

MINUTE ITEM

This Calendar Item No. C30 was approved as Minute Item No. 30 by the California State Lands Commission by a vote of 3 to 0 at its 4-7-03 meeting.

**Minute Item
C30**

A 27

S 15

04/7/03
WP 7196.9
PRC 4742.9
N. Smith
D. Plummer

**PELICAN POINT HOMEOWNERS ASSOCIATION
(APPLICANT)**

Item C30 was moved from the Consent to Regular Calendar.

Calendar Item 30: Commission listened to staff presentation on the Pelican Point Seawall. Commissioners also listened to comments from public. Item was approved unanimously as presented.

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**CALENDAR ITEM
C30**

A 27

S 15

PRC 7196

04/7/03
WP 7196.9
PRC 4742.9
N. Smith
D. Plummer

GENERAL LEASE - PROTECTIVE STRUCTURE USE

LESSEE / APPLICANT:

Pelican Point Homeowners Association
P.O. Box 1473
Watsonville, California 95077

AREA, LAND TYPE, AND LOCATION:

State lands at the confluence of the Pajaro River, Watsonville Slough and Monterey Bay, near Watsonville, Santa Cruz County.

AUTHORIZED USE:

Maintenance of an existing rock revetment (approximately 580 feet long) along the Pacific Ocean and construction and maintenance of a pile-driven steel sheet pile wall adjacent to the Pajaro River (approximately 486 feet long), along with a temporary construction easement approximately 45 feet in width, to protect the Pelican Point condominiums.

LEASE TERM:

One year, beginning April 10, 2003. The purpose of the one-year lease is to provide sufficient time for staff and the applicant to work out an exchange whereby the State would consider an exchange of the lands underlying the existing rock revetment and the proposed river wall for lands of equal or greater value and that provide valuable wetland habitat. Should the parties be unable to effectuate an exchange prior to the termination of the lease, the applicant will be required to apply to the Commission for its consideration of an extension of this lease.

CONSIDERATION:

\$58,370 for the one-year term of this lease.

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SPECIFIC LEASE PROVISIONS:

Insurance:

Liability insurance: Combined single limit coverage of \$5,000,000.

Bond:

Construction performance bond in an amount equal to the contract to construct the proposed river wall.

Lease performance bond: \$100,000.

OTHER PERTINENT INFORMATION:

1. Applicant is the owner of record of the uplands adjoining the lease premises.
2. Pajaro Dunes is a condominium development located along Monterey Bay and the Pajaro River immediately west of Watsonville. The Pelican Point Homeowners' Association (PPHA) represents the 87 condominium owners within the Pelican Point area of the Pajaro Dunes development. The Commission, on April 12, 1988, approved a General Lease – Protective Structure Use, PRC 7196.9 for the existing rock revetment along the Pacific Ocean to protect the condominiums from wave action.
3. The Department of Parks and Recreation (DPR) was issued a lease, PRC 4742.9, on June 23, 1983, for lands located along and adjacent to the proposed river wall. The proposed lease to the PPHA is conditioned on the following, that DPR either: 1) quitclaim its interest within the lease area to be occupied by the river wall to the Commission, or 2) submit a letter of non-objection to the Commission regarding the proposed lease, (WP 7196.9), before the lease will be effective. The approval of the lease is also conditioned on the PPHA obtaining required approvals from all the federal, state and local agencies having jurisdiction prior to the start of construction activities.
4. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines [Title 14, California Code of Regulations, section 15060(c)(3)], the staff has determined that the acceptance of a quitclaim from the DPR and corresponding amendment to DPR's lease is not subject to the provisions of the CEQA because it is not a "project" as defined by the CEQA and the State CEQA Guidelines.

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Authority: Public Resources Code section 21065 and Title 14, California Code of Regulations, sections 15060(c)(3) and 15378.

5. Applicant and Commission staff has begun title settlement negotiations concerning the subject property and adjacent wetlands, with the goal of resolving property ownership and boundary issues between the parties involving lands at the confluence of Watsonville Slough, the Pajaro River, and the Pacific Ocean.
6. At its meeting of September 17, 2001, the Commission considered and adopted the staff report entitled "Shoreline Protective Structures". In adopting the report, the Commission directed staff to look at a number of factors when processing applications for shoreline protective structures. Specific items to be considered include impacts on the public's ability to utilize sovereign lands, impacts to public trust resources and the environment. Staff was also directed to charge rent consistent with existing regulations.

