercress, knotweed, and rushes. The vegetation toward the beach transition is scattered salt tolerant coastal dune and bluff species, but has been increasingly dominated in recent times by non-native ice plant and kikuyu grass. The entire wet meadow, riparian, lagoon, and arroyo willow habitat located in the Pescadero Canyon stream corridor adjacent to the subject residence and inland along the Applicant's entire property was historically environmentally sensitive habitat under Coastal Act Section 30240.

As described earlier, the February 1998 flood event scoured out much of the channel and wetland area (taking with it portions of the bluff supporting the residence) at this location. After the flood event, scoured areas naturally revegetated with some natives and several exotic species. Were the area to have been left alone, it can be assumed that natural revegetation would have followed and wetland recovery would have taken place at the subject site, with pre-flood habitat values restored. However, in early November of 1998, the Applicant began construction in the Pescadero Creek channel, including major grading and redirection of the creek flow through a plastic culvert. Although this work was authorized by CDFG through a stream alteration agreement, this work was undertaken without benefit of a coastal development permit (as described earlier). The November 1998 construction effectively removed all remaining vegetation in the creek channel and prevented natural revegetation and wetland recovery.

When the Applicant was given emergency permit authorization to complete installation of the lower section of the retaining wall system in December of 1998 (Emergency Permit 3-98-112-G; see Exhibit 3), Commission staff debated the merits of allowing a continued presence in the creek channel versus requiring an alternative construction method. Because installation from the blufftop would have been near impossible, because the damage was already done in the creek channel, because CDFG had signed-off on the project, and because construction of the lower wall was to be completed within 30 days, the emergency permit allowed for continued staging and construction from the creek bed area. Had all of the above *not* been the case, such grading and construction activities in the riparian/wetland corridor would not have been allowed nor recommended for approval. The emergency permit required a complete



drainage and erosion control plan (which was subsequently implemented, see Exhibit 4) and a complete restoration plan to reestablish the Pescadero Creek wetland and to revegetate the natural vegetation and habitat value of the Pescadero Creek riparian corridor.

Unfortunately, due to engineering and permitting difficulties at the site (as described earlier), work on the lower retaining wall has not yet been completed. As a result, the Pescadero Creek wetland riparian area remains degraded nearly a year after the unpermitted development took place. Although the drainage and erosion control plan has been in place for the duration, and conscientiously adhered to, the site remains bereft of habitat and ongoing construction impacts continue. The entire matter remains an active enforcement case (see enforcement findings later in this report).

In any event, the Applicant has submitted a restoration plan as part of the current application before the Commission. According to this restoration plan, approximately 8,800 square feet of the wetland and riparian corridor has been impacted as a result of the flood event and construction of the lower portion of the retaining wall. Commission staff has been unable to verify this figure more precisely, but in general 8,800 square feet is consistent with staff field observation. To mitigate for these impacts, approximately 26,800 square feet of degraded Pescadero Creek habitat will be restored and enhanced (a 3:1 mitigation ratio). Restoration will occur on all bare soils of the primary creek channel, backfilled soils on the retaining wall, and riparian slopes adjacent to the creek extending inland from Carmel beach about 500 feet. All bare soils will be revegetated with native riparian plants and exotics would be eradicated. On steep banks and slopes, straw mulch, jute netting, and native grass seed (such as California brome and Blue wild rye) will be applied for erosion control.

In addition, the natural flow of Pescadero Creek will be restored and arroyo willow utilized in arcs across the channel at 30-50 foot intervals to create a series of bars and step pools. These willow areas will be reinforced with driftwood. In this way, a series of pools and riffles will be created to improve habitat potential and filtration capability of the creek. In the areas nearest the beach, a transition zone to more salt-tolerant species (salt grass and American dunegrass) will be established.

### **3.2 Sensitive Habitat Analysis**

The riparian habitat and small lagoon at the mouth of Pescadero Canyon were destroyed by the combination of El Niño flooding and subsequent construction work in the stream channel. Restoration is necessary. Wetland mitigation plans need to address the fundamentals of restoring or emulating the natural hydrologic conditions that existed before the damaging event. This is essential to restore the functional capacity of the wetland, and to insure that the subsequent revegetation efforts are successful

Success is appropriately measured in terms of sustainability of the intrinsic attributes of the Pescadero Creek annual lagoon and riparian/wetland area historically existing at the site. These wetland attributes can be described broadly in terms of functional values. As summarized in *A Manual for Assessing Restored and Natural Coastal Wetlands* (Pacific Estuarine Research Laboratory, 1990), scientists and wetland managers recognize three functional values for wetlands: (1) hydrologic functions, (2) water quality improvement, and (3) food chain support. To assure site-appropriate restoration, a detailed plan



with goals, objectives, and measurable performance standards is necessary. Performance standards state in quantifiable terms the level and extent of the attributes necessary to reach the goals and objectives. Sustainability of the attributes should be a part of every performance standard. Each performance standard must identify: (1) the attribute to be achieved; (2) the condition or level that defines success; and (3) the period over which success must be sustained. The performance standards must be specific enough to provide for the assessment of wetland performance over time through the measurement of the various individual features that make up Pescadero Creek wetland habitat and functions.

The submitted *Riparian Habitat Restoration and Erosion Control Plan* primarily addresses revegetation of the site. The gross restoration of the site landform and pre-planting hydrology (stream channel) is also provided through the plan and separately through the back-out procedures of the submitted drainage and erosion control plan. However, the submitted rough grading specifications do not adequately specify the contours to be achieved. This approval is conditioned to ensure that all rough grading of the site following completion of the retaining walls shall reestablish pre-construction stream and lagoon contours (see Special Condition 1).

Moreover, with respect to hydrology and wildlife habitat, the particular circumstances in this case dictate an emphasis on slowing the stream to abate its erosive energy, erosion control planting on the adjacent slopes, and restoring the natural plant cover needed to support native wildlife. The submitted restoration plan addresses these needs through: (1) creation of a series of driftwood and willow barriers to create a series of small ponds (step-ponds), which will slow the stream and reduce erosive forces within the restored stream channel (which will be regraded to match the hydrologic profile and cross-section that existed previously); (2) erosion control seeding with native grasses; (3) reestablishing the conditions that will attract and support native wildlife, including frogs; raccoons, deer and bobcats already resident in the canyon, as well as the migratory songbirds previously seen in the thick willow cover and around the small lagoon. In other words, the submitted plans will result in the hydrologic and vegetative conditions necessary for this wetland to once again function as wildlife habitat.

The site will be monitored for success in removal of exotics, erosion control effectiveness, and native plant repopulation. Monitoring will occur on a quarterly basis for the first year with reports submitted (to the Commission, the City of Carmel, and CDFG) annually for years 1, 2, and 3, and then additionally in years 5, 7, and 10. Plants are to be replanted/reseeded as necessary to maintain restoration species cover. Restoration maintenance is to occur until all planted areas are revegetated and all herbaceous plants are self sustaining. However, performance standards are not well laid out. There need to be explicit performance standards and a clear schedule and procedure for determining whether they are met. These performance standards must also include measurement of attributes of wetland habitat and functions including, but not limited to, wetland vegetation, hydrology, and wildlife abundance. In order to ensure adequate implementation of the plan consistent with well defined performance standards and criteria, this approval is conditioned for augmentation of the Plan's monitoring component to establish a reference plot, to submit refined species-by-species plant coverage performance standards, and to enhance performance standards and measurement techniques; timed submittal of monitoring reports for Executive Director review and approval is also required (see Special Condition 7).





The subject restoration plan, as conditioned, contains measurable performance standards and success criteria over a 10 year period to ensure establishment of native grasses, shrubs, and trees in the willow riparian/wetland habitat area. In the event that the restoration is unsuccessful after 10 years, this approval is conditioned for additional remedial measures until success is achieved (see Special Condition 7). Implementation will begin as soon as a permit is issued. Implementation of such a plan will act to both restore and enhance the Pescadero Creek riparian wetland habitat at this location. Such restoration is appropriate, and imperative, to mitigate the resource impacts of unpermitted development and a year of construction taking place within the creek channel. As a result of this construction, creek resources have been "out of commission" at the site for over a year. Even with such restoration, the subject site's resource values will remain impacted until the site re-establishes its pre-violation status. In any case, it should be clear that the matters of performing development without necessary permits and causing adverse resource impact remain active Coastal Act enforcement issues (see also enforcement findings).

In any case, the subject retaining wall structure is located at the toe of the newly formed (after the February 1998 flood event) creek bank and does not extend into the creek bed at this location. The vertical soldier pile wall has a very narrow footprint and is the most creek-sensitive hard protective solution that could be installed to protect the structure at risk. The retaining wall heights and backfill criteria have been designed so as to mimic the natural bluff configuration as much as possible with approximately 4 to 9 feet of the lower retaining wall visible above creek grade, and approximately 3 to 7 feet of the upper wall visible above the back-filled grade. The backfilled slopes would be reseeded and planted with cascading riparian species.

Notwithstanding this current design which keeps the structure outside of the creek channel itself, additional stabilization may eventually be necessary to stabilize the principal structures at the site and to provide reasonable use of the property. The retaining walls may fail, additional structural supports may be deemed necessary, et cetera. In this case, the proposed retaining wall location constitutes the most seaward and creekward location that can be found consistent with Coastal Act policies while protecting the principal structure threatened here. In order to ensure that future response to erosion does not further impact the Pescadero Creek wetland riparian area, this approval is conditioned for any such structural shoreline protection measures to be constructed landward of the approved retaining wall footprint (see Special Condition 6). Such a condition provides clear direction to the Applicant of the appropriate location for any future hard protection measures at this site.

Finally, there is some concern because the Applicant has yet to submit complete landscape plan for the portion of the bluff between the residence and the upper retaining wall. According to the project's geotechnical report recommendations, this area is must be vegetated. Any such plan should contain a plant palette consistent with maintaining both site stability and enhancing Pescadero Creek habitat values. Accordingly, this approval is conditioned for the submittal of a complete upper bluff landscape plan to coordinate with the submitted restoration plan (see Special Condition 1).

Likewise, the submitted project plans do not include any drainage and runoff controls to ensure clean water is appropriately discharged from the site. Although the Applicant has received authorization from



the RWQCB for the project, the Clean Water Act Section 401 water quality certification remains pending. Accordingly, Special Condition 1 also requires the Applicant to submit final plans for the project which identify all runoff controls to be implemented consistent with the project geotechnical report and consistent with maintaining water quality. More specifically, any runoff from rooftops and vegetated areas can be discharged directly from the site; any runoff from paved areas subject to automobile use must be pre-filtered prior to discharge. Discharge locations must be clearly identified and appropriate energy dissipation devices utilized to minimize and/or eliminate erosion and sedimentation.

### **3.3 Conclusion**

The Applicant has proposed a retaining wall structure which avoids the stream channel, and that is the most creek-sensitive hard protective solution that could be installed to protect the structure at risk. The Applicant has likewise proposed a vegetation restoration plan which will result in riparian restoration and enhancement at a 3:1 ratio for degraded habitat on site. Conditions of approval will ensure that this restoration plan is coordinated with upper bluff plantings. All aspects of the site drainage and erosion control plan would remain in effect for all remaining construction activities at the site. In addition to protecting the residence, the subject development, as conditioned, will enhance biological productivity and the general quality of Pescadero Creek at this critical back beach location. The Pescadero Creek corridor on the Applicant's property is already subject to scenic and conservation easements for the protection of habitat and scenic values of the property.

Accordingly, the functional values for the Pescadero Canyon riparian corridor and creek-mouth lagoon will be restored and protected. Specifically, the hydrologic functions of the stream as an unconfined watercourse and supply for the small annual coastal lagoon-will be restored by pulling the temporary culvert out of the stream channel, and then regrading to match the original landform contours. Further hydrologic function will be enhanced through establishment of step ponds upstream from the lagoon. The water quality improvement function will be restored through the filtering and sediment detention functions of both the step ponds and restored riparian vegetation. And, the food chain support function will be restored by the growth of riparian vegetation which provides shelter, foraging areas and nesting opportunities for native birds, frogs and other species.

Thus, it can be concluded that the proposed restoration work comprises a class of development which is allowed in a wetland by Coastal Act Section 30233; that, compared to the existing situation, there is no feasible, less environmentally damaging alternative; and that all reasonable and appropriate mitigation measures will be applied. Water quality will be protected through restoration of natural hydrology and appropriate erosion control measures, consistent with Coastal Act Section 30231. The small coastal lagoon can be expected to reestablish itself behind the beach berm on an annual basis, consistent with Coastal Act Section 30230. The coastal lagoon, together with the proposed habitat restoration plantings, will recreate the environmentally sensitive habitats which previously existed here. Through the updated scenic and conservation easement, together with the additional conditions attached to this permit, long range preservation will be provided consistent with Coastal Act Section 30240.



Therefore, only as conditioned, the proposed project can be found consistent with Coastal Act Sections 30230, 30231, 30233 and 30240.

#### **4. Public Access and Recreation**

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea "shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road (Highway 1). Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

*30210: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

*30211: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

*30212(a)(1): Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources.*

*30213: Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

*30214(a): The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*

*(1) Topographic and geologic site characteristics.*

*(2) The capacity of the site to sustain use and at what level of intensity.*

*(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.*

*(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.*

*30221: Oceanfront land suitable for recreational use shall be protected for recreational use and*



*development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

*30223: Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Carmel Beach is owned and maintained by the City of Carmel and accounts for approximately 21.5 acres of white sand beach. The beach is used year round and represents a major recreational and economic resource to the community. The beach attracts an estimated 1,000 persons per day, with larger crowds on holidays and during special events. One of the beach's outstanding features is the sand itself, with the texture and bright appearance of granulated sugar. Beaches composed of such white quartz-feldspar sand are very rare.

The subject site is located at the northernmost portion of Carmel Beach. In general, public access along this stretch of beach is unimpeded except when Pescadero Creek flows at such a rate as to block off lateral access. Such blockage is rare. Access inland along the creek bed itself directly below the subject residence is limited; more importantly, access in the riparian area at this location is inappropriate because of resource concerns.

An important public access feature is, however, present on the Applicant's property. The historic Redondo Trail, a component of the Del Monte Forest Trail System, begins on the north bank of Pescadero Creek on the Applicant's property (see Exhibit 1). The Redondo Trail extends inland along the route of Pescadero Canyon and connects Carmel Beach to the formalized pedestrian and equestrian trail system which provides public access from the beach at this location through the Forest and on to Pacific Grove. This trail system has historically made it possible to ride or walk from Pacific Grove to Carmel without having to walk on 17 Mile Drive or other roadways. While this final section at Carmel Beach is not presently maintained or suitable for horses, it is used by pedestrians. Thus, the system represents a very important public access feature. The trail system, including the portion on the subject site, dates to at least the 1920s when it was formally named and advertised for public use. Given the topography of Pescadero Canyon and the Del Monte Forest, and the fact that the area lies within the recognized range of the Costanoan (or Ohlone) ethnic group, it is highly likely that the Redondo Trail pre-dates even European arrival to the area.

Conditions of approval of the Emergency Permit for the lower retaining wall (Emergency Permit 3-98-112-G, see Exhibit 3) included requirements that this historic trail segment not be blocked by construction activities, and further required that the Permittee convey an easement ensuring that no interference with the use of the public beach or the Redondo Trail would occur in the future on the Applicant's property. Subsequently, it was determined that a series of scenic easements entered into by the Applicant, the Applicant's predecessor in interest, and the City discouraged public access on the historic Redondo Trail. As a result, Commission staff worked with the Applicant and the City to prepare a new easement to rescind and supercede relevant portions of these previous easements, and to ensure



continued public access to the Redondo Trail (see Exhibit 7). As of the date of this staff report, this new scenic easement states, in applicable part:

*The scenic easement shall not be construed to interfere with any rights of public access acquired through public use which may exist along the route of the Redondo Trail or elsewhere within the boundaries of said easement.*

The Applicant, Commission staff, and City staff have all agreed on the content of the revised property restriction easement. As of the date of the staff report, however, the easement had not yet been recorded because the City Council had not yet consented to the revised document. This is the only outstanding emergency permit condition that does not involve completion of work and permitting deadlines. All other conditions relate either to timing of construction and completion, other agency approval, or drainage and erosion control. Timing issues notwithstanding, other approvals have been received, and all drainage and erosion control requirements have been embodied in the project's drainage and erosion control plan which is a part of this application. Accordingly, this approval is conditioned to ensure that the subject easement is recorded prior to issuance of the coastal development permit (see Special Condition 8).

In any case, there has been no judicial determination (to staff's knowledge) regarding prescriptive public access rights and the segment of the Redondo Trail on the Applicant's property. Long-term historic use of a formally named and advertised trail at this location has been ongoing for the better part of this century. However, only a court of law can establish, or extinguish, prescriptive public access rights. The State Lands Commission (SLC) has indicated that the project area is not subject to SLC leasing or permitting requirements. However, this SLC determination does not waive "any right, title, or interest by the State of California in any lands under its jurisdiction (SLC Letter dated August 13, 1999). As such, it needs to be made clear that the Commission's authorization for the proposed project (as conditioned) does not in any way waive any public rights that may exist on the parcel. Special Condition 9 of this approval clarifies this fact.

Finally, the restoration plan includes provisions for fencing and signing the restoration area, but it does not specify where the fence would be installed, how long the fence would remain in place and what the signs would say. In order to ensure that the Redondo Trail is not blocked and access to the beach is not precluded (consistent with habitat restoration concerns), this approval is conditioned for Executive Director review and approval of all restoration fences and signs (see Special Condition 1).

As conditioned, the Commission finds that the proposed project would preserve public access and recreational opportunities and, as such, is consistent with Coastal Act Sections 30210 through 30214 and 30220 through 30224.