The existing river wall was constructed in 1971 to prevent the Pajaro River from eroding into the area occupied by the condominiums that were constructed in the late 1960s and early 1970s. Since construction, the river wall has been maintained on an emergency basis by placing a backfill of rock on the landward side of the wall with some rocks in the 2-ton range. Staff has looked at the following alternatives to the river wall project that has been proposed by the applicant.

- a) No project alternative: This would leave the condominium owners with the limited protection now afforded by the existing river wall. This wall and the pilings that support the adjacent condominiums would be left subject to periodic scouring of the sand that jeopardizes the integrity of the buildings.
- b) Placement of the river wall entirely on the Pelican Point Homeowners Association Property: While the new river wall can be built entirely on private property, it is not without significant additional construction costs and risks to the buildings. Prior to construction of the new river wall the rock riprap that has been placed landward of the existing wall would have to be excavated in order to be able to drive the sheet metal piles. This would require a longer construction period and leave the condominiums without

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protection prior to the new wall being installed. Additionally, driving piles closer to the existing buildings may cause or increase the likelihood of damage to the structures. It has been estimated that this design could increase the construction period from an additional two to three years and add an additional \$3,000,000 to the cost of the river wall.

- c) Relocation or Reconstruction of the existing buildings outside the area of concern: This has been estimated to cost approximately \$20 to \$30 million.
- d) Construction of the river wall on State-owned land: This is the project proposed by the applicant. The project would consist of driving a sheet-pile wall on the beach side of the existing wall, which is on State-owned land. The wall, as proposed, would encroach onto the beach 2.5 to 5 feet. While this would result in a loss of beach area and Snowy Plover habitat of about 3,000 square feet, the beach at this location is normally a large expanse that extends southward for a considerable distance.
- e) Staff has analyzed the project's impacts on public access at this location. Because the new river wall will extend onto the beach only five feet from the existing wall onto a sand spit that is generally several hundred yards long, impacts to access are not significant. Public access to the sand spit is available from north of the project location, a distance of approximately one-half mile. The public walks along the beach to the project location. Because this area is managed by the State Department of Parks and Recreation for Snowy Plover habitat, public access is currently allowed, but not encouraged during the Snowy Plover nesting season. The people that will be most directly affected by the river wall are residents of the condominiums that currently have direct access to the beach. Added flood protection for the residents will result in more limited access at the river wall location during and after project construction.
- f) Impacts to Resources: This project required review by those state and federal wildlife agencies (Department of Fish and Game, U.S. Fish and Wildlife Service and the National Marine Fisheries Service) charged with the protection of the species found at the

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project location. The agencies have indicated that following the construction windows listed in the Mitigation Monitoring Program will avoid species impacts. These construction windows will be a part of any lease issued by the Commission.

- g) Consideration for the use of state-owned property: Staff has analyzed the project to determine the extent of public benefit that may be attributable to the construction of the seawall. It is staffs' recommendation that rent be charged for both the existing sea wall as well as the new river wall due to the private benefit that is derived from this project.
7. A Mitigated Negative Declaration was prepared and adopted for the construction and maintenance of the proposed steel sheet pile river wall by the Pajaro Dunes Geologic Hazards Abatement District. The California State Lands Commission's staff has reviewed this document.
8. A Mitigation Monitoring Program was adopted by the Pajaro Dunes Geologic Hazards Abatement District.
9. Staff has also consulted with the U.S. Fish and Wildlife Service (USFWS) regarding potential impacts to the Snowy Plover during the construction of the river wall. The USFWS has indicated that they have reviewed the project and are satisfied that potential impacts can be avoided by implementation of the Mitigation Monitoring Program which will be a part of any lease issued by the Commission.
10. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Title 14, California Code of Regulations, section 15061), the staff has determined that the maintenance of the existing rock revetment seawall is exempt from the requirements of the CEQA as a categorically exempt project. The project is exempt under Class 1, Existing Facilities; Title 14, California Code of Regulations, section 2905(a)(2).

Authority: Public Resources Code section 21084 and Title 14, California Code of Regulations, section 15300.

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11. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code sections 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staffs' opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

The applicant's proposed river wall project has been reviewed and authorized by the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the Regional Water Quality Control Board (RWQCB), the Army Corps of Engineers (ACOE), and Santa Cruz county. The ACOE authorized the project on June 5, 2002, based upon their federal consultation with USFWS and NMFS. The ACOE authorization is not effective until the California Coastal Commission has permitted the project. Because it was premised on a project commencing in 2002, the ACOE authorization will likely need to be amended following Coastal Commission approval of the project. The USFWS and NMFS reviews incorporated within the ACOE authorization did not reference any termination date.