## **5. Visual Resources**

Coastal Act Section 30251 states:

*Section 30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

The proposed restoration plan would revegetate the Pescadero Creek channel at the site as well as the bench between the retaining walls (see Exhibit 5). Restoration of the creek channel should ultimately result in improved aesthetics for the site, particularly improved over the past year of construction activities. Although the Applicant did not yet submit an upper bluff landscape plan, this approval has been conditioned for such a plan that would be coordinated with the restoration planting plan (see Special Condition 1). Cascading plant species are required for all retaining walls in order to soften their appearance and minimize public viewshed impacts as seen from the beach and Pescadero Creek environs below the subject residence. Any fencing and signs required to protect ongoing restoration would be subject to Executive Director review and approval to ensure that these elements do not degrade public views and are visually compatible with the general creek mouth environment (see Special Condition 1).

In general, the creek mouth at the beach would be returned to a more natural state, visual massing would be broken up by the retaining wall tiers, and overall revegetation would improve aesthetics at this site. As conditioned, the Commission finds that the proposed project has been designed in such a way as to minimize public view impacts; will result in some scenic enhancement through restoration and revegetation of the Pescadero Creek riparian area and the subject bluff; and will be visually compatible with the character of surrounding area; and, as such, is consistent with Coastal Act Section 30251.

## **6. Coastal Act Violation**

As described earlier, the February 1998 flood event scoured out much of the channel and wetland area (taking with it portions of the bluff supporting the residence) at this location. After the flood event, scoured areas naturally revegetated with some natives and several exotic species. Were the area to have been left alone, it would have been expected that over time natural revegetation and wetland recovery would have taken place at the subject site, and pre-flood habitat values restored. However, in early November of 1998, the Applicant began construction in the Pescadero Creek channel, including major grading and redirection of the creek flow through a plastic culvert. Although this work was authorized by CDFG through a stream alteration agreement, this work was undertaken without benefit of a coastal development permit (as described earlier). The November 1998 construction effectively removed all



remaining vegetation in the creek channel and precluded natural site restoration and recovery.

The Applicant subsequently applied for and was granted a emergency coastal development permit to install the lower tier of the retaining wall system as a temporary emergency protective measure (Emergency Permit 3-98-112-G issued on December 17, 1998, see Exhibit 3). Unfortunately, however, as a result of difficulty in obtaining permits from other agencies, and extreme engineering difficulties in securing the subject wall, the emergency work was not completed within the required 30 day time frame specified in the emergency authorization. The Applicant requested, and was granted, two extensions to this completion date. Ultimately, under the Emergency Permit, work was to be completed on the lower wall and a regular CDP granted by the Commission authorizing the work by May 16, 1999. The Applicant requested extensions to these time frames. These extensions were not granted by the Executive Director because the Applicant had failed to comply with all conditions of approval of the Emergency Permit. The Applicant was informed that no further extensions would be considered unless and until all conditions of Emergency Permit 3-98-112-G were satisfied. As described above in the public access finding, ultimately Condition 16 of 3-98-112-G was the last outstanding substantive issue; this condition remains outstanding.

As a result, the Applicant has exceeded the Emergency Permit timing requirements (Conditions 3 and 4) conditions and has not yet satisfied 3-98-112-G Condition 16. Non-compliance with the terms and conditions of an approved emergency permit constitutes an additional violation of the Coastal Act's permit requirements.

In any case, this application has been considered based upon the policies contained in Chapter 3 of the Coastal Act and the existing degraded resource status of the Pescadero Creek riparian area. Approval of this permit application does not constitute an admission as to the legality of any development undertaken on the subject site: (1) without benefit of a coastal development permit; and/or (2) inconsistent with the Emergency Permit conditions; and shall be without prejudice to the California Coastal Commission's ability to pursue any legal remedy available under Chapter 9 of the Coastal Act. In other words, this approval for the retaining wall/bulkhead system and the restoration enhancement plan does not constitute a waiver of any legal action with regard to any violation of the Coastal Act that may have occurred here.

## **7. LCP Planning Process**

Coastal Act Section 30604(a) states:

*Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with Chapter 3 (commencing with Section 30200) and that the permitted development will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3 (commencing with Section 30200). A denial of a coastal development permit on grounds it would prejudice the ability of the local government to prepare*



*a local coastal program that is in conformity with Chapter 3 (commencing with Section 30200) shall be accompanied by a specific finding which sets forth the basis for that conclusion.*

The entire City of Carmel falls within the coastal zone, but the City does not have a certified LCP. The City's Land Use Plan (LUP) proposal was originally denied by the Regional Commission on April 14, 1980. The revised LUP was resubmitted on November 26, 1980 and amended January 5 and February 2, 1981. On April 1, 1981, the Commission certified part of the LUP as submitted and part of the LUP with suggested modifications regarding beach-fronting property (specifically, the Patterson property). The City subsequently resubmitted an amended LUP which fixed the beach fronting properties provisions, but which omitted the previously certified portion of the document protecting significant buildings within the City. On April 27, 1984, the Commission certified the amended LUP and zoning with suggested modifications to reinstate provisions for protecting significant structures. However, the City of Carmel never accepted the Commission's suggested modifications and thus the City does not have a certified LCP.

For the reasons discussed in this report, the Commission finds that, as conditioned: the proposed project would not prejudice Commission action on future coastal planning decisions regarding development in Carmel; and is consistent with Coastal Act requirements that development not prejudice LCP planning efforts that conform to the Coastal Act.

### **8. California Environmental Quality Act (CEQA)**

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of 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 which the activity may have on the environment.

When the City approved the retaining walls in September 30, 1998, they adopted an emergency exemption from CEQA. On September 13, 1999, the City issued a initial study/negative declaration for the restoration plan. The City is scheduled to review the restoration plan initial study/negative declaration document at a public hearing on October 13, 1999; the same date as the Commission's hearing on this item. This approval is conditioned for Executive Director review and approval for any changes made to the restoration plan as a result of public comments and/or City approval requirements (see Special Condition 7).

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The proposed project's coastal resource issues have been discussed in this staff report and appropriate mitigations have been developed to supplement the City's review of the proposed project. Accordingly, the project is being approved subject to conditions which implement the mitigating actions required of the Applicant

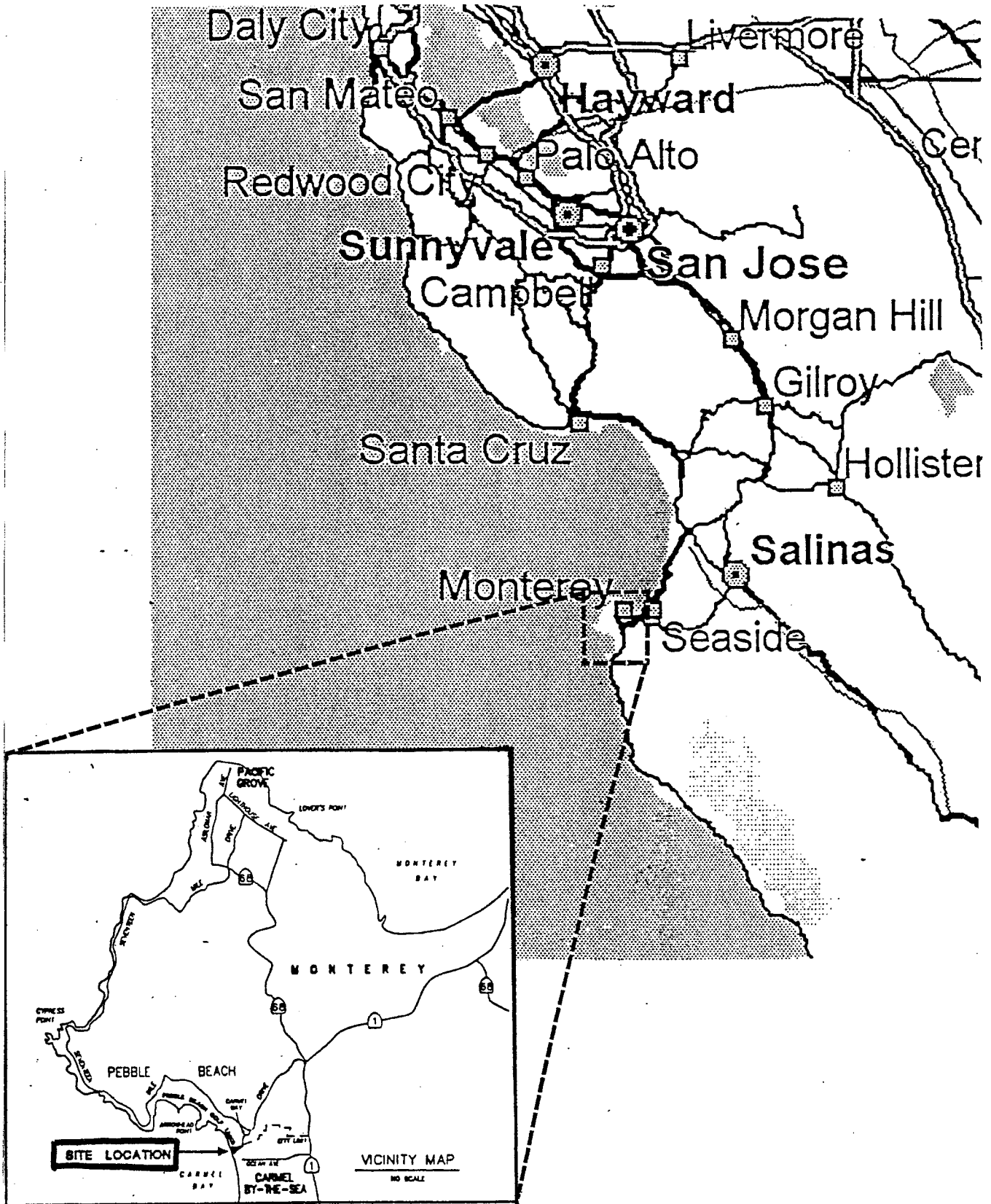




by the Commission (see Special Conditions of Approval). As such, the Commission finds that only as modified and conditioned by this permit will the proposed project not have any significant adverse effects on the environment within the meaning of CEQA.







CDP APPLICATION 3-98-102  
 EXHIBIT 1 - PROJECT LOCATION  
 (1 OF 4)

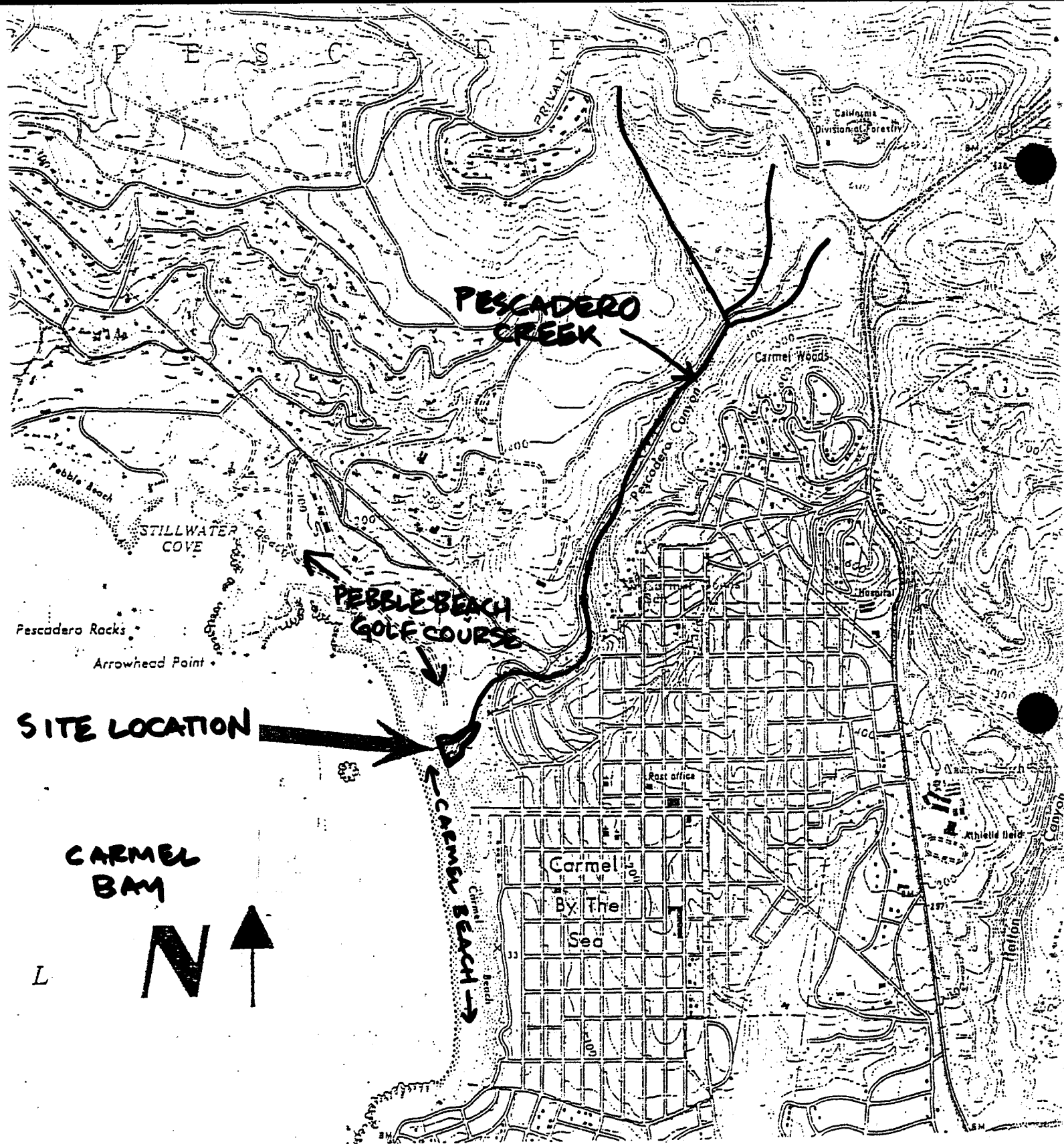


EXHIBIT 1  
(20F4)

← CARMEL BEACH →

← REDONDO TRAIL →

PESCADERO CREEK

Monterey County  
City of Carmel

Pebble Beach Golf Course

Exotic Weed Control to be Done on Upper Bank

Dense Trees

Approximate Flowline

Existing Rock Seawall

Proposed  
Trails and Storage Area

Approximate Location of Temporary Construction Access Road in Emergency Permit 3-98-112-8

SECTION OF EASEMENT OF CARMEL SCENE EMBLEM AND SIGNAGE PERMITS

Carmel Way Easement

Panationi Residence

Guest House

Driveway

Bridge

Legend

- Approximate Flowline
- - - Property Line

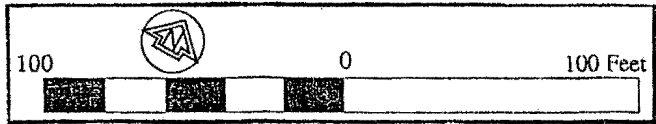


EXHIBIT 1  
(3 of 4)

Source: Rana Creek Habitat Restoration, September 1999

Pebble Beach G.C. 10th green

Historic Redondo Trail

Pescadero Creek riparian corridor

Panattoni residence and seawall

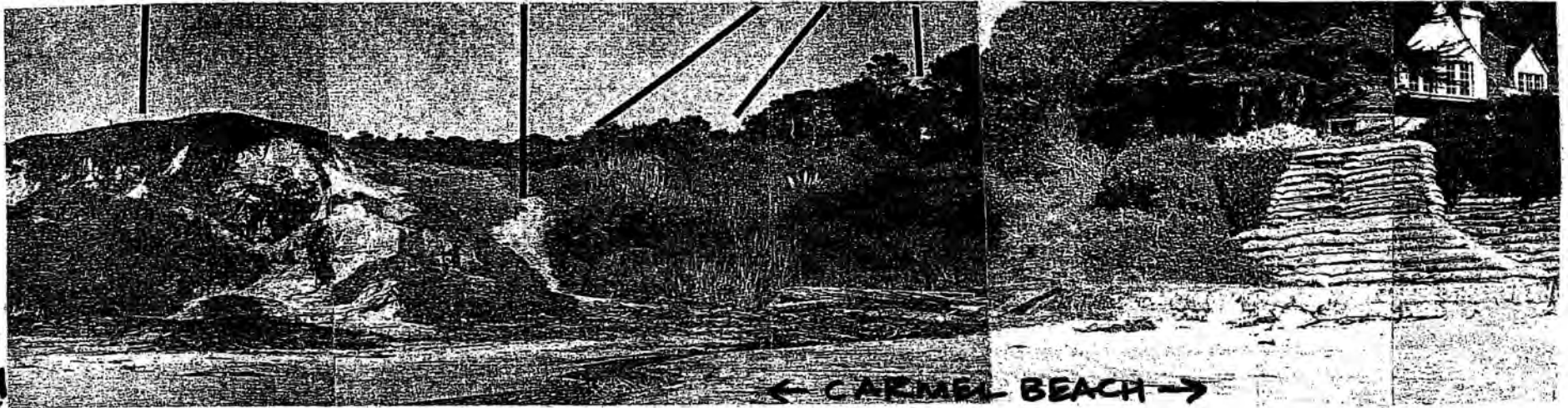


Photo montage No. 1 View of the mouth of Pescadero Canyon prior to the February 1998 flood.

EXH  
(4042)  
T-1



Photo No. 2 Carmel Way Bridge after February 1998 flood.



Photo No. 3 Slope failure and flood debris in lower canyon mouth of house.