CDFG authorized the project on March 20, 2002. Because this authorization only applies to work in 2002, the CDFG authorization will need to be amended. The Santa Cruz County and RWQCB authorizations remain effective, as they do not include any deadlines.

FURTHER APPROVALS REQUIRED:

California Coastal Commission, California Department of Parks and Recreation

EXHIBITS:

- A. Location Plat
- B. Notice of Determination
- C. Initial Study/Mitigated Negative Declaration and Mitigation Monitoring Program

PERMIT STREAMLINING ACT DEADLINE:

To be determined.

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RECOMMENDED ACTION:

IT IS RECOMMENDED THAT THE COMMISSION:

CEQA FINDING:

AS TO THE MAINTENANCE OF THE EXISTING ROCK REVETMENT SEAWALL, FIND THAT THE ACTIVITY IS EXEMPT FROM THE REQUIREMENTS OF THE CEQA PURSUANT TO TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15061 AS A CATEGORICALLY EXEMPT PROJECT, CLASS 1, EXISTING FACILITIES; TITLE 2, CALIFORNIA CODE OF REGULATIONS, SECTION 2905(a)(2).

AS TO THE CONSTRUCTION AND MAINTENANCE OF THE STEEL SHEET PILE RIVER WALL, FIND THAT A MITIGATED NEGATIVE DECLARATION AND A MITIGATION MONITORING PROGRAM WERE PREPARED AND ADOPTED FOR THIS PROJECT BY THE PAJARO DUNES GEOLOGIC HAZARDS ABATEMENT DISTRICT AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.

ADOPT THE MITIGATION MONITORING PROGRAM, AS CONTAINED IN EXHIBIT C, ATTACHED HERETO.

AS TO THE ACCEPTANCE OF A QUITCLAIM FROM AND CORRESPONDING AMENDMENT OF THE LEASE TO THE STATE DEPARTMENT OF PARKS AND RECREATION, FIND THAT THE ACTIVITY IS NOT SUBJECT TO THE REQUIREMENTS OF THE CEQA PURSUANT TO TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15060(c)(3) BECAUSE THE ACTIVITY IS NOT A PROJECT AS DEFINED BY PUBLIC RESOURCES CODE SECTION 21065 AND TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15378.

SIGNIFICANT LANDS INVENTORY FINDING:

FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED BY THE COMMISSION FOR THE LAND PURSUANT TO PUBLIC RESOURCES CODE SECTIONS 6370, ET SEQ.

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AUTHORIZATION:

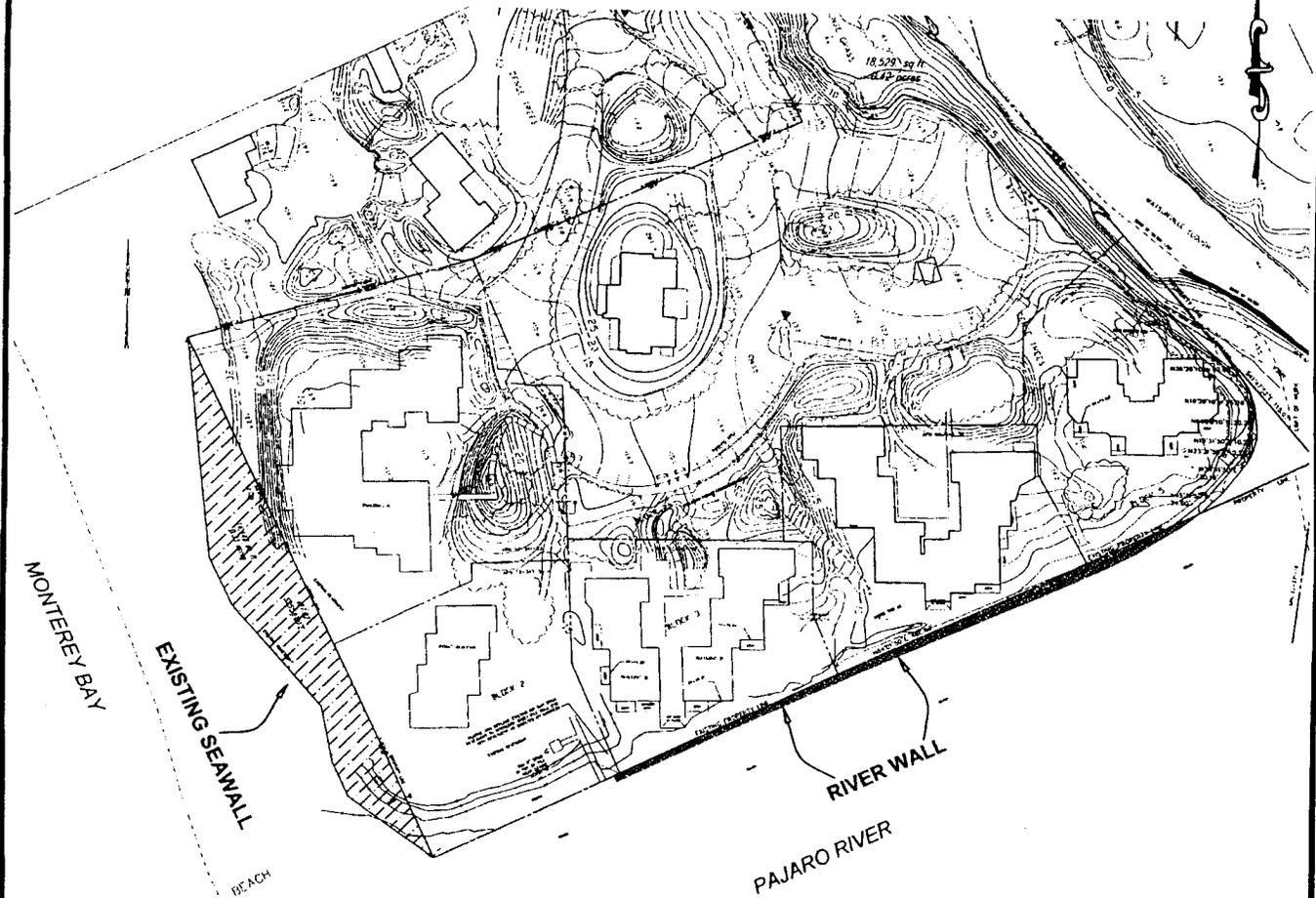
AUTHORIZE ISSUANCE TO THE PELICAN POINT HOMEOWNERS ASSOCIATION OF A GENERAL LEASE - PROTECTIVE STRUCTURE USE, BEGINNING APRIL 10, 2003, FOR A TERM OF ONE YEAR FOR AN EXISTING ROCK REVETMENT (APPROXIMATELY 580 FEET LONG) ALONG THE PACIFIC OCEAN, AND CONSTRUCTION AND MAINTENANCE OF A NEW PILE-DRIVEN STEEL SHEET PILE RIVER WALL (APPROXIMATELY 486 FEET LONG), TO INCLUDE A TEMPORARY CONSTRUCTION EASEMENT OF APPROXIMATELY 45 FEET IN WIDTH, FOR THE PROTECTION OF THE CONDOMINIUM STRUCTURES ON THE LAND SHOWN ON EXHIBIT A ATTACHED AND BY THIS REFERENCE MADE A PART HEREOF; RENT IN THE AMOUNT OF \$58,370 FOR THE ONE-YEAR TERM OF THIS LEASE; LIABILITY INSURANCE FOR COMBINED SINGLE LIMIT COVERAGE OF \$5,000,000; CONSTRUCTION BOND IN THE AMOUNT EQUAL TO THE CONTRACT TO CONSTRUCT THE PROPOSED RIVER WALL; AND SURETY BOND IN THE AMOUNT OF \$100,000.

THIS APPROVAL IS CONDITIONED UPON THE FOLLOWING, THAT THE DEPARTMENT OF PARKS AND RECREATION EITHER:
1) QUITCLAIM IT'S INTEREST WITHIN THE LEASE AREA TO BE OCCUPIED BY THE RIVER WALL TO THE COMMISSION, OR
2) SUBMIT A LETTER TO THE COMMISSION OF NON-OBJECTION TO THE PROPOSED LEASE. THE LEASE TO THE DEPARTMENT OF PARKS AND RECREATION (PRC 4742.9) SHALL BE DEEMED AMENDED UPON RECEIPT OF SAID QUITCLAIM AND ITS ACCEPTANCE, AS HEREBY AUTHORIZED, BY THE EXECUTIVE OFFICER.