Pre-Flood and Post Flood Photographs of Lower Pescadero Canyon

PROPOSED TWO-TIERED  
 RETAINING WALL SYSTEM

PROPOSED  
 CONCRETE  
 BLOCK WALL

EXISTING  
 SEAWALL

← CARMEL BEACH

RECEIVED

APR 05 1999



CALIFORNIA  
 COASTAL COMMISSION  
 CENTRAL COAST AREA

PLAN  
 SCALE: 1" = 20'



DESIGN TEAM

HARO, KASINICH AND ASSOCIATES, INC.  
 Geotechnical, Coastal & CW Engineers  
 19 East Lake Ave., Maysboro, CA 95076  
 (408) 722-4175 FAX (408) 722-3202

HOWARD CARTER ASSOCIATES, INC. (wooden retaining walls)  
 Structural Engineers  
 8800 Elm Lockport Lane  
 Fremont, CA 94555 FAX (408) 373-3118  
 (408) 373-3118

JOHN WELSH AND ASSOCIATES  
 Civil Engineers  
 501 Mission Street, #8  
 Santa Cruz, CA 95060  
 (408) 427-1170 FAX (408) 427-1794

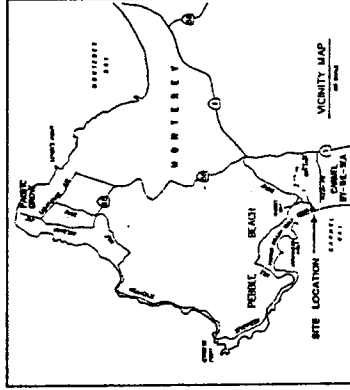


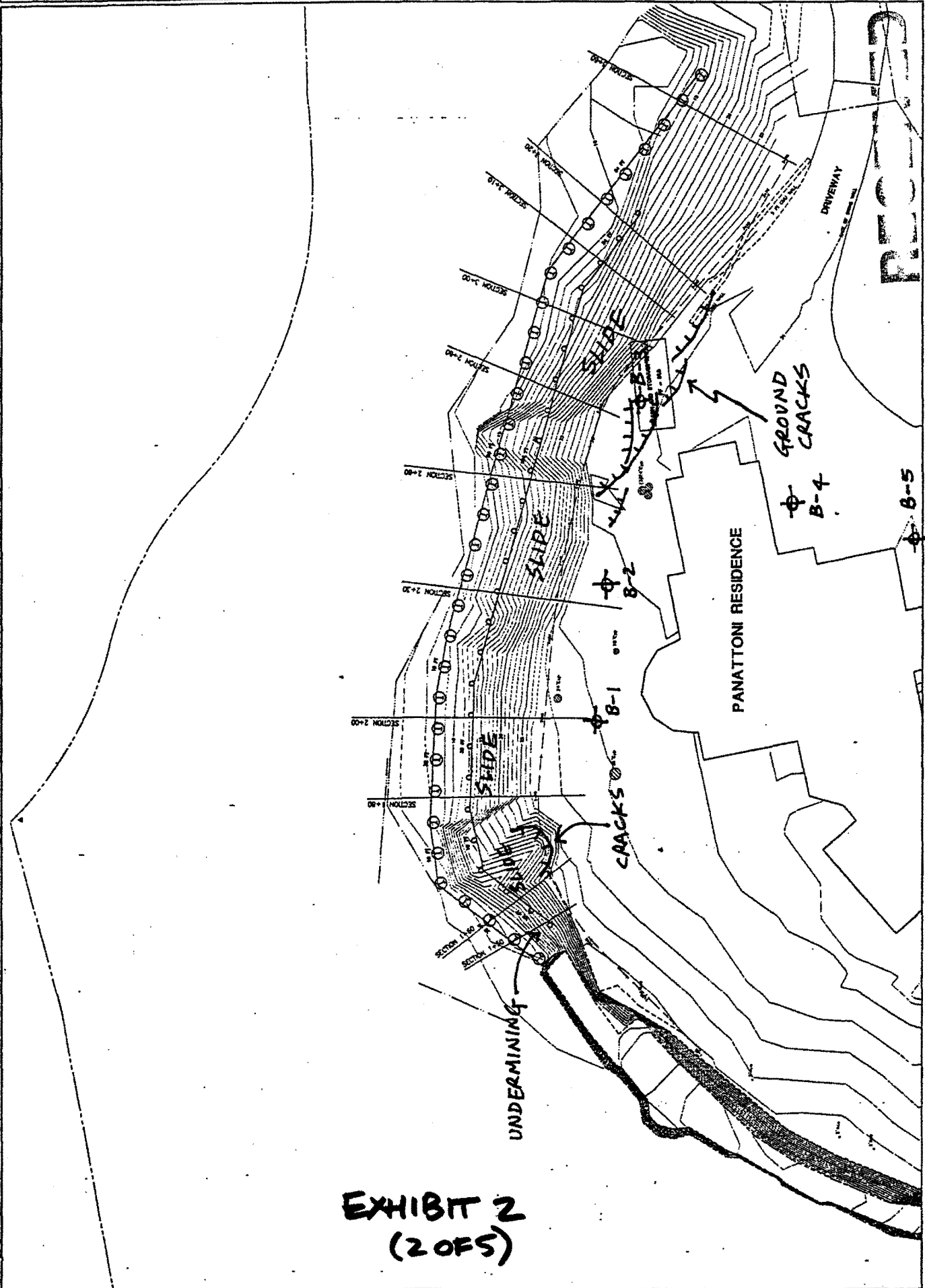
EXHIBIT 2 - SITE PLAN,  
 ELEVATIONS, & PHOTOS  
 (5 of 1)

REVISIONS	BY	DATE

**PANATTONI RETAINING WALLS  
SITE PLAN**

HARO, KASUNGH AND ASSOCIATES, INC.  
CONSULTING CIVIL, GEOTECHNICAL & COSTAL ENGINEERS  
18 EAST LAKE AVE. WATERBURY, CA 95678 (408) 723-4178

DATE: 11/18/87  
SCALE: 1" = 10' FT.  
SHEET NO. 1  
OF 1



**EXHIBIT 2  
(2 OF 5)**

ATT 06 1559

COAST GUARD AREA

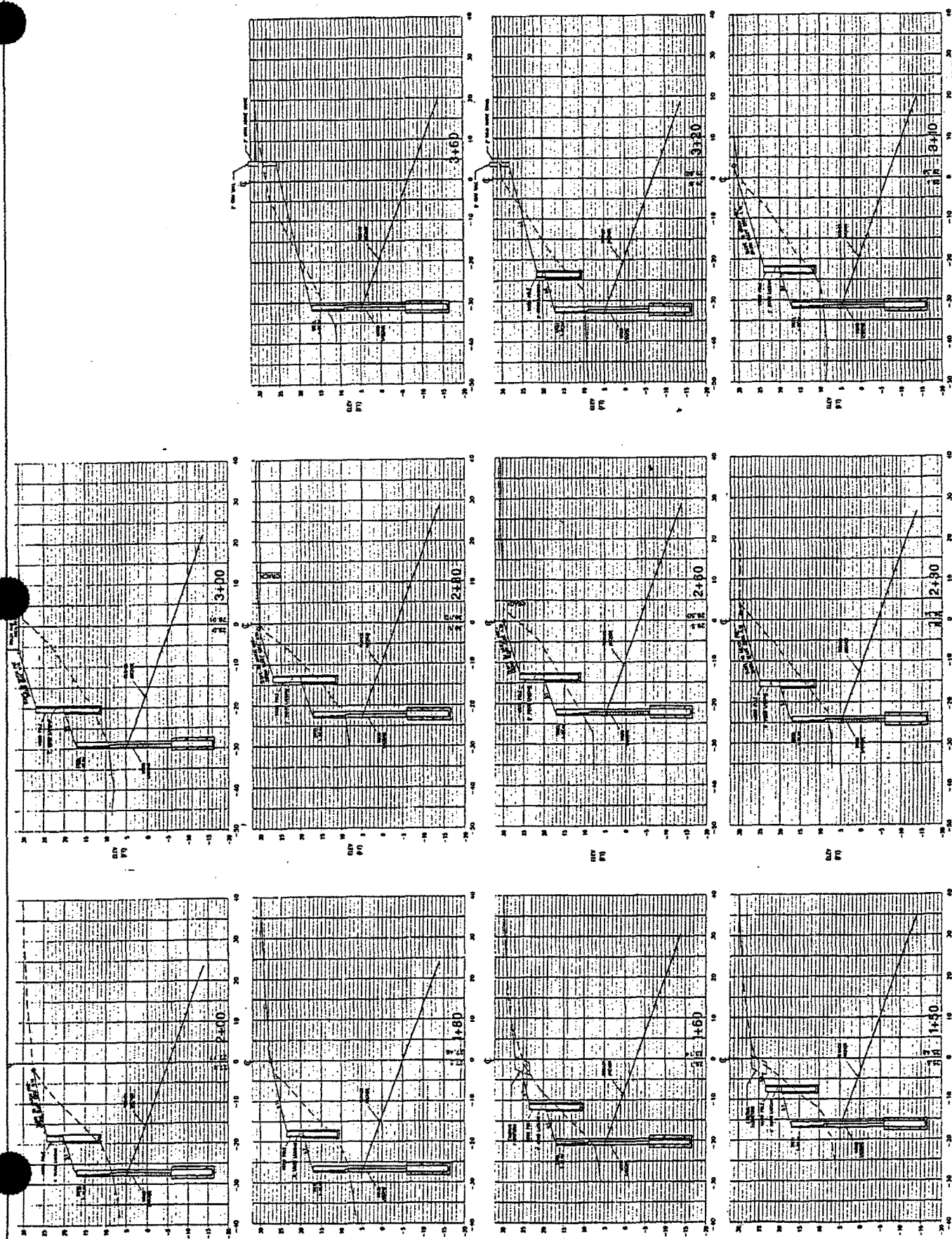


**PANATTONI RETAINING WALLS**  
**CROSS SECTIONS**  
**CARMEL BY THE SEA, CALIFORNIA**

HARO, KASUNICH AND ASSOCIATES, INC.  
 CONSULTING CIVIL, GEOTECHNICAL & COSTAL ENGINEERS  
 10 EAST LANE AVE. WATSONVILLE, CA 95090  
 (408) 723-1010

DATE	11/19/88
BY	JK
NO.	2

NO.	1
NO.	2
NO.	3
NO.	4
NO.	5
NO.	6
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**EXHIBIT 2**  
**(30FS)**

REVISIONS BY	

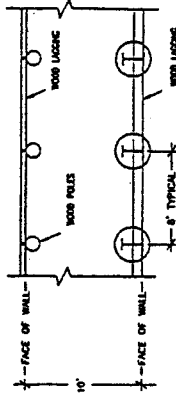
# PANATTONI RETAINING WALLS WALL DETAILS & NOTES CARMEL, BY THE SEA, CALIFORNIA

HARO, KASUNICH AND ASSOCIATES, INC.  
CONSULTING CIVIL, GEOTECHNICAL & COASTAL ENGINEERS  
78 EAST LAKE AVE., WATSONVILLE, CA 95076 (408) 722-4175

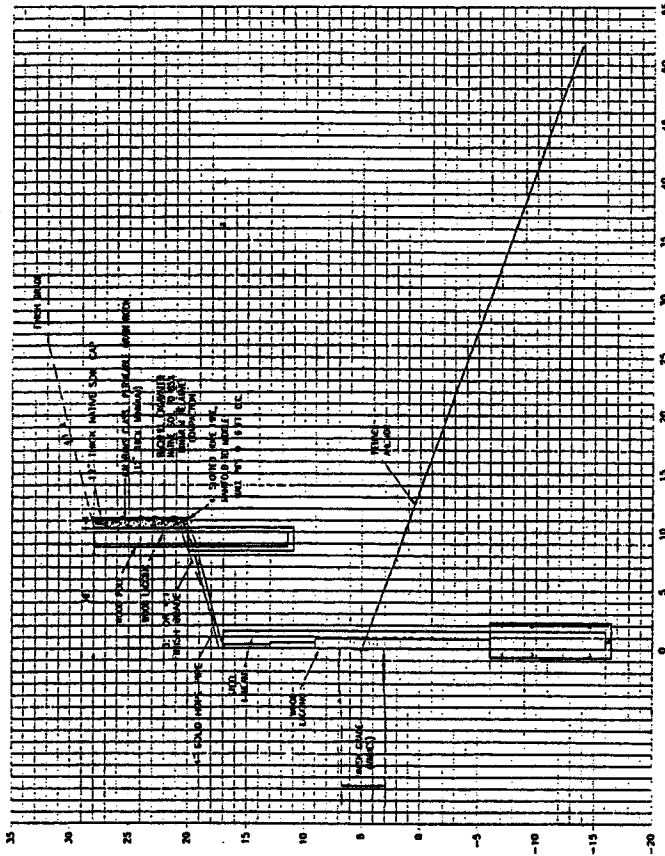
DATE: 9/24/86  
SCALE: 1" = 5' FT  
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OF: 3 SHEETS

## GRADING AND RETAINING WALL BACKFILLING NOTES

1. THE SOILS SHOULD BE IMPROVED AT LEAST 10% TO MEET THE REQUIREMENTS SET FORTH TO ANY BULK CLEANING OR REMEDIATION SO THAT THE SOILS IN THE AREA CAN BE COMPACTED WITH THE STANDARD CONSTRUCTION AND PROCEDURES FOR RETAINING WALL BACKFILLING. THE SOILS SHOULD BE IMPROVED TO MEET THE REQUIREMENTS SET FORTH TO ANY BULK CLEANING OR REMEDIATION SO THAT THE SOILS IN THE AREA CAN BE COMPACTED WITH THE STANDARD CONSTRUCTION AND PROCEDURES FOR RETAINING WALL BACKFILLING.
2. JACOBS TO BE CHANGED TO BE CLEANER OR LOOSE FILL OR OTHER UNSATURATED MATERIAL. REPRESENTATIVE OF YOUR GEOTECHNICAL ENGINEER SHOULD BE CONSULTED WITH ENGINEER'S FIRM.
3. PREVIOUS RELATIVE COMPACTION AND OPTIMUM MOISTURE CONTENT SHALL BE BASED ON ASTM TEST DESIGNATION D1557-74. UNSATURATED FILL SHOULD BE PLACED IN 10" LIFT WITH RELATIVE COMPACTION OF 90% TO 95% TO BE ACHIEVED. THE FILL SHOULD BE COMPACTED TO AT LEAST 10% IN EXCESS OF THE RELATIVE COMPACTION FOR NON-STRUCTURAL FILL AND IN EXCESS OF THE RELATIVE COMPACTION FOR STRUCTURAL FILL THAT SUPPORTS PAVEMENT. THE FILL SHOULD BE COMPACTED TO AT LEAST 10% IN EXCESS OF THE RELATIVE COMPACTION. THE PRODUCT ENGINEER SHALL VERIFY AND APPROVE COMPACTION SURVEILLANCE PRIOR TO PLACEMENT OF UNSATURATED FILL.
4. IF EXISTING OR PROPOSED SOILS ARE NOT SUITABLE FOR USE AS ENGINEERED FILL, THE SOILS SHOULD BE IMPROVED TO MEET THE REQUIREMENTS SET FORTH TO ANY BULK CLEANING OR REMEDIATION SO THAT THE SOILS IN THE AREA CAN BE COMPACTED WITH THE STANDARD CONSTRUCTION AND PROCEDURES FOR RETAINING WALL BACKFILLING. THE SOILS SHOULD BE IMPROVED TO MEET THE REQUIREMENTS SET FORTH TO ANY BULK CLEANING OR REMEDIATION SO THAT THE SOILS IN THE AREA CAN BE COMPACTED WITH THE STANDARD CONSTRUCTION AND PROCEDURES FOR RETAINING WALL BACKFILLING.
5. ALL CUT AND FILL SOILS SHOULD BE PROTECTED FROM EXCESSIVE WEAR AND TORNAGE TO VERTICAL SURFACES. THE APPROVAL OF THE GEOTECHNICAL ENGINEER FOLLOWING THE PROTECTION OF THE SURFACES SHALL BE OBTAINED PRIOR TO PLACEMENT OF UNSATURATED FILL.
6. CONCRETE AND STEELPIPE TUBES FOR RETAINING WALLS SHALL BE APPROVED BY THE CONTRACTOR. THE LOCATION OF CENTER LINE FACIES ARE APPROVED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF CENTER LINE FACIES AND SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE WALL. THE CONTRACTOR SHALL VERIFY THE LOCATION OF CENTER LINE FACIES AND SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THE WALL.
7. ALL DRAINAGE DRAINAGE LOCATIONS SHALL BE APPROVED BY ENGINEER.



TYPICAL WALL PLAN DETAIL  
SCALE: 1"=5'



TYPICAL WALL SECTION DETAIL  
SCALE: 1"=5'

EXHIBIT Z  
(4 OF 5)



Photo No. 4 Initial Drainage and Erosion Control Installation, January 1999

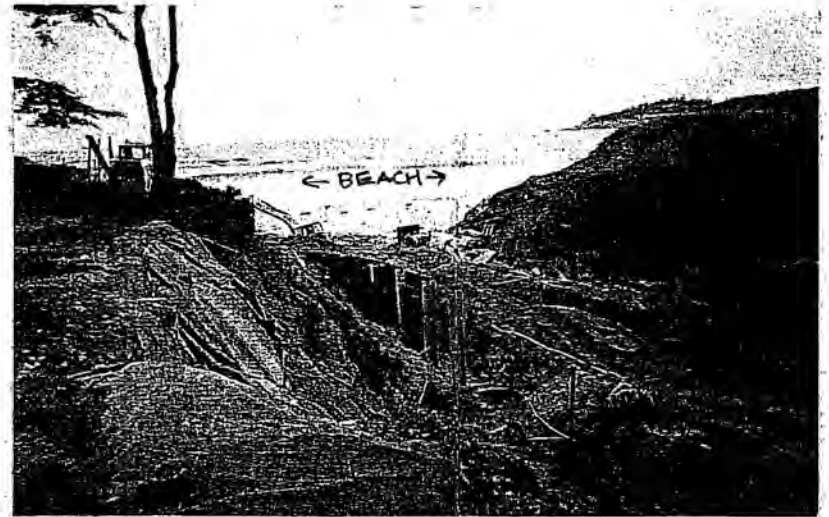


Photo No. 5 Western end of Lower Retaining Wall Under Construction, May 1999

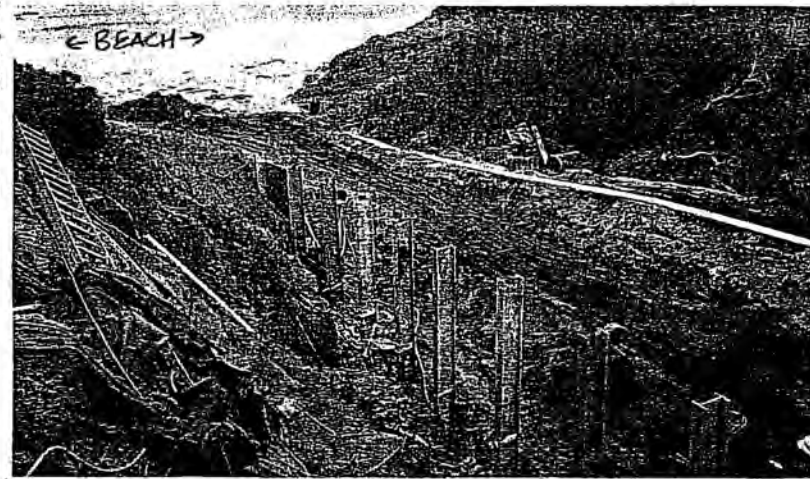


Photo No. 6 Central portion of Lower Retaining Wall Under Construction, August 1999

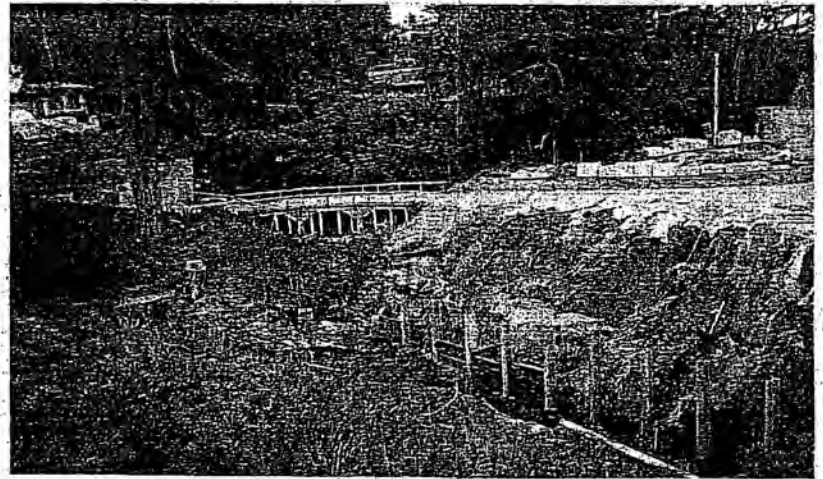


Photo No. 7 Eastern end of Lower Retaining Wall Under Construction, September 1999

## POST CONSTRUCTION PHOTOS

EXHIBIT 2  
(50FS)



# CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
(831) 427-4853

## EMERGENCY PERMIT

Issue Date: **December 17, 1998**

Emergency Permit No. **3-98-112-G**

Carl & Jane Panattoni  
8401 Jackson Road  
Sacramento, CA 95826

### LOCATION OF EMERGENCY

Along the south side of the mouth of Pescadero Creek in the City of Carmel-by-the-Sea, Monterey County (APNs: 010-321-036 & 010-321-037).

### WORK PROPOSED

Construction of the lower tier (only) of a proposed 256 ft. long wood retaining wall (to be anchored by steel beams in concrete caissons), as described in the plans by Haro, Kasunich and Associates Inc, dated September 24, 1998; only the lower tier with a wood treatment (no concrete panels) is authorized. Also, installation of temporary underground helical screw anchors to stabilize streambank in order to protect foundations of existing residence adjacent to Pescadero Creek. The work proposed does not cover any other development activities at the site, including but not limited to clearing, grading, or fill.

This letter constitutes approval of the emergency work that you or your representative has requested as described above. I understand from the information that you submitted, and our site inspection, that an unexpected occurrence in the form of landsliding and bluff failure which threatens your residence has occurred which represents "a sudden unexpected occurrence demanding immediate action to prevent or mitigate loss or damage to life, health, property or essential public services." (Definition of "emergency" from § 13009 of the California Administrative Code of Regulations.) Therefore, the Executive Director of the Coastal Commission 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 this 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 attached pages.

Sincerely,

**Peter M. Douglas**  
Executive Director

  
By: Lee Otter  
District Chief Planner

Enclosures: Emergency Permit Acceptance Form

cc: Mike Bruington, KM Construction (Mr. Panattoni's Representative)  
Brian Roseth, Director, City of Carmel-by-the-Sea Community Planning and Building Department  
Pat Coulston, Deborah Johnston & Jesse Keiser, California Department of Fish and Game  
Diane Landry, Legal Counsel, California Coastal Commission Central Coast District Office  
Nancy Cave, Manager, California Coastal Commission Enforcement Program

**EXHIBIT 3**  
**EMERGENCY PERMIT**  
**(1 OF 5)**

**CONDITIONS OF APPROVAL**

1. The enclosed emergency permit acceptance form must be signed by the **property owner** and returned to the California Coastal Commission's Central Coast District Office within 15 days of the date of this permit (i.e., **by January 1, 1999**). This emergency permit is not valid unless and until the acceptance form has been received in the Central Coast District Office.
2. Only that work specifically described in this permit 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 (i.e., **by January 16, 1999**) unless extended for good cause by the Executive Director.
4. The measures authorized by this emergency permit are only temporary. Within 60 days of the date of this permit (i.e., **by February 15, 1999**), the permittee shall submit a complete application for a regular coastal development permit (or waiver thereof) to have the emergency work be considered permanent. The emergency work shall be removed in its entirety within 150 days of the date of this permit (i.e., **by May 16, 1999**) unless before that time the California Coastal Commission has issued a regular permit for the development authorized by this emergency permit.
5. In exercising this permit, the permittee 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 (e.g., California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California State Lands Commission, Regional Water Quality Control Board, Monterey Bay National Marine Sanctuary, Monterey County, City of Carmel).
7. Permittee shall insure that the work authorized by this permit complies with all terms of the California Department of Fish & Game Streambed Alteration Agreement and permittee shall submit to the Executive Director copies of all approvals upon issuance by the California Department of Fish & Game.
8. Permittee shall insure that the work authorized by this permit complies with all applicable ordinances and permit requirements imposed by the City of Carmel-by-the-Sea and permittee shall submit to the Executive Director copies of all local approvals upon issuance by the City.
9. **By December 21, 1998**, permittee shall mitigate impacts on public access through elimination of any portion of the remaining artificial berm and artificial pond excavation which excludes or creates a barrier to public use of the beach or the historic Redondo Trail segment on the north side of Pescadero Creek.
10. Permittee shall engage in no activity which results in pollution of the adjacent marine environment (concurrently comprising a portion of the Monterey Bay National Marine Sanctuary, the Carmel Bay State Ecological Reserve, and the Carmel Bay Area of Special Biological Significance). Such pollution includes, but is not limited to, petroleum residues and increased turbidity. Similarly, permittee shall engage in no activity which would result in

**EXHIBIT 3**  
**(2 OF 5)**

the discharge of polluted waters, including sediment fines, into Pescadero Creek or onto Carmel Beach.

11. Permittee shall stabilize all exposed slopes and soil surfaces at the site with jute netting, hay bales, silt fences, straw mulch, erosion control native seed mix, sandbags and other applicable best management practices (for example, those identified in the *California Storm Water Best Management Practice Handbooks* (March, 1993)). Permittee shall install all applicable erosion control measures prior to further construction of the temporary measures authorized by this emergency permit, and shall insure that these erosion control measures are in place at the end of each day for the duration of construction. Permittee shall finalize all erosion control measures immediately upon completion of installation of the temporary measures authorized by this emergency permit (subject to consultation with the California Department of Fish & Game as to the best manner of protecting the riparian corridor on an interim basis until such time as restoration and mitigation measures can be applied).
12. Where exposed riparian soils will be subject to compaction or further disturbance by construction vehicles or other construction activity, permittee shall place landing mats, timber beams, or other temporary materials to preclude further disturbance/compaction. Permittee shall not, for this purpose, deposit gravel, imported fill, or other materials which cannot be completely contained and later removed.
13. Permittee shall insure that no equipment or materials are stored within the Pescadero Creek riparian corridor and that heavy equipment operations within the degraded Pescadero Creek corridor are kept to the absolute minimum necessary to install the temporary emergency measures authorized by this emergency permit. All leaks, drips, and other spills shall be cleaned up immediately and contaminated materials properly disposed of at an off-site location. Equipment shall not be refueled within the degraded streambed. Petroleum residues in or on the surface of the site or its runoff waters will be considered evidence of non-compliance.
14. Upon issuance of this emergency permit, permittee shall immediately cease pumping and discharge of polluted waters from the sump back into the clean waters of Pescadero Creek. Permittee shall prepare an alternate site dewatering plan to insure that only clean water is discharged into the stream and onto the beach. **By December 21, 1998**, permittee shall submit such dewatering plan for the review and approval of the Executive Director (in consultation with the Monterey Bay National Marine Sanctuary, Regional Water Quality Control Board, California Department of Fish and Game, and the City of Carmel). The dewatering plan may be in the form of an expedient sketch plan with narrative. In any event, permittee shall not resume polluted water discharges except in accordance with an Executive Director-approved dewatering plan for the site.
15. Within 150 days of the date of this permit (i.e., **by May 16, 1999**), permittee shall remove the non-permitted diversion dam, and shall extract the non-permitted plastic culvert and fill from Pescadero Creek and wetland, subject to consultation with California Department of Fish & Game to determine the least damaging feasible time and method for doing so.
16. Within 60 days of the date of this permit (i.e., **by February 15, 1999**), permittee shall submit to the Executive Director for review and approval a Restoration and Mitigation Plan which provides for: (a) reestablishment of the Pescadero Creek wetland; (b) revegetation of natural vegetation in the Pescadero Creek riparian corridor; (c) removal of any obstruction to public access on the beach; (d) complete restoration of beach sand quality through removal of all

**EXHIBIT 3**  
**(3055)**

stray rock fragments, debris, and concentrations of sediment fines emanating from the project; and (e) conveyance of an easement to the Del Monte Forest Foundation, or comparable non-profit organization approved by the Executive Director, for the purposes of drainage, protection of scenic views, and protection of wetland and riparian habitats, in a manner that does not interfere with the use or maintenance of the public beach or the historic Redondo Trail segment on the north side of Pescadero Creek.

Such easement shall encompass the entire high-water channel of Pescadero Creek below the toe of the permitted structure, as well as the northerly bank of the stream up to the northerly and seaward boundaries of APN 010-321-36. The easement shall be executed and recorded in a form and content acceptable to the Executive Director and recorded free of prior liens which the Executive Director determines may affect the interest being conveyed, and free of any other encumbrances which may affect said interest. The document shall provide that the easement shall not be used or construed to allow anyone to interfere with any rights of public access acquired through use which may exist on the property. The easement shall run with the land, binding all successors and assignees. The recorded document shall include legal descriptions of both the applicant's entire parcel(s) and the easement area itself.

17. Failure to comply with the conditions of this approval will result in enforcement action under the provisions of Chapter 9 of the Coastal Act.
18. The issuance of this emergency permit does not constitute admission as to the legality of any development undertaken on the subject site without a coastal development permit and shall be without prejudice to the California Coastal Commission's ability to pursue any remedy under Chapter 9 of the Coastal Act.

As noted in Condition 4 above, the emergency work carried out under this permit 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 development permit (or waiver thereof) 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 contact the Commission's Central Coast District Office at 725 Front Street, Suite 300, Santa Cruz, CA 95060, (831) 427-4863.

**EXHIBIT 3  
(40FS)**

**CALIFORNIA COASTAL COMMISSION**

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
(925) 427-4803



# EMERGENCY PERMIT ACCEPTANCE FORM

To: California Coastal Commission  
Central Coast District Office  
725 Front Street, Suite 300  
Santa Cruz, Ca 95060  
(831) 427-4863

**Re: Emergency Permit No. 3-98-112-0**

Instructions: After reading the attached Emergency Permit, please sign this form and return to the California Coastal Commission's Central Coast District Office within 15 days of the date of the emergency permit (i.e., by January 1, 1999).

I hereby understand all of the conditions of the emergency permit being issued to me and agree to abide by them. I also understand that the emergency work is temporary and that a regular Coastal Development Permit is necessary to make it a permanent installation. I agree to submit a complete application for a regular coastal development permit within 60 days of the date of the emergency permit (i.e., by February 15, 1999), or I will remove the emergency work authorized by the emergency permit in its entirety within 150 days of the date of the emergency permit (i.e., by May 16, 1999).

Signature of property owner

Name

CARL PANATIERI

Address

3434 CARMEL WAY

PEBBLE BEACH CA. 93953

Date of Signing

12-18-98

## RECEIVED

DEC 23 1998

CALIFORNIA  
COASTAL COMMISSION  
CENTRAL COAST AREA

EXHIBIT 3  
(5 OF 5)



Project No. M3927

7 January 1999

Revised

1 February 1999

RECEIVED

FEB 03 1999

CALIFORNIA COMMISSION  
CENTRAL COAST AREA

MR. BRIAN ROSETH, DIRECTOR  
Community Planning And Building Department  
City of Carmel By The Sea  
P.O. Drawer G  
Carmel By The Sea, California 93921

Subject: Response To 28 December 1998 Memo  
By Gary Halsey of Denise Duffy and Associates  
Regarding Proposed Drainage and Erosion Control  
During Construction, High Flow Evacuation and  
Demobilization Plan, Construction Sequencing Plan  
and Outline of Contractor's Responsibility When  
Restoring Site and Backing Out of the Project

Reference: Panattoni Residence  
Slope Stabilization Retaining Wall  
Construction Project  
Carmel By The Sea  
Monterey County, California

Dear Mr. Roseth:

We received a copy of the memo from Gary Halsey and Allison Imamura of Denise Duffy and Associates. We reviewed the content of the memo and discussed briefly with Allison the requirement.

John Kasunich has made contact with Lee Otter of the California Coastal Commission and will be formally requesting an extension to the emergency permit which expires January 16, 1999. Lee Otter indicated the extension will be granted. Haro, Kasunich and Associates, Foxx, Nielsen and Associates and Mike Bruington of KM Construction are responding to the requirements for the regular permit application due 15 February 1999. A meeting was conducted at the site with the project contractor, Sunstone Construction, project geotechnical engineer, Haro, Kasunich and Associates and Carl Panattoni's agent, Mike Bruington with Allison Imamura and Gary Halsey to review the content of their memo and its requirements in relation to the site conditions; and to determine the most effective way to begin implementation of the erosion control improvements.

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A drainage and erosion control plan has been completed using the retaining wall plan as a base map and schematically extending the limits of that base map to include the access ramp and the proposed sedimentation basin at the mouth of the creek adjacent to the west end of the proposed retaining wall. The drainage and erosion control plan shows where existing curtain drains have been placed by Sunstone Construction adjacent to the access ramp at the base of the creek bank to collect seepage water. The access ramp was constructed by laying filter fabric on grade and placing baserock and drainage gravel on top of the filter fabric. Where very wet, loose soils were encountered, filter fabric was placed and 6 inch deep, geoweb panels placed to contain baserock and bridge across the soft areas. The aforementioned curtain drains were placed adjacent to the geoweb bridge to carry seepage water under the temporary ramp.