THE APPROVAL OF THIS LEASE, WP 7196.9, IS ALSO CONDITIONED ON THE APPLICANT OBTAINING REQUIRED APPROVALS FROM ALL THE FEDERAL, STATE, AND LOCAL AGENCIES HAVING JURISDICTION, PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

NO SCALE

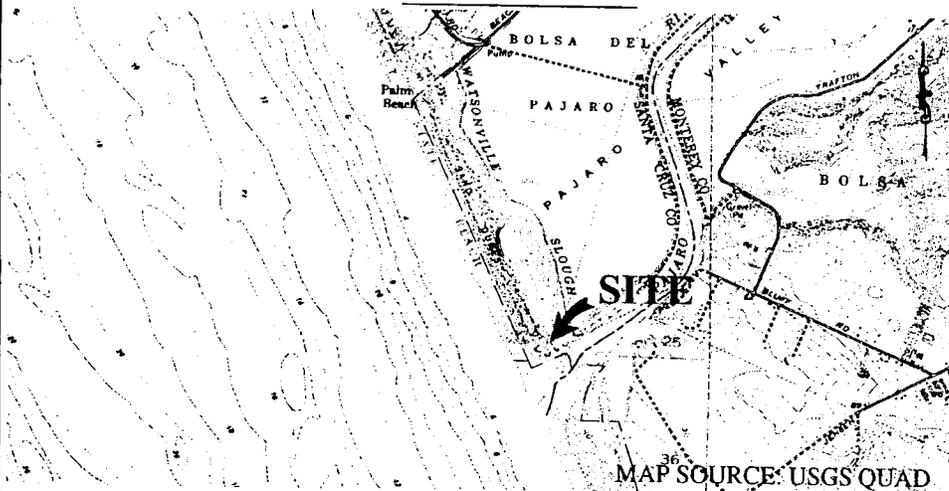
SITE



PELICAN POINT HOMEOWNERS' ASSOCIATION

NO SCALE

LOCATION



MAP SOURCE: USGS QUAD

Exhibit A
 WP 7196.9
 GENERAL LEASE
 PROTECTIVE
 STRUCTURES USE
 WATSONVILLE AREA
 SANTA CRUZ COUNTY



This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

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NOTICE OF DETERMINATION

To: Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814
(COPY)

County Clerk
County of Santa Cruz County
c/o Clerk of the Board
701 Ocean Street
Santa Cruz, CA 95060

From: (Public Agency) _____

Pajaro Dunes Geologic Hazards
Abatement District (GHAD)
2661 Beach Road
Watsonville, CA 95076

Subject: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

Project Title _____

Pelican Point Riverwall Repair

State Clearinghouse Number
(if submitted to Clearinghouse)

Contact Person

Area Code/Telephone/Extension

2001052078

Carol Turley

831-761-7744

Project Location: _____

Pajaro Dunes, southern Santa Cruz County

Project Description: Repair to an existing damaged riverwall via installation of a new parallel sheet pile driven retaining wall system for a distance of approximately 715 feet in order to repair the existing damaged wall and to provide protection to existing residential structures from coastal erosion and river/wave scour.

This is to advise that the GHAD Board of Directors has approved the above described
(Lead Agency or Responsible Agency)

project on July 21, 2001 and has made the following determinations regarding the above described project:
(Date)

1. The project will will not have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were were not made a condition of the approval of the project.
4. A statement of Overriding Considerations was was not adopted for this project.

This is to certify that the final EIR with comments and responses and record of project approval is available to the General Public at:

2661 Beach Road Watsonville CA 95076

Date received for filing and posting at OPR: _____

Carol R Turley
Signature (Public Agency)

Clerk
Title

EXHIBIT C

**Pelican Point Riverwall Repair
Initial Study and
Mitigated Negative Declaration
RESPONSES TO COMMENTS**

SCH# 2001052078

PREPARED FOR
PAJARO DUNES GEOLOGIC HAZARDS ABATEMENT DISTRICT
2661 Beach Road
Watsonville, CA 95076
(831) 761-7744

PREPARED BY
STRELOW CONSULTING
8042D Soquel Drive
Aptos, CA 95003
(831) 684-1735

JULY 9, 2001

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INTRODUCTION

INTRODUCTION

This document, in conjunction with the Initial Study/Mitigated Negative Declaration dated May 14, 2001, constitutes the final Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Pelican Point Riverwall Repair Project. This document was prepared to provide responses to public comments on the IS/MND and to revise the Mitigation Negative Declaration and Mitigation Monitoring Plan in response to public comments.

The public review period was from May 17 through June 15, 2001. The GHAD mailed copies of the Initial Study/Mitigated Negative Declaration and Notice of Intent to Adopt a Negative Declaration (NOI) to responsible agencies and other organizations. The California Office of Planning and Research (State Clearinghouse) also distributed copies to State agencies. In addition, a NOI was published in the Watsonville Register Pajaronian and filed with the County Clerk.