During our walk through, subsurface seepage was occurring out of the access ramp. This may be due to a breach in a drainage pipe or additional, natural seepage. Sunstone Construction will inspect and repair the breach if necessary and will contain the drainage by channeling it to the outboard edge of the road, discharging it into a rock sedimentation barrier and directing it back to the creek upstream of the temporary coffer dam at the bypass culvert inlet. **Depending on field conditions encountered, additional subdrainage will be added as an additional cross drain above the bypass and a longitudinal drain adjacent to the lower limits of the access ramp. The latter additional seepage will be carried to the primary sedimentation basin with temporary 4 inch flexible drain pipe.**

The bare spots along the creek bank and slope above the construction area will be protected sequentially as follows:

1. Where construction is occurring, plastic will be placed on standby, to be rolled out **and anchored prior to anticipated rainfall** to cover bare areas during inclement weather.
2. Once construction has progressed beyond the bare areas, straw will be spread and nylon or jute netting will be placed to hold the straw in place.
3. In bare soil areas where construction will not be impacting the creek bank, straw will be placed immediately and tacked to the surface with geotextile netting.
4. **As appropriate, bare areas will be seeded with native seed mix in consultation with the plant restoration consultant.**

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(2059)**

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5. A sedimentation basin will be constructed at the mouth of the creek adjacent to the beginning of the proposed retaining wall. The basin will be implemented by constructing a backshore berm across the open creek channel. The backshore berm will be 10 feet wide at its base and 5 feet wide at its top and reinforced with existing drift logs. The berm will be constructed with stockpiled materials that exist adjacent to the west end of the construction area. A secondary settling basin, much smaller in size, will be constructed downstream of the backshore berm. This secondary basin will be subject to high tide, storm wave activity but will allow secondary protection of potential sediments which occur during the construction process. Water pumped out of the construction area at the mouth of the creek will be run through a filter that surrounds the sump pump and discharged into the secondary basin. ***The bypass culvert will be extended through the primary backshore berm into the secondary basin.***
6. No portion of the sedimentation basins or berms shall block access to Carmel Beach or to the historic Redondo Trail segment on the north side of Pescadero Creek. The sedimentation basins and berms shall be monitored and modified to ensure that public access is not so impacted.
7. ***A walk-thru inspection will be scheduled after the erosion control and temporary drainage facilities are implemented with the City of Carmel and the project engineer prior to retaining wall reconstruction.***

The following is an outline of the construction sequence plan as required by Denise Duffy and Associates: -

1. Construction of the primary sedimentation pond at the mouth of the creek will commence immediately. A backshore berm will be constructed with the stockpiled materials which now exist. Stacked drift logs will be used as reinforcement of the backshore berm. The backshore berm will be 10 feet wide at its base and 5 feet wide at its top. The top of the berm will be a minimum of 5 feet above the bypass culvert's invert elevation.
2. A secondary sedimentation basin will be constructed just downstream of the backshore berm in the existing creek channel. This basin will be constructed with existing sand materials ***and straw bales***, and will be much smaller (10 feet by 10 feet) in area. The secondary basin will be used as backup protection and allow a place to discharge screened water, pumped from the construction areas on the

**EXHIBIT 4**  
**(3059)**

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creek side of the primary basin. **The bypass culvert will be extended and discharged into the secondary basin.**

3. The contractor and project engineer will monitor **both** sedimentation basins in relation to high tide and storm surf. The backshore berm will be reinforced when necessary during low tide conditions.
4. The work area will be dewatered with a sump pump that is screened to prevent sediment transport. Discharge of the sump pump will be into the secondary basin seaward of the backshore berm. **During the first 2 to 3 weeks of pier hole construction, the primary basin will be pumped during construction into the secondary basin to allow construction of the retaining wall at the west end (Point) of the project. The secondary berm will be inspected and maintained on a daily basis if necessary. Turbidity discharge will be monitored and controlled during the first 80 feet of wall construction at the Point.**
5. The tieback anchors will then be constructed. This will begin at the Point (creek mouth) adjacent to the existing seawall. If possible, construction of the tiebacks will continue upcreek to the end of the wall in a continuous manner.
6. Drilling of the vertical pier holes for the retaining wall beams will begin at the Point adjacent to the existing seawall. Construction of 60 linear feet of retaining wall will be done at one time only. Alternate pier holes will be drilled, steel beams inserted and concrete poured to set the beams. Once concrete has set, excavation to the base of the wall (-6 feet, NGVD) will occur and drilling of the remaining alternate pier holes will be done in the 60 foot zone. The additional steel beams will be set and concrete poured. **Pumping to lower the water table in the primary sedimentation basin during the first 60 feet of wall construction, will be continuous and monitored to make sure discharge in the secondary basin is occurring properly.**
7. Wood lagging will then be placed in the 60 foot zone of retaining wall and backfill placed set to the top of the new wall section.
8. A repeat of No. 6 and 7 will then occur for the next 60 linear feet of retaining wall, moving upcreek.

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9. No materials and equipment shall be stored within the creek bed. Only those materials being immediately installed/placed shall be present at any one time in the creek bed.
10. The tiebacks will then be bolted to the retaining wall, pull tested and secured at design load.
11. ***The contractor will routinely inspect, maintain and modify, as needed, or as directed by the Executive Director of the Coastal Commission, the City of Carmel, or the California Department of Fish and Game, the drainage and erosion control facilities. All fueling, vehicle maintenance and concrete washdown will be conducted out of the creek channel at the top of the creek bank along Carmel Way.***
12. Where exposed riparian soils will be subject to compaction or further disturbance by construction vehicles or other construction activity, landing mats, timber beams or other temporary materials shall be placed to preclude further disturbance/compaction. No gravel, imported fill or other materials which cannot be completely contained and later removed shall be deposited for this purpose.

A high flow evacuation and demobilization outline follows:

1. The project contractor and engineer will monitor weather, rainfall and stream flow using weather faxes and the marine radio ban.
2. The contractor will be alerted should an approaching storm arise. Any materials and equipment present in the creek bed (i.e. those being immediately installed) when rain is expected shall be removed prior to buttoning down the site.
3. The backshore berm and sedimentation basin will be inspected and reinforced as necessary ***prior to evacuation.***
4. The bypass culvert and temporary coffer dam will be inspected and reinforced, if necessary.
5. Erosion control blankets will be secured to the slope face where needed.

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6. The storm will be allowed to pass and creek flow subside. Repair of damage if necessary will then be done by the contractor. Inspection will be made of the bypass culvert inlet area and reinforced or rebuilt if necessary. The backshore berm and sedimentation basin will be inspected and repaired if necessary.
7. The accumulated silt from the work area will be removed and stockpiled **outside of the high flow creek channel** for redistribution upon completion of the job.
8. Excessively eroded creek banks will be repaired if necessary.
9. The construction work will begin again.
10. ***If evacuation is necessary, the City of Carmel will be alerted to inspect damage and repair of drainage and erosion control facilities prior to resuming construction.***

The following outline presents a sequence the contractor will follow in restoring the site as he backs out of the finished construction project:

1. The contractor will discuss the immediate restoration plan with the vegetation restoration consultant to insure that the final rough grades conform to the final restoration plan.
2. The backshore berm and sedimentation basin will be disassembled. The basin will be infilled with the berm materials. ***Large debris will be removed from the site.***
3. The bypass culvert and the upstream coffer dam will be removed.
4. The backshore will be covered with the stockpiled ***clean***, white beach sand (***remove debris***).
5. The creek's flow line will be re-established with the stockpiled sediment. The creek flow gradient will be maintained from the mouth of the creek to the coffer dam location.
6. The lower reaches of the access ramp will be removed. The geoweb supported road base will be maintained as will the adjacent curtain drain along the upper reaches of the ramp. This will allow the vegetation restoration crew access into the

**EXHIBIT 4**  
**(6 OF 9)**

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creek environment for their final restoration work.

7. Straw will be spread across bare areas of the exposed creek bank and along the fill slope above the completed tiedback, retaining wall.
8. ***The contractor will coordinate with the restoration crew to remove the geoweb, fill and temporary ramp and restore approximate natural grade after the restoration crew completes their work in the creek bed. The restored slope area will be compacted and buttressed at its toe with redistributed fill material.***
9. The contractor shall consult with the California Department of Fish and Game as to the best manner of protecting the riparian corridor on an interim basis until such time as restoration and mitigation measures can be applied. All recommendations of the California Department of Fish and Game shall be implemented.
10. If curtain drains (or portions of it) are left in place, the associated discharge line will be redirected to empty into the restored stream channel at the closest practicable point to the seaward end of the curtain drain.

Sunstone Construction is ready to implement the erosion control improvements as soon as permission is given. According to the agreement made with the City of Carmel, the Planning Department will need to write a letter authorizing Sunstone Construction to begin placing the proposed erosion control improvements including construction of the sedimentation basin and backshore berm. An excavator will be required to construct the primary and secondary sedimentation barriers at the mouth of the creek. As soon as written permission is given to Sunstone Construction, the erosion control work will be scheduled. Denise Duffy and Associates will be alerted to the schedule to allow them to inspect implementation of the erosion control improvements.

Any adjustments to this plan that are deemed necessary by the Executive Director of the Coastal Commission to ensure plan effectiveness and resource protection at the site shall be implemented.

Haro, Kasunich and Associates is actively designing the underpinning piers for the Panattoni perimeter foundation line which parallels the top of the creek bank. We are working with the structural engineering firm of Howard Carter Associates and with Sunstone Construction. As soon as underpinning, helix anchor materials have been

**EXHIBIT 4**  
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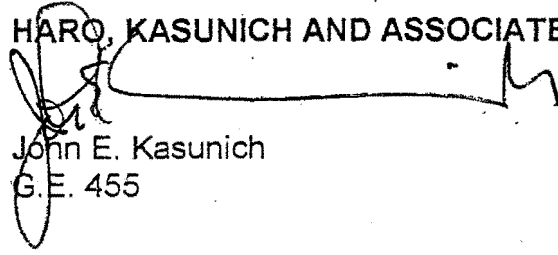
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procured, Sunstone Construction would like to begin implementation of the underpinning piers. All of this work will occur at the top of the creek bank adjacent to the Panattoni's residential structure. No access into the creek or onto the creek bank will be necessary. Sunstone Construction would like to begin this project next week. We request the letter from the City of Carmel that allows Sunstone Construction to begin the erosion control improvements also state that underpinning of the residential structure can begin as well, provided the work is done above the creek bank.

If you have any questions, please call my office at (831) 722-4175.

Very truly yours,

HARO, KASUNICH AND ASSOCIATES, INC.



John E. Kasunich  
G.E. 455

JEK/db

Copies:

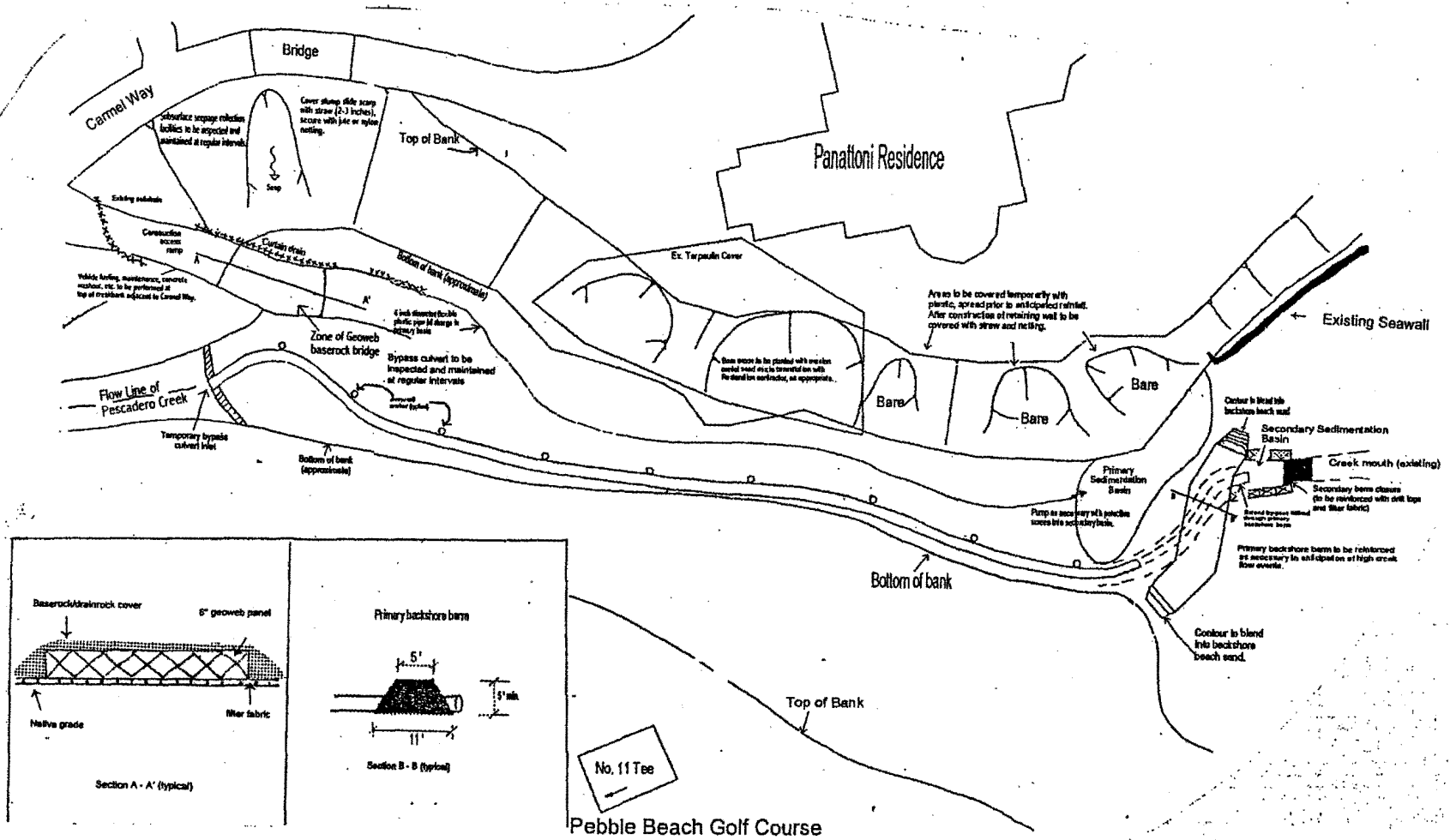
- 1 to Addressee
- 1 to Denis Duffy and Associates, Attn: Allison Imamura and Gary Halsey
- 1 to Sunstone Construction, Attn: Rick Fuller
- 1 to KM Construction, Attn: Mike Bruington
- 1 to Foxx Nielsen and Associates  
Attention: Mark Foxx
- 1 to Howard Carter Engineers  
Attention: Joe Mako
- 1 to Carl Panattoni
- 1 to California Coastal Commission, Attn: Dan Carl**

**EXHIBIT 4**  
**(80F9)**



**EXHIBIT 4**  
**(9059)**

**← CARMEL BEACH →**



Source: Haro, Kasunich & Assoc., January 1999; Modified by DD&A.

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# Riparian Habitat Restoration and Erosion Control Plan

RE 98-17/Carl Panattoni  
APNs: 010-321-036&010-321-037

Prepared for Carmel-by-the-Sea

September 1999

Prepared by

Paul Kephart  
Restoration Ecologist  
Rana Creek Habitat Restoration

**EXHIBIT 5 - RESTORATION PLAN  
(21 PAGES)**

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## I. EXECUTIVE SUMMARY

The purpose of this plan is to provide the methods and techniques for the erosion control and restoration of riparian native plant habitat in Pescadero Canyon, Carmel by the Sea. The property is owned by Carl and Jane Panattoni, APNs: 010-321-036&010-321-037. The restoration specifications submitted herein include erosion control and restoration of plants representing riparian and coastal bluff native plant habitat. Restoration work is required as a result of the construction of the lower and upper tier of a 256-ft. long wood retaining wall (to be anchored by steel beams in concrete caissons), as described in plans by Haro, Kasunich and Associates Inc. dated September 24, 1998. This work is permitted under California Coastal Commission Emergency Permit # 3-98-112-G, CDFG Steam Alteration Agreement #1035-98 and Corps Nationwide Permits #13, and 33, file # 23999s..

A native plant salvage, seed collection, propagation and increase program has been initiated to provide site-specific plant materials for future restoration work. Monitoring and performance standards are included to assess project performance and mitigation compliance. Restoration maintenance is to occur until planted areas are revegetated and established herbaceous plants are self-sustaining.

### A. Project goals

1. Create self-sustaining native habitat on-site that will require little long-term maintenance or dependence on irrigation and use of fertilizers.
2. Provide a monitoring and reporting program that will evaluate the relative success or failure of the on-site mitigation program.
3. Control exotic non-native species.

### B. Summary schedule

Work on the site shall start at the issuance of permits or in conjunction with the completion of the wood retaining wall and regrading. Exotic pest plant control and replanting shall begin upon approval of this restoration plan.

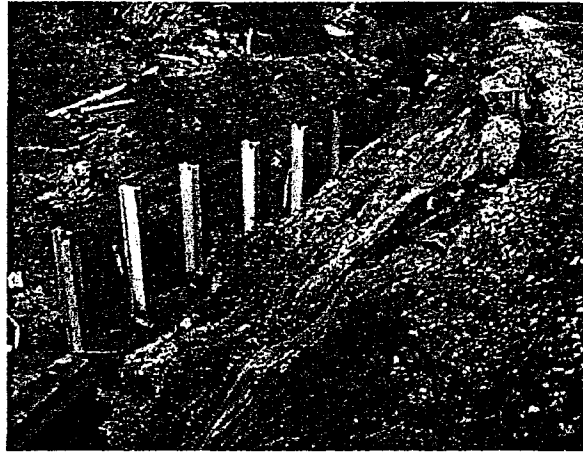
## II. DESCRIPTION OF PROJECT AND AFFECTED AREA

### A. Location

The project is located along the south side of the mouth of Pescadero Creek in the City of Carmel-by-the-Sea, Monterey County.

### B. Summary of habitat impacted and habitat to be revegetated

Approximately (8,800 sq. feet) of Riparian corridor is impacted as a result of a break out flood in February 1998, the construction of the wood retaining wall, temporary road bed, and stream bed alteration required for the project. The temporary road has been constructed in the canyon for access of construction equipment. As a result of these impacts, up to, but not exceeding (26,800 sq. feet) of degraded habitat on-site shall be enhanced and restored.



Panattoni Residence and Wall Construction (August 8, 1999)

### C. Short-term schedule

The project will encompass the following restoration and management activities upon project approval, in conjunction with site preparation, and prior to commencement of construction.

- |    |  |                |
|----|--|----------------|
| 1. | Site analysis and survey of existing vegetation.           | August 1999    |
| 2. | Salvage exotic vegetation removal and site preparation.    | September 1999 |
| 3. | Begin Collection and Propagation Program of native plants. | August 1999    |
| 4. | Begin Erosion Control.                                     | September 1999 |
| 5. | Begin Restoration Program.                                 | October 1999   |
| 6. | Begin Compliance monitoring and reporting.                 | November 1999  |

### D. Vegetation/habitat description

The vegetation of the Pescadero canyon site was classified and validated utilizing The Natural Communities of California Holland (1986), The Terrestrial Vegetation of California Barbour and Major (1988) and A Manual of California Vegetation Sawyer and Keeler-Wolf (1995) were consulted.

The habitat is comprised of Central Coast Arroyo Willow, and wet meadow dominated by emergent vegetation (Jones and Stokes 1995). Native vegetation exists within a jungle of exotic pest plant species. The dominant native species present include arroyo willow (*Salix lasiolepis*), elderberry (*Sambucus mexicana*), creeping wild rye (*Leymus triticoides*), Santa Barbara sedge (*Carex barbarea*), California blackberry (*Rubus ursinus*) and stinging nettle (*Urtica holosericea*). These are the primary species to be used to revegetate the disturbed soils of the project site.