A list of agencies, organizations and individuals submitting written comments on the Initial Study/Mitigated Negative Declaration is provided below. This document includes the following sections:

- Introduction
- Revised Mitigated Negative Declaration
- Revised Mitigation Monitoring Plan
- Appendix B to the IS/MND, which consists of public comments and responses.
- Attachments: Letter Review by JDH Corrosion Consultants
Letter Review by Weber, Hayes & Associates

AGENCIES, ORGANIZATIONS AND PERSONS SUBMITTING COMMENTS

1. U.S. Army Corps of Engineers
2. U.S. Department of Commerce – National Oceanic and Atmospheric Administration
3. California Coastal Commission – National Marine Fisheries Service
4. California State Lands Commission
5. California Governor's Office of Planning and Research
6. AMBAG

MITIGATED NEGATIVE DECLARATION

DATE: ~~May 14, 2001~~ Revised July 9, 2001
PROJECT: Pelican Point Riverwall Repair
LOCATION: Pajaro Dunes, Santa Cruz County
LEAD AGENCY: Pajaro Dunes Geologic Hazard Abatement District

PROJECT DESCRIPTION: The project consists of a repair to an existing damaged riverwall. The existing riverwall will remain in place and a new driven sheet pile retaining wall system will be installed adjacent to the outboard side of the existing riverwall for a distance of approximately 715 feet. This includes approximately 165 linear feet of new wall along the west bank of Watsonville Slough, of which approximately 85 feet is an extension of an existing wall. The purpose of the project is to repair the existing damaged wall and to provide protection to existing residential structures from coastal erosion and river/wave scour.

FINDINGS: The Pajaro Dunes Geologic Hazard Abatement District has reviewed the proposed project and has determined that the project, based on the analyses contained in the Initial Study, will not have a significant effect on the environment with implementation of mitigation measures. An Environmental Impact Report is not required pursuant to the California Environmental Quality Act of 1970. The environmental review process and Mitigated Negative Declaration have been completed in accordance with the California State Public Resources Code and the California Environmental Quality Act (CEQA) State Guidelines, as amended to date.

BASIS OF FINDINGS: The following mitigation measures will be incorporated into the project design or as construction specifications, to ensure that any potentially significant environmental impacts will be avoided, minimized or reduced to a less-than-significant level.

1. The proposed riverwall project will not result in habitat removal or direct impacts to fishery and aquatic species, but construction of the riverwall could temporarily affect flows and water quality within the Watsonville Slough channel, thus indirectly impacting tidewater gobies and steelhead, if present. Implementation of Mitigation Measures #1, 2 and 3 will protect the channel during construction and prevent disruption to flows or water quality impacts.

MITIGATION MEASURE #1: Contain the work area adjacent to the Watsonville Slough channel if water is present in order to isolate the work area from slough waters and to prevent sediments or other construction materials from entering the channel through use of straw bales, sandbags or other suitable material. If water is present at the time of construction, diversion structures will need to be installed to isolate the work area, consisting of fully protected material such as straw bales, sandbags, bladder dam, or other structure/material in order to isolate the work site from wet areas of the Watsonville Slough channel and to provide bypass flows around the work site. This will also prevent construction materials from inadvertently entering the river channel. All temporary diversion structures shall be removed upon completion of construction and flows shall be restored in a manner that minimizes erosion.

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MITIGATION MEASURE #2: Prohibit construction activities in or adjacent to Watsonville Slough between ~~mid-December and mid-May~~ December 1 and mid-June outside steelhead migration seasons.

MITIGATION MEASURE #3: Prohibit fueling, cleaning or maintenance of equipment in any area other than the designated area shown on the site plans. Prohibit onsite washing of equipment. As a precaution, require contractor to maintain adequate materials onsite for containment and clean-up of any spills, which shall be implemented immediately. Require preparation of a contingency plan to describe methods and materials to be used and stored onsite for use in the event of an emergency situation.

2. The proposed riverwall project will not result in habitat removal or direct impacts to nesting birds due to prohibition of work between March 1 and August 31. The temporary construction period is scheduled outside the nesting season for snowy plovers and other waterfowl species that utilize the Pajaro River mouth. Should construction scheduling change, any activities on the beach during the nesting season would be disruptive to nesting birds that are present and in violation of federal laws. Mitigation Measure #4 ensures that construction will be prohibited during the snowy plover breeding season.

MITIGATION MEASURE #4: Prohibit construction between March 1 and August 31, as planned, to ensure protection of the nesting area of the endangered snowy plover.

3. Excavation and construction activities could result in adverse effects on individual legless lizards, if present in the work area. There is a low potential for these species to occur in the work area based on habitat requirements for the species, although legless lizards have been reported in iceplant areas with moist soils in the project vicinity. The species is not federally or state listed as endangered, but is considered sensitive species as both are identified as California Species of Special Concern. Mitigation Measure #5 requires a pre-construction survey and/or monitoring during construction to ensure protection of this species.