This revegetation plan is not entirely based upon replacing plant community structure of pre-existing habitat, but is based on successful establishment and maintenance of dominant plant species represented in the community type. The species selection is based upon the observation of naturally regenerating native species found throughout Pescadero Canyon. It is assumed from past experience and observations that California blackberry (*Rubus ursinu*), horsetail (*Equisetum sp.*) and stinging nettle (*Urtica holosericea*) will naturally recolonize the area and will not need to be included in the restoration plan.

**E. Environmentally sensitive habitat area consistency determination**

Jones and Stokes (1995) determined sensitive habitat subject to impacts by project construction include Central Coast Arroyo Willow, Riparian, and wet meadow habitats.

**F. Owner, land manager, other involved parties**

Carl and Jane Panattoni  
8401 Jackson Road  
Sacramento, CA 95826

**G. Existing environmental setting**

**1. Level of existing disturbance**

Episodic flooding and erosion have historically impacted the extant native habitats of the Pescadero Canyon Project Area. A major debris dam upstream of 17 Mile Drive gave out in February 1998 and a 30 foot wall of water flooded the lower canyon, taking out a substantial portion of the south side of the canyon slope. Significant impacts have resulted from extensive exotic species invasions.

**2. Enhancement/restoration potential**

Restoration will occur on all bare soils of the primary creek channel, backfilled soils on the retaining wall, and steep canyon slopes adjacent to the project site and access ramp. Evident over much of the intact habitat are scattered native plants, a few long-lived shrubs, and weeds. The large areas of disturbed, barren soils adjacent to the creek channel will be revegetated. In addition to propagating and planting native plants, the mitigation receiver site will require the implementation of a pest plant control program.

**III. GOALS**

**A. Revegetation/restoration goals**

1. Collection and propagation of site specific seed: Collection, propagation, and increase of local plant material will maintain the local genetic stock of selected native plant materials.
2. Stabilize eroding soils of the steep slope areas and along creek channel: Establishing native vegetation will provide soil stabilization and filter creek water.
3. Plant the dominant species represented in the plant community found on Pescadero Canyon site. The shrubs and plants will be established throughout the ( 26,800 sq. ft.) restoration site.

**B. Drainage and hydrology**

1. Flow of surface water shall be allowed to return to the natural creek channel. Shallow moisture retaining basins shall be developed using natural driftwood log weirs creating micro-topography beneficial to vegetation establishment. Depressions, swales, and gently sloping hills shall be created from the unconsolidated fill material.

**C. Slope stability**

Establish stable slopes through the use of physical soil retention and vegetation: Soils shall be stabilized through the use of erosion control measures such as bioengineering, seeding, driftwood log toe slope protection and erosion blankets.

**IV. IMPLEMENTATION PLAN AND SPECIFICATIONS**

**A. Responsible parties**

Rana Creek Habitat Restoration, under the direction of The City of Carmel by the Sea shall implement the restoration plan. Sunstone shall grade the site specifications requested by Rana Creek Habitat Restoration.

**B. Project constraints**

The primary constraints pertaining to native species restoration are: erosion control on erosive soils, a landslide on the eastern portion of the north canyon slope, establishment of slow growing long-lived native species, and large populations of exotic pest plants. Given the understanding of these constraints, the restoration contractor shall conduct appropriate site preparation, erosion control, and restoration activities to mitigate for potential constraints.

**C. Schedule**

The restoration and erosion control program shall begin with the completion of construction and final grading (see II C).

**D. Land shaping and grading - protection of biological resources**

Once the retaining wall is built and all temporary culverts removed, disturbed soils shall be finish graded to meet existing contours. Soils shall be distributed evenly over the site. Existing vegetation shall be protected from placement of excess soils.

**E. Soil/substrate/growth media**

**1. Testing**

Testing shall be conducted for soil on the restoration receiver site. The soils shall be tested for nutrient deficiencies and mechanical properties. Soils shall be amended if found to be deficient. Restoration measures shall be adapted to any soils, constraints, or deficiencies.

**2. Salvaging, stockpiling, replacing**

During the grading and vegetation removal process, native plants will be salvaged and collected. Plants with a high feasibility of successful transplanting will be harvested and propagated at a qualified native plant nursery, and/or on-site under the care of a qualified horticulturist.

**3. Decompaction**

Where parent soils are compacted, ripping will be implemented in preparation for seed and plant establishment. Hand crews on the steep slopes will accomplish scarifying of compacted soils.

#### 4. Amending soils

Soil amendments, such as native mulch and/or mychorizal fungi will be utilized in the container plants for the restoration program. Plant response to various levels of nutrients and amendments shall be analyzed.

#### 5. Mulching (inclusive of native mulches)

Clean rice straw shall be used as cover for erosion control and for covering planted seed on the steep and/or difficult locations. Straw shall be used at a rate of 2 hay bales per 1000 sq. ft. Jute netting will be used on the steepest slopes.

#### 6. Fertilizing

Fertilizer shall be specified for restoration receiver sites if required as a result of soil nutrient analyses.

#### 7. Weed Eradication

Weed control is the most important process for successful establishment of native plants, and will often result in natural regeneration of native plant populations. There are six major introduced exotic pest plants that have entered the project site. They are Jubata grass (*Cortaderia jubata*), French broom (*Genista monspessulanus*), Kikuyu grass (*Pennisetum clandestinum*), Hottentot fig (*Carpobrotus edulis*), Poison hemlock (*Conium maculatum*), and Acacia (*Acacia decurrens*).

The pest plants can be controlled through the use of a post-emergent herbicide (such as Rodeo, specifically developed for use in wetland sites). The exotic species should be mowed and sprayed after initial reemergence of new growth or daubed on freshly cut stumps. Specific goals and objectives for weed control are as follows:

- Limit the spread of invasive, exotic plant species.
- Support the re-establishment of existing native plant species and their future progeny by limiting unnatural competition by exotic species.
- Utilize mowing and selective spot spraying of approved post-emergent herbicides as the primary weed controls (manual weed pulling can destabilize site soils and cause secondary erosion).
- Physically protect native plant species growing in the midst of exotic weed species during spray operations.
- Utilize a surfactant with the herbicide to enhance adhesion to the plant dermis, and to utilize an organic dye to help applicators see where the mix has been applied. Both ingredients optimize the use of chemicals for control, increase control effectiveness, limit subsequent reapplications, and provide overall more environmentally safe procedures.

##### a. Primary weed species to be controlled

Jubata grass (*Cortaderia jubata*). This weedy "Pampas grass" is an extremely invasive species, and has become a serious weed in much of California. It can be a highly visible nuisance, which is difficult to kill and is quite prolific. Pampas grass has a propensity for establishing itself on bare, steep slopes. A myriad of very small seeds may be wind-dispersed over great distances. Since the seeds are very small they are not long-lived and seedlings do not compete well with established vegetation. The seeds germinate best on bare soil, particularly in moist areas.



Because of the abundance of its seeds and the distances to which they may be dispersed by wind, thoroughness is essential in eradicating this pest.

French broom (*Genista monspessulana*). This leguminous shrub is the most significant non-native invasive species in the Monterey region. French broom is also the most significant invasive exotic in adjacent areas of the Monterey Peninsula and is particularly common on roadcuts and disturbed sites. The California State Department of Food and Agriculture classify it as a Class 'C' pest species. The seeds are hard-coated and viable for many years, as is generally the case with legumes. Their exploding pods mostly disperse the seeds. French broom seedlings are intolerant of shade, so it spreads slowly in areas of established vegetation and decreases in the increasing shade of taller growing species. The plants are capable of growing over three feet tall in their first year and mature quickly, rarely living more than 10-15 years.

Kikuyu grass (*Pennisetum clandestinum*), is a warm season, aggressive spreading grass that will take over in all coastal areas, except in areas subject to frost. It has invaded the project site and cover significant areas on the Pebble Beach Golf Links from which it was most likely introduced to stabilize erosion on the bluffs.

Acacia (*Acacia decurrens*) is an aggressive small tree that has naturalized in Pescadero Canyon. It has invaded even the most densely covered forest areas. Cutting the primary stem at the base and applying herbicide to the freshly cut stub will control Acacia.

Hottentot fig (*Carpobrotus edulis*). This succulent "ice plant" is extremely invasive. This native of South Africa was historically planted as a ground cover plant. Hottentot fig grows very well in sandy soil, and often creates a monoculture that crowds out native plants. This decreases the diversity of native plants, which in turn, reduces the ability of the plant community to support wildlife which reduces the total biodiversity. The spread of hottentot fig is often assisted by California ground squirrels (*Spermophilus beecheyi*) that pick, eat and bury the seeds in their burrows. Hottentot fig also spreads rhizominously. It has been shown that hottentot fig can be effectively controlled with Round-up® or similar herbicide.

Poison hemlock (*Conium maculatum*) is a biennial herb from Europe that is common to roadsides and disturbed areas of Monterey County. It is important to control this species early in its growing period as it produces large amounts of seed.

**b. Weed control procedures. Application of post-emergent herbicide**

Because most weed species for chemical control lie adjacent to roads, an in-bed, or tow-behind, large spray tank with a minimum one hundred foot (100') length hose is the preferable equipment combination. A flat fan nozzle is also preferable for a more accurate application.

**c. The specified spray mix is as follows:**

- Herbicide: active ingredient *glyphosate* (Rodeo or equal)
- Water: clean and free of particulate matter (*glyphosate* absorbs on clay particles)
- Surfactant: Triton Ag 98 or equal
- Dye: Blazon agricultural dye
- Ingredient rates as specified by manufacturer.

Personnel providing spray services shall be fully trained in such operations, and shall wear all required protective clothing. The spray contractor shall carry all licenses and insurance required by the State of California and all other governmental agencies having jurisdiction. The

**EXHIBIT 5**

spray contractor shall also be responsible for notification of all parties regarding application of chemical herbicide, as is required by law.

**d. Protection of native plant species during herbicide application**

Prior to the application of herbicide, the spray contractor shall become thoroughly familiar with native plant species that are growing in exotic weed colonies, which are to be protected. The monitoring biologist is required to provide familiarity training using photographs, on-site identification, marking with flagging tape, and any other techniques necessary to convey specific identification. The contractor shall thereafter provide any and all appropriate measures necessary to protect identified native plants, such as shielding of plants with rolled plastic sheeting, while adhering to all applicable health and safety codes for worker protection.

**e. Exotic species control in landslide area**

The main goal of exotic control in the area of the landslide on the north slope of the canyon is to remove the most aggressive species. The total removal of vegetation could jeopardize the failure of the slide. Individual aggressive exotics will be removed and replaced with appropriate native that have shown to be established on the slide.

**8. Slope protection and erosion control**

On the slopes and banks, erosion control measures shall be implemented. Straw mulch applied at 2000 pounds per acre and jute netting shall be applied where specified (see plan sheets attached). Fast growing native grass seed shall be specified for erosion control. Utilizing traditional annual erosion control mixes containing annual rye grass, Hykon rose clover, and soft chess will inhibit native plant establishment and are of little use for long-term native vegetation establishment. This mixture will not be used on the project site. Native seeds such as California brome, (*Bromus carinatus*), blue wild rye (*Elymus glaucus*) are specified (Erosion Control Species List and Rates).

**a. Slope protection and erosion control**

EROSION CONTROL SPECIES LIST AND RATES		
SCIENTIFIC NAME	COMMON NAME	APPLICATION RATE
<i>Bromus carinatus</i>	California brome	30 lbs. per acre
<i>Elymus glaucus</i>	Blue wild rye	40 lbs. per acre

**9. Plant materials**

All plant material requirements are provided in the following table. Plant species, application rates, and estimated quantities are provided. Plants shall be propagated from site-specific collections.

RIPARIAN SPECIES LIST AND PLANTING RATE			
SPECIES	SIZE	RATE	TOTAL
<i>Carex barbarea</i>	1 gallon	As specified on plan sheet	200
<i>Ceanothus thyrsiflorus</i>	2 gallon	8 foot O.C.	20
<i>Clematis lasianthus</i>	D pots	As specified on plan sheet	35
<i>Distichlis spicata</i>	plug	As specified on plan sheet	350
<i>Dudleya caespitosa</i>	Liners	As specified on plan sheet	10
<i>Leymus mollis</i>	plug	As specified on plan sheet	300
<i>Leymus triticoides</i>	plug	As specified on plan sheet	7,000
<i>Lupinus arboreus</i>	1 gallon	As specified on plan sheet	10
<i>Myrica californica</i>	5 gallon	As specified on plan sheet	10
<i>Platanus racemosa</i>	5 gallon	40 foot O.C.	8
<i>Rhamnus californica</i>	1 gallon	12 foot O.C.	35
<i>Rosa californica</i>	1 gallon	8 foot O.C.	25
<i>Salix lasiolepis</i>	cutting	As specified on plan sheet	500
<i>Sambucus mexicana</i>	1 gallon	12 foot O.C.	45

**1. Propagule source (e.g. commercial, custom collect)**

Commercial quantities of local and regional ecotypes will be used for all restoration and erosion control applications. In addition, plants from the project site will be harvested. The seeds and/or plants shall be used on the restoration site.

As specified on plan sheet

**2. Plant handling**

Plants salvaged from the project site shall be excavated with the entire root structure intact. Plants shall be placed in nursery containers and propagated until transplanted to the restoration site.

**3. Planting rates, densities, spacing**

Planting rates and densities shall target successful stand establishment of the species provided in the Riparian Species List and Rate Table (page 7).

**4. Planting methods details**

Several methods will be utilized to establish vegetation in the mitigation receiver site. Methods to establish native vegetation will follow proven and successful procedures derived from many years of successful vegetation establishment (see plan sheets, attached).

**a. Direct planting**

Nursery grown trees, shrubs, and transplants shall be planted into areas where an erosion control cover of native grass has been established. The plants shall be placed in excavated basins and backfilled. The soils shall be firmly compressed at the base of the plant to preserve moisture.

1. Utilize a dibble, trowel, shovel, auger or other specialized tool, open a hole twice as deep and as wide to accommodate the live plant.
2. Place the live plant into the hole and compact the surrounding soil to "set" the plant.
3. Saturate the soil immediately surrounding the plant with water to a depth of 14".

**a1. Creation of willow bars and step pools**

Arroyo willow (*Salix lasiolepis*) will be utilized to create series of bars and step pools. Sections of willows will be planted in arcs across the stream channel at approximately 30-50 foot intervals. These lines of willows will be physically reinforced with driftwood that is abundant at the site. The driftwood will be tied to 4 foot T-bars anchored into the stream bed at an angle away from the current. This will allow the stream to create a series of pools and riffles which will improve the habitat potential and the filtration capabilities of the stream.

**a2. Transition to salt tolerant plants**

In the planting areas nearest the beach, there will be a transition to more salt tolerant species. Salt grass (*Distichlis spicata*) and American dunegrass (*Leymus mollis*) will be planted nearest the beach after the last line of willow plantings (see plan sheets, attached).

**b. Hydroseeding**

Seeding shall be performed by a mechanical hydroseeder. Seed shall be uniformly mixed placing seed, mulch, fertilizer, and binder into mix tank in this order. Seed shall be applied in a two-step operation. First places seed and mix mulch/fertilizer slurry. Second, apply remaining mulch/binder.

The hydro mulch is prepared by mixing fiber, soil stabilizer, seed and water in proportions specified in the plans or herein. Mixing time shall not exceed 45 minutes from the time the seed contacts the water until the entire batch is discharged onto the prepared soil. Mix specified seed with 150 pounds per acre "Gro-Power" 12-8-8 slow release fertilizer, 1500 lbs./acre paper fiber mulch and 80 lbs/acre "M" binder tackifier.

**V. SITE MAINTENANCE**

**A. Overview**

Disturbance loving pioneer species and weeds colonize disturbed sites creating cover and mulch over slower growing native plants. In the project area, non-native grasses, herbaceous plants, and weeds will most likely advance into the restoration site. These plants include noxious forbs such as French broom. Eventually, re-introduced chaparral and coastal scrub, along with oak scrub and pines may recolonize the site. Such recolonization may take many years, based on observation of other sites. Exotic pest plant control will be required on the entire site and is critical to the establishment of planted plants as well as naturally occurring plants. Maintenance of planted tree and shrub plants will include weeding around the base of the plants, protection from herbivory, and fertilization if soils analyses require.

1. Irrigation

No irrigation shall be used for the establishment and management of vegetation.

2. Inspection during implementation, frequency

Inspection shall occur during all phases of the erosion control, and revegetation program. The inspections shall: 1) ensure protection of extant habitat, 2) verify total acreage impacted as a result of the project, 3) determine and report on plant salvage operations, and 4) evaluate the effectiveness of revegetation plan implementation.

B. Adaptive management

The objective of the restoration and enhancement is to provide information regarding best practice vegetation establishment and management. Monitoring the results will help determine alternative vegetation establishment and management based on the relative success or failure of planting and care. Adaptive management will focus on implementation costs, efficacy of exotic plant control, and levels of success or failure of the prescribed management. If prescribed planting or weed control programs fail to achieve anticipated trends or thresholds of success, alternative management will be prescribed.

C. Evaluation and reporting of maintenance activities

Maintenance activities shall be monitored and a report prepared describing the results of the restoration program.

VI. PERFORMANCE STANDARDS

A. Standards for project element

1. Qualitative standards (e.g. photo reference points, visual/aesthetic quality)

Qualitative standards for the restoration program focuses on the establishment of representative species selected from the pre-existing plant communities. Qualitative standards will be measured by aesthetic quality of the recreated habitat. The landscape will eventually simulate natural contours, color, and texture of maritime chaparral lands to the extent possible given the terrain and soil conditions.