MITIGATION MEASURE #5: Conduct a pre-construction survey to determine whether legless lizards are present on the site, and/or require a qualified professional biologist monitor to be present during initial construction activities (removal of old pilings, vegetation) to monitor activities and potential sitings of legless lizards. If observed, lizards shall be relocated as may be required, in consultation with appropriate agencies.

4. Construction of the proposed riverwall could temporarily affect water quality within the Watsonville Slough channel due to inadvertent transport of excavated soils or removed materials or equipment fuel spills into nearby water bodies. This could indirectly impact tidewater gobies and steelhead, if present, if construction activities are not properly controlled. Mitigation Measure #1, 3 and 6 will prevent water quality impacts to Watsonville Slough.

MITIGATION MEASURE #6: Identify a location on the Pelican Point property where excavated soils or removed materials will be stored, and site the location at least 100 feet from Watsonville Slough and Pajaro River. Require that the construction area and designated materials storage area be contained with use of silt fencing to prevent inadvertent transport of materials off the site. Keep stockpiled soils covered during

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periods of rain. Remove stored materials prior to the onset of the rainy season or protect with silt fences and covering to prevent erosion into adjacent water bodies.

MITIGATION MEASURE #6A: Require that the staging area be covered with absorbent material wherever fueling, cleaning or maintenance is conducted.

5. The following recommendations will be included in the project design or construction to further mitigate visual and geotechnical impacts that were found to be less-than-significant.
 - Require that the wall front facing the beach be epoxyed a sand color or similar light color in order to provide less contrast with adjacent lands and to better blend into the existing landscape.
 - Require landscaping within the backfill area of the riverwall and utilize appropriate coastal species, with an emphasis on native species, selected in part to create a cascading effect, if possible, over the riverwall to help soften its appearance.
 - ~~Investigate alternative colors for the sheetpile wall, and select a muted, light tone, if available, that would better blend with the adjacent beach and buildings.~~
 - Require full disclosure of project design to the Pelican Point Homeowners Association regarding the project not being designed to meet seismic standards and the need for potential future repairs.

Copies of the Initial Study are available for public inspection at the Pajaro Dunes Gatehouse at the address above between the hours of 8AM and 5PM, Monday through Friday. Comments on the Mitigation Negative Declaration and Initial Study should be submitted in writing between May 17, 2001 and June 15, 2001 to Carol Turley, Pajaro Dunes GHAD, 2661 Beach Road, Watsonville, CA 95076. For further information, call Carol Turley at (831) 761-7744.

The Mitigated Negative Declaration is scheduled for adoption by the GHAD Board of Directors on July 21, 2001.

SECTION 5. MITIGATION MONITORING PLAN

Under State law, a mitigation monitoring program is required for all mitigation measures identified for significant impacts. The program specifies the timing and responsibility for implementation.

SUMMARY

The mitigation measures identified for significant impacts potentially resulting from the project are identified below. All mitigation measures, except for #5, can be incorporated into the Construction Specifications on the project plans. The consulting project engineer shall review plans and construction specifications to insure that these measures (#1, 2, 3, 4, 6, 6A). Additionally, a designated person from GHAD or the Pelican Point Homeowners Association should be responsible for periodic field checks during construction to ensure that all proposed construction specifications and mitigation measures are being implemented. Mitigation Measure #5 requires a pre-construction survey be completed by a qualified biologist or having a qualified biologist present on site at the time of initial excavation. It is the responsibility of the Pelican Point Homeowners Association or their designated representatives to include Mitigation Measures #1, 2, 3, 4, ~~and 6~~, and 6A in the project plans, hire a qualified biologist and complete work in accordance to Mitigation Measure #5, inspect the site during construction, and to provide written summary to the GHAD indicating when these measures were been implemented.

DETAILED MONITORING PROGRAM

The following actions are required for mitigation measures # 1, 2, 3, 4, 6, and 6A. (See Mitigation Measure list at the end of this section.)

- **Specific Actions Needed for Implementation:** Actions are specified in the measure.
- **Staff or Agency Responsible for Implementation:** Pelican Point Homeowners Association or designated representative is responsible for including measure on project plans and/or in construction specifications.
- **Timing of Implementation:** To be included in project plans and construction specifications. Pelican Point Homeowners Association or designated representative responsible for periodic site inspections during construction to insure that measure is being properly implemented.
- **Timing of Monitoring or Reporting:** Pelican Point Homeowners Association or designated representative responsible for providing GHAD with documentation that measure has been included in project plans, and to provide written documentation of

dates the site was inspected during construction and findings that measures was being implemented or required to be immediately implemented, if not already in place.