Photo monitoring can be done simply and inexpensively and can provide illuminating observations on a time scale that we don't naturally appreciate. Monitoring points will be established at key locations throughout restoration site. At each monitoring point, a permanent marker will be installed. The permanent datum will be installed at the ground level consisting of a small t-bar stake.

2. Quantitative standards (mortality of planted plants, weed control).

Plant establishment will be measured by field survey. Mortality of selected native plant species of over 10% of planted individuals will indicate corrective actions are required. Vegetative cover of herbaceous species is a good index to the amount of light and soil nutrients being captured by a member of the community. Thus, canopy cover of herbaceous weed species will be used to determine when weedy species require corrective actions. Absolute canopy cover of more than 10% of an exotic weed species will require corrective action.

Corrective action for mortality of individually planted native species will include an analysis to determine the cause of mortality. If a cause can be established, that information will be used to select and re-install replacement individuals. Corrective action for abundant, non-native weeds will vary with the species, but in all cases will require appropriate weed control. Methods of weed control are discussed above. Corrective action for loss of large woody species will include an analysis of the cause of mortality or lack of growth. Poorly performing species will be replaced.

## VII. MONITORING

### A. Goals

For each monitoring goal listed below, there is a numerical equivalent under performance criteria (listed in the Performance Criteria section page 14). In addition, corresponding monitoring procedures are provided below (B. Monitoring procedures).

1. Avoid and protect the extant population from impacts.
2. Determine exotic species abundance and management control procedures.
3. Every year beginning in year one, assess the percent cover, numbers, and population health of native erosion control and planted native species within the restoration site.
4. Determine efficacy of erosion control measures.

### B. Description of monitoring methods

#### 1. Herbaceous vegetation and erosion control

A sampling regime will be established so that at least 50% of the total restoration area, or at least 2 sampling plots, will be included. At a beginning point of each plot, a point will be determined in the field, and from this point, a 50 meter measuring tape along the contour will be laid out. This line represents the centerline of a 50 x 20 meter sampling plot (fig 1). The heading of the line will be noted for future monitoring reference. At every 2.5 meters along the line, a steel quadrat (0.1 m sq.) will be placed. The quadrat is painted along the edges to show 6 cover classes (0-5%, 6-25%, 26-50%, 51-75%, 75%-95%, 95-100%). Percent cover for each species will be determined by averaging estimated basal area of each species within a quadrat. Mid-points of cover classes will be assigned to each observation and averaged twenty quadrats at each sampling location. This method is commonly used in vegetation sampling (Bonham, 1989) and in particular was developed by Daubenmire (Daubenmire, 1959) ( fig.4).

A sample of 25 individual plants of each herbaceous species planted will be marked with a plastic flag on a steel wire and individually numbered. For relocation purposes, these will be located near the centerline of the sampling plots. Four times a year, each plant will be visited and scored as alive and showing new growth, alive, alive but with dead leaves, or dead.

#### 2. Tree and shrub vegetation

Along the centerline of the sampling plot, a tape will be laid out and line intercept values will be recorded for each species encountered. Canopy coverage is projected down on the tape for each individual plant encountered. The number of dm of tape covered by the shrub is recorded. Percent cover for each species is expressed as a sum of all intercepted distances divided by 50m.

### C. Discussion of methods for analyzing results

For each of the herbaceous species, total canopy cover must be calculated at each transect, using the smaller (20cm x 50cm) quadrats as sampling units. Individual cover values for each species in each of the 20 quadrats at each sampling plot must be recorded. Means and standard deviations are calculated and standard, parametric "t" tests will be used to compare cover between sampling periods, or between a sampling period and a given threshold (eg. 40%). The absolute numbers of surviving plants installed on the site will be taken directly from the numbers of flagged, numbered plants still alive. Average number alive can be calculated. No comparative statistics should be needed, but these data shall be used in 2x2 Chi-Square analyses. Similarly, for each of the sampling plots (at least 20), the mean cover of each species will be calculated from the observed individual cover values. That is, at each 20m x 50m plot, individual cover values, as they are read along the 50m tape, are recorded. These are then averaged and will allow comparisons (Means, variances, parametric "t" tests) for the same sampling plots between years (for each species of concern) or for a given species at one plot against some pre-determined threshold (eg. 40%). For tree species, the density of stems can be calculated. Again, comparative standard parametric statistics (means, variances, "t" tests) can be calculated to make comparisons between plots or between the same plot over time (Bonham, 1989).

### D. Monitoring Procedures

#### 1. Impacts to site during restoration:

Install a protective fence. Once the protective fence is installed, visually inspect the perimeter of the restoration area for adequacy of protective measures. Inspection shall occur during each site visit, quarterly. Report inadequate protection or disturbances of restoration site to City of Carmel-by-the-Sea. Temporary signs shall be placed at 50-foot intervals along the length of the fence describing the restoration area.

#### 2. Determine exotic species abundance and management control procedures:

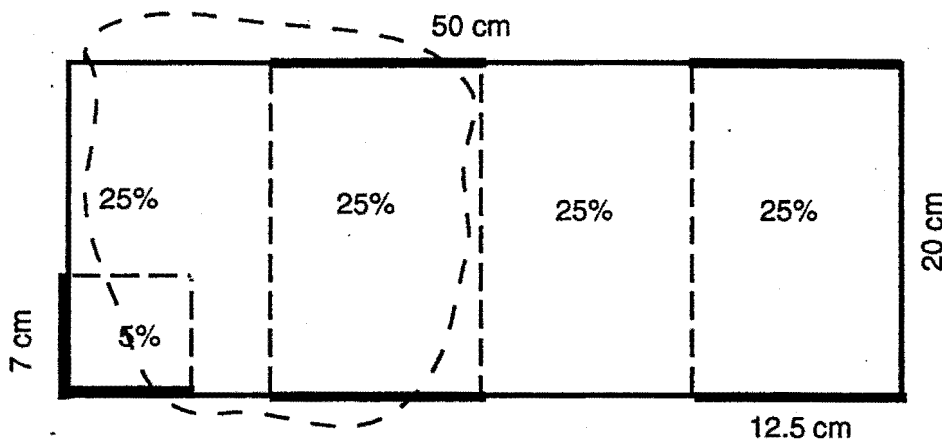
Visually inspect the 26,800 sq. ft. restoration area for presence of exotic species prior to and after exotic control activities. List all exotic species by percent cover (Daubenmire) values. Compare percent cover trends before and after each weed control event. Record and report on weed control timing, frequency, height, and general effects on erosion control seedlings and on natural native plant regeneration.

3. **Assess percent cover values:** Every year beginning in year one, assess the percent cover, numbers, and population health and efficacy of native erosion control and planted native species within the restoration site. List all species by percent cover values.

### E. Performance criteria

Performance criteria are listed in the following Performance Criteria table (page 14).

## Daubenmire Cover Method.

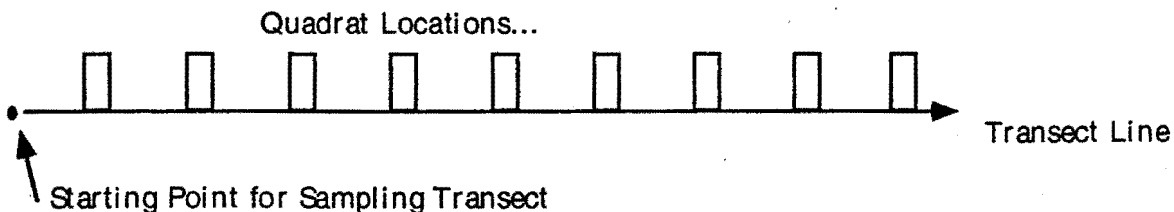


A steel frame, made from .25" wire, is welded in a flat rectangle to dimensions of 20 cm x 50 cm (area = .10 m<sup>2</sup>). The frame is then painted to show areas of 5%, 25%, 50%, 75%, as 95% (see above).

This frame is placed on the ground and cover of each species is summed visually and placed in the following categories;

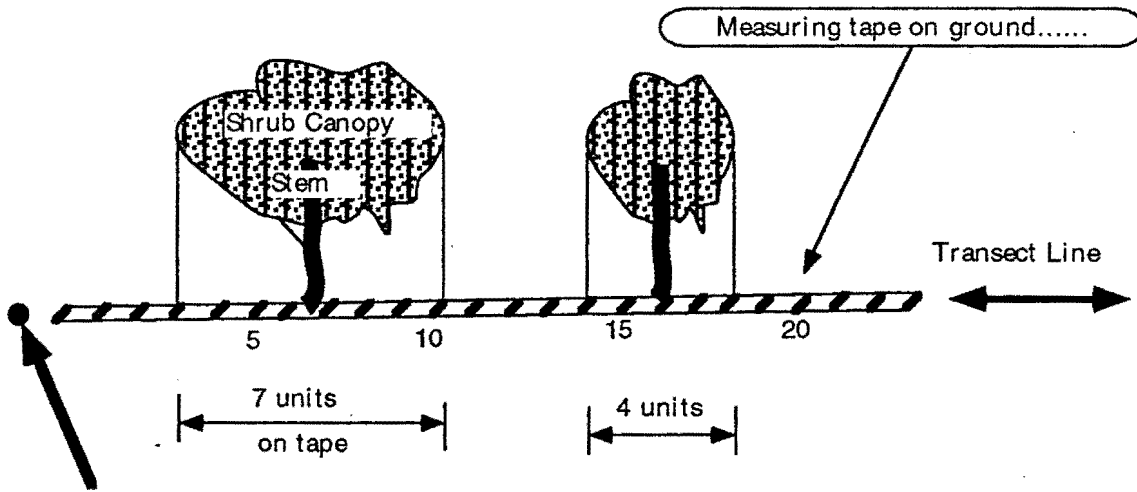
Category	Mid Point
1- 0-5%	2.5
2- 6-25%	15.5
3- 26-50%	38
4- 51-75%	44.3
5- 76-95%	85.5
6- 96- 100%	98

For example, the plant shown in outline, as seen from above, covers enough ground for category 3. In the field, only the score for each species in each quadrat is recorded. Scores for species on each quadrat are later assigned a numeric value of the mid-point of the range, and then averaged. At least 20 quadrats must be read along a transect placed in each larger sub-unit.





Line-Transect Method for Estimating Cover of Shrub Vegetation.



Starting Point, as determined by random numbers and map. This same point is used as the center of the point-centered quarter method to estimate tree density. It will have a permanent marker, and will also be the location of a photo-monitoring point.

Percent shrub cover is determined by adding up all the parts of the tape which intercept the cover of the canopy of the shrubs. In this case, the cover is  $(7+4)/23$  or 47.8%. Units can be whatever is convenient; it does not matter if it is in inches, tenths of meters, etc. The transect must be at least 50m long at each sampling point.

**PERFORMANCE CRITERIA  
for Riparian Habitat Restoration**

PARAMETER	METHOD OF MONITORING	FREQUENCY AND TIMING	PERFORMANCE CRITERIA	REMEDIAL MEASURE
No.1 Avoid site impacts	Inspect site and protective measures	Quarterly-year one	Site protected from impacts-signs intact	Increase protective measures
No.2 Weed invasion	Percent cover transects	Quarterly-year one before and after weed control activity	No invasive plants competing for moisture and light	Hand remove and or apply herbicide to invasive plants
No. 3 The percent cover, numbers, and population health of native erosion control and planted native species within the restoration site achieve stated cover values: List all species by percent cover values.	Percent cover, census planted plants, and photo monitoring	Quarterly-year one before and after weed control activity	Percent cover of erosion control seeding equal to or greater than 80% cover. Plants planted alive and healthy	Reseed and/or replant erosion control and restoration species.

**EXHIBITS**

## Reporting requirements

Reports will be submitted to the City of Carmel, The California Coastal Commission, and to California Department of Fish and Game. Monitoring shall occur once per year for years 1, 2, and 3, and then additionally in years 5, 7, and 10. The report will include 1) observational and analytical data, 2) photo documentation, and 3) notes pertaining to the success or failure of the restoration activities and, 4) management recommendations.

## VIII. REMEDIAL MEASURES

### A. Criteria for implementation

The success criteria for the revegetation project are based on meeting objectives pertaining to the establishment of native grasses, shrubs, and trees. The habitat to be created is comprised of native species representing Riparian Willow Scrub and Riparian Forest.

1. Success will be determined by mortality. An estimated 5-8% mortality is commonly associated with restoration plantings that do not depend upon supplemental irrigation. Mortality of any specified container plants will require a 1:1 mortality replacement ratio the first 3-5 years to achieve the specified planting design composition, number, and frequency of native species.

2. Success will be determined by fecundity. Any natural native plant species or habitat regeneration and/or recruitment will be measured and applied to the required species list and area to be restored over the monitoring period.

Efficacy of weed control will be analyzed to determine the effects of the management on the establishment of a trend toward native plant diversity and cover and a decrease in exotic species.

References

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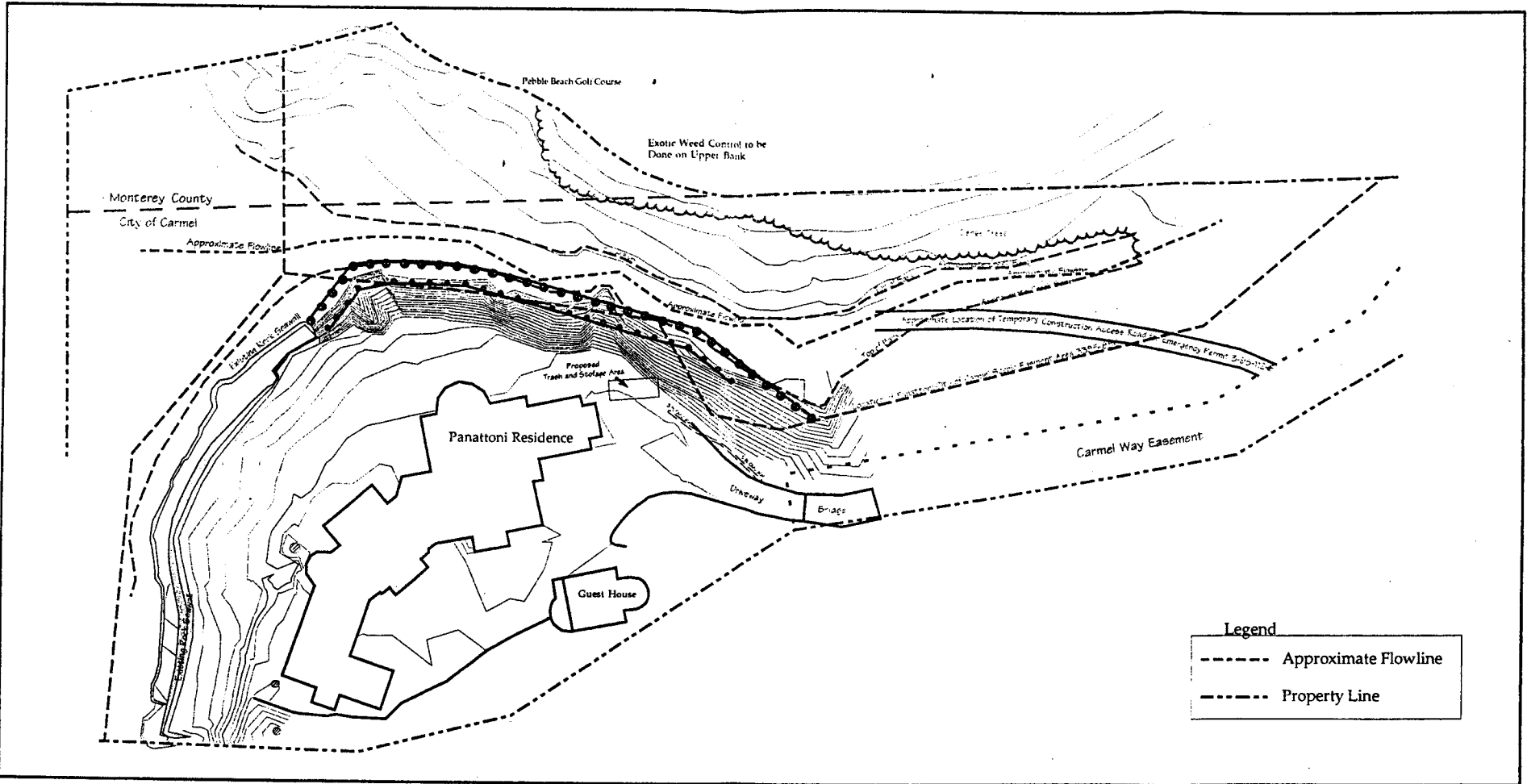
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EXHIBITS