The following actions are required for mitigation measures # 5. (See Mitigation Measure list at the end of this section.

- **Specific Actions Needed for Implementation:** Actions are specified in the measure.
- **Staff or Agency Responsible for Implementation:** Pelican Point Homeowners Association or designated representative is responsible for hiring a qualified biologist to conduct pre-construction survey or monitor site during initial excavation activities in accordance with provisions outlined in the measure.
- **Timing of Implementation:** To be completed prior to construction or during construction as outlined in the measure.
- **Timing of Monitoring or Reporting:** Pelican Point Homeowners Association or designated representative responsible for providing GHAD with written documentation of the pre-construction survey and/or the name of the biologist, dates that the biologist will be present on the site, and results of the monitoring.

SUMMARY OF MITIGATION MEASURES

MITIGATION MEASURE #1: Contain the work area adjacent to the Watsonville Slough channel if water is present in order to isolate the work area from slough waters and to prevent sediments or other construction materials from entering the channel through use of straw bales, sandbags or other suitable material. If water is present at the time of construction, diversion structures will need to be installed to isolate the work area, consisting of fully protected material such as straw bales, sandbags, bladder dam, or other structure/material in order to isolate the work site from wet areas of the Watsonville Slough channel and to provide bypass flows around the work site. This will also prevent construction materials from inadvertently entering the river channel. All temporary diversion structures shall be removed upon completion of construction and flows shall be restored in a manner that minimizes erosion.

MITIGATION MEASURE #2: Prohibit construction activities in or adjacent to Watsonville Slough between ~~mid-December and mid-May~~ December 1 and mid-June outside steelhead migration seasons.

MITIGATION MEASURE #3: Prohibit fueling, cleaning or maintenance of equipment in any area other than the designated area shown on the site plans. Prohibit onsite washing of equipment. As a precaution, require contractor to maintain adequate materials onsite for containment and clean-up of any spills, which shall be implemented immediately. Require

preparation of a contingency plan to describe methods and materials to be used and stored onsite for use in the event of an emergency situation.

MITIGATION MEASURE #4: Prohibit construction between March 1 and August 31, as planned, to ensure protection of the nesting area of the endangered snowy plover.

MITIGATION MEASURE #5: Conduct a pre-construction survey to determine whether legless lizards are present on the site, and/or require a qualified professional biologist monitor to be present during initial construction activities (removal of old pilings, vegetation) to monitor activities and potential sitings of legless less. If observed, lizards shall be relocated as may be required, in consultation with appropriate agencies.

MITIGATION MEASURE #6: Identify a location on the Pelican Point property where excavated soils or removed materials will be stored, and site the location at least 100 feet from Watsonville Slough. Require that the construction area and designated materials storage area be contained with use of silt fencing to prevent inadvertent transport of materials off the site. Keep stockpiled soils covered during periods of rain. Remove stored materials prior to the onset of the rainy season or protect with silt fences and covering to prevent erosion into adjacent water bodies.

MITIGATION MEASURE #6A: Require that the staging area be covered with absorbent material wherever fueling, cleaning or maintenance is conducted.

APPENDIX B. PUBLIC COMMENTS AND RESPONSES

INTRODUCTION

This document constitutes Appendix B to the Pelican Point Riverwall Repair Project Initial Study/Mitigated Negative Declaration, dated May 14, 2001. This appendix consists of public comments and the Pajaro Dunes Geological Hazards Abatement District's (GHAD) responses. The public review period was from May 17 through June 15, 2001. The GHAD mailed copies of the Initial Study/Mitigated Negative Declaration and Notice of Intent to Adopt a Negative Declaration (NOI) to responsible agencies and other organizations. The California Office of Planning and Research (State Clearinghouse) also distributed copies to State agencies. In addition, a NOI was published in the Watsonville Register Pajaronian and filed with the County Clerk.

A list of agencies, organizations and individuals submitting written comments on the Initial Study/Mitigated Negative Declaration is provided below. The comment letters are attached, followed by responses immediately after each letter. Where appropriate changes have been made to the Initial Study/Mitigated Negative Declaration text based on these comments and responses; additions are underlined and deletions have ~~strikeouts~~.

AGENCIES, ORGANIZATIONS AND PERSONS SUBMITTING COMMENTS

1. U.S. Army Corps of Engineers
2. U