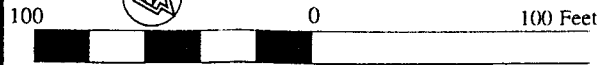


Riparian Habitat  
Restoration and Erosion Control Plan

RE 98-17/Carl Panattoni  
APNs: 010-321-036&010-321-037

Sheet 1 of 2

**RANA CREEK**  
**HABITAT RESTORATION**



September 7, 1999

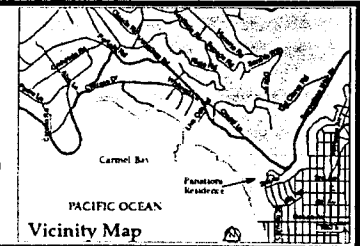
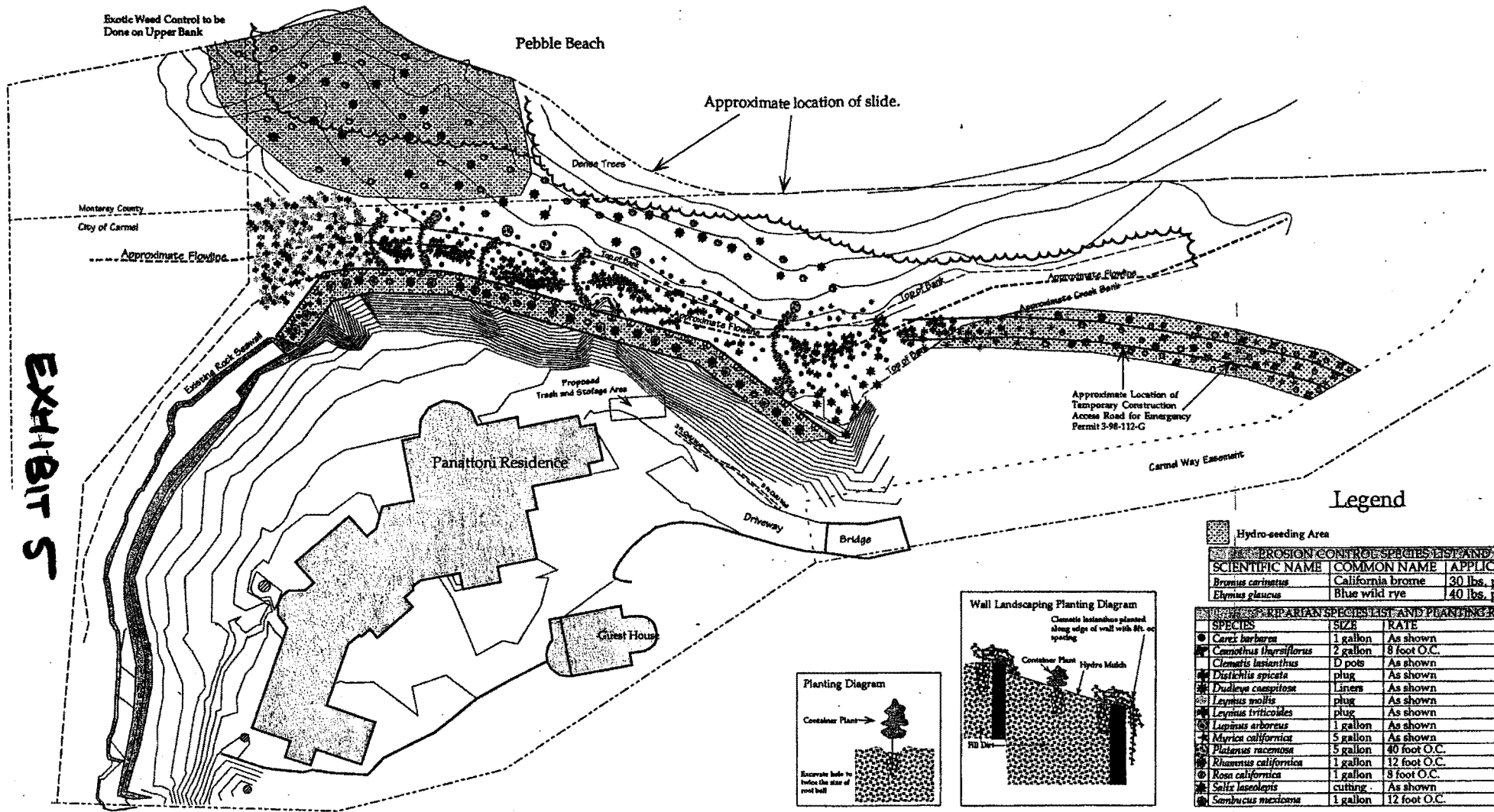


EXHIBIT 5

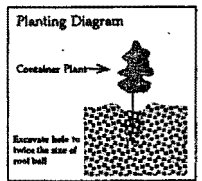
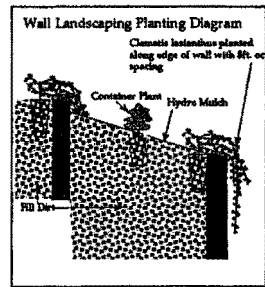


**Legend**

EROSION CONTROL SPECIES LIST AND RATES		
SCIENTIFIC NAME	COMMON NAME	APPLICATION RATE
<i>Bromus carinatus</i>	California brome	30 lbs. per acre
<i>Elymus glaucus</i>	Blue wild rye	40 lbs. per acre

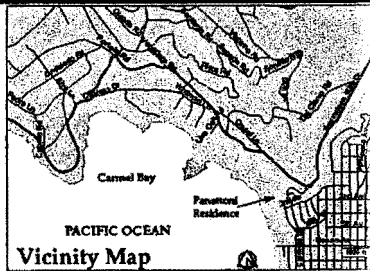
RIPARIAN SPECIES LIST AND PLANTING RATE			
SPECIES	SIZE	RATE	TOTAL
● <i>Carex barbarus</i>	1 gallon	As shown	200
■ <i>Comanthus thuriflorus</i>	2 gallon	8 foot O.C.	20
■ <i>Clematis lasianthus</i>	D pots	As shown	35
■ <i>Distichlis spicata</i>	plug	As shown	350
■ <i>Dudleya cuneata</i>	litters	As shown	10
■ <i>Lepidosiphon</i>	plug	As shown	300
■ <i>Lepidosiphon</i>	plug	As shown	7,000
■ <i>Lupinus arboreus</i>	1 gallon	As shown	10
■ <i>Myrica californica</i>	5 gallon	As shown	10
■ <i>Plantago racemosa</i>	5 gallon	40 foot O.C.	8
■ <i>Rhamnus californica</i>	1 gallon	12 foot O.C.	45
● <i>Rosa californica</i>	1 gallon	8 foot O.C.	25
● <i>Salix lasiolepis</i>	cutting	As shown	500
● <i>Sambucus mexicana</i>	1 gallon	12 foot O.C.	45



**Riparian Habitat Restoration and Erosion Control Plan**

**RE 98-17/Carl Panattoni**  
**APNs: 010-321-036&010-321-037**

Sheet 2 of 2



**RANA CREEK HABITAT RESTORATION**



September 7, 1999

## ADOPTED

- 7. Assumption of Risk.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit to the Executive Director for review and approval an authorized signed document in which the applicant understands that the site may be subject to extraordinary hazard from bluff retreat and erosion and assumes the liability from such hazards, and the permittee unconditionally waives any claim of liability on the part of the Commission or its successors in interest for damage from such hazards and agrees to indemnify and hold harmless the Commission, its offices, agents, and employees against any and all claims, demands, damages, costs, expenses or liability arising out of the Commission's approval of the project.
- 8. Beach Management Plan.** WITHIN TWELVE (12) MONTHS OF COMPLETION OF THE REVETMENT, the permittee shall submit to the Executive Director for review and approval an update of the Carmel Beach Management Plan as amended by coastal permit (i.e., P-980, P-79-320, 3-83-217-A1, 3-83-217-A2, 3-83-217-A3, and 3-83-217-A4). This updated plan shall describe the extent of existing protective works and other beach development, and shall include a description of development both approved and contemplated in the future on Carmel Beach and bluffs. This plan shall include, but not be limited to, (1) a discussion of sand supply dynamics and sand supply impacts due to protective work, based upon existing studies, (2) erosion patterns, (3) maintenance and repair procedures for protective work, protective work landscaping, and public access facilities (i.e., stairways), and (4) appropriate mitigation measures for any identified resource and/or public access impacts associated with implementing the plan. In order to implement the updated Carmel Beach Management Plan, the City shall either:
- a) submit an application for a coastal development permit to implement the plan at the same time that the updated Carmel Beach Management Plan is submitted for review and approval of the Executive Director; or
  - b) WITHIN THREE (3) MONTHS OF COMPLETION OF THE REVETMENT, submit to the Executive Director for review and approval a timeline for local coastal program (LCP) completion to consist of an updated land use plan (LUP) and an implementation plan (IP) incorporating the updated Carmel Beach Management Plan. If the LCP is not certified by the California Coastal Commission WITHIN TWELVE (12) MONTHS OF COMPLETION OF THE REVETMENT, the City shall submit an application for a coastal development permit to implement the updated Carmel Beach Management Plan.

### 3. RECOMMENDED FINDINGS AND DECLARATIONS

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#### A. Project Description

The proposed amendment is to install a rip-rap revetment along approximately 240 linear feet of beach bluffs below Scenic Road between 11th and 12th Avenues, and to install 2-foot high guardrails at various locations along Scenic Road between 9th and 12th Avenues in the City of Carmel-by-the-Sea (See Exhibit B). The rip-rap is intended to protect Scenic Road, utilities buried under Scenic Road, and the heavily used beach bluff pathway running along the top of the relatively steep, approximately 25 foot high bluff.

The revetment would extend from the top of the bluff (approximately 34 feet above mean sea level) to the bottom of a 3 foot keyway buried in the bedrock below the beach sand -- a structural vertical height 37 feet. With the existing beach sand approximately 8 feet above the top of the mean sea level bedrock, approximately 26 vertical feet of revetment would be visible from the beach. The width at the

**EXHIBIT 6 - 3.83.217.A4 ADOPTED CONDITION 8**

RECEIVED  
When recorded return to:

SEP 20 1999

CALIFORNIA  
COASTAL COMMISSION  
CENTRAL COAST AREA

Space above for Recorder's Use

AMENDED SCENIC EASEMENT DEED

THIS DEED made this \_\_\_\_\_ day of \_\_\_\_\_, 1999, by and between CARL D. PANATTONI and MARY JANE PANATTONI, husband and wife, as Grantor, and the CITY OF CARMEL-BY-THE-SEA, a political subdivision of the State of California, as Grantee:

WITNESSETH:

WHEREAS, the said Grantor is the owner in fee of the parcel described in Exhibit "A" attached hereto and by this reference made part hereof:

WHEREAS, the said Grantor granted a scenic easement to the City of Carmel by recorded instrument, Reel 3385 at pages 886-893, dated April 11, 1995.

WHEREAS, the said Grantor's predecessor in interest, Craig T. McFarland, granted a scenic easement to the City Carmel by recorded document, Reel 1697 at pages 46-53, dated December 30, 1983.

WHEREAS, the California Coastal Commission approved Emergency Permit No. 3-98-112-G (December 17, 1998) subject to Condition of approval No.16,

WHEREAS, Condition No. 16 requires this amendment.

NOW, THEREFORE, Grantor grants to Grantee an amended scenic easement in the property described in Exhibit "A," which includes the area of the McFarland scenic easement grant and the prior Panattoni scenic easement grant. This amended scenic easement shall rescind and supersede the aforementioned recorded scenic easement documents which occur on the property described in Exhibit "A."

The foregoing grant will be effective upon its acceptance by Grantee, and will be of the nature, character, and to the extent hereinafter expressed, which results from the restrictions hereby imposed upon the use of the property by said Grantor; and to that end and for the purpose of accomplishing the intent of the parties hereto, Grantee and Grantor covenant on



behalf of themselves, their successors and assigns to do and refrain from doing, severally and collectively upon the granted property the various acts hereinafter mentioned:

The restrictions hereby imposed upon the use of the granted property on the part of Grantor and Grantee shall be as follows:

1. No structures, except those structures described in Section 6(d), shall be placed or erected by either Grantor or Grantee upon the land subject to the easement.

2. To protect the existing and future plant and animal life and the important scenic and habitat values of the property ~~public access shall not be allowed without preparation of a plan that protects resource values and that has the express written approval of Grantor and Grantee.~~

3. The general topography of the landscape shall be maintained in its present condition and no excavation, grading or filling, except as necessary to construct the structures described in Section 6(d), shall be allowed by Grantor or Grantee.

4. No abuse of the land or resources subject to the easement which will materially alter the landscape, habitat value or scenic features shall be allowed by Grantor or Grantee. However, alterations to the vegetation to improve the habitat including but not limited to removal of non-native species and removal of diseased trees shall not be prevented by this restriction.

5. The scenic easement shall not be used or construed to interfere with any rights of public access acquired through public use which may exist along the route of the Redondo Trail or elsewhere within the boundaries of said easement.

6. Grantor reserves the following rights:

(a) The right to construct and maintain a wood-rail or other attractive fencing at or near the borders of the scenic easement and a small sign designating the occupants of the residence, both items being subject to the approval of the City of Carmel-by-the-Sea. Such fencing shall not be constructed so as to block the views into the scenic easement nor significantly impede the movement of animal life through this easement.

(b) The right to maintain and replace all existing private roads, bridges, dikes and any other structures upon said land, including all structures which safeguard Grantor's property from intrusion by the sea.

(c) The exclusive right to maintain the natural vegetation and topography of the granted lands for the benefit of Grantee and the public.

(d) The right to construct and maintain structures which have been permitted by the California Coastal Commission and which have been found necessary to safeguard principal structures on the Grantor's property from intrusion by the sea or Pescadero Creek.

GRANTOR

Dated: \_\_\_\_\_

\_\_\_\_\_  
CARL D PANATTONI

Dated: .. \_\_\_\_\_

\_\_\_\_\_  
MARY JANE PANATTONI

STATE OF CALIFORNIA            )  
  ) ss.  
COUNTY OF MONTEREY         )

On \_\_\_\_\_, before me, \_\_\_\_\_, Notary Public, personally appeared \_\_\_\_\_, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature \_\_\_\_\_

EXHIBIT 7  
(30FS)

EXHIBITS "A" & "B"  
(BESTOR ENGINEERING TO PROVIDE)


EXHIBIT 7  
(4055)

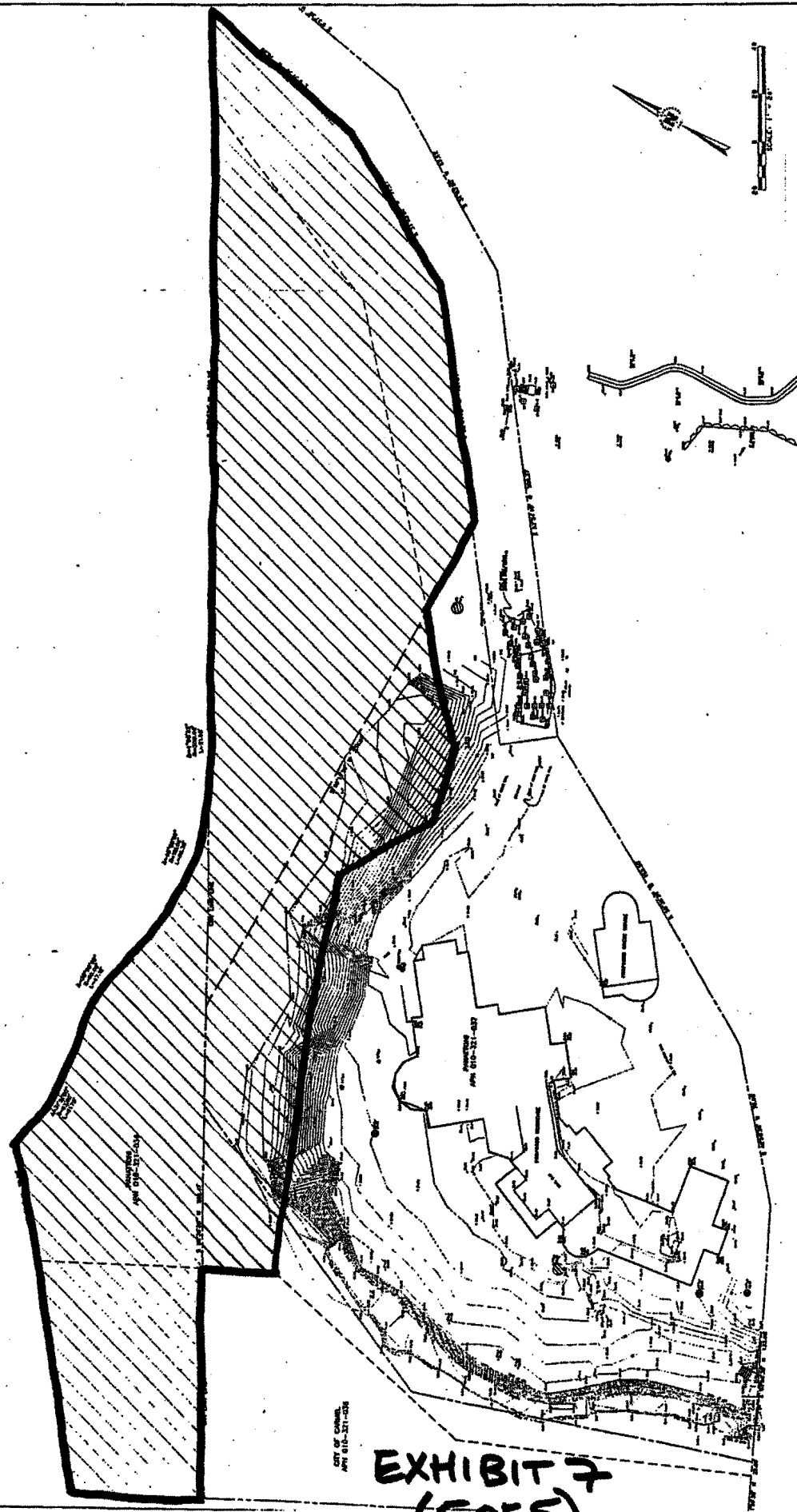
DATE	1/11/2011
BY	...
FOR	...
PROJECT	...
CLIENT	...
SCALE	...

SECTOR ENGINEERS, INC.  
 1745 EAST LINDEN AVE., SUITE 100, SAN ANTONIO, TEXAS 78202  
 TEL: 214-343-8800 FAX: 214-343-8801  
 WWW.SECTORENGINEERS.COM

PREPARED FOR: PALATKA  
 EXHIBIT "B"  
 BOUNDARY MAP  
 CALIFORNIA  
 COUNTY OF HORTLEY

DATE: 1/11/2011  
 TIME: 7:00  
 SHEET: 2 OF 6  
 JOB: 100812

 = SCENIC EASEMENT



LOT 10 OF BLOCK 1  
 MAP 010-237-006

EXHIBIT 7  
 (50FS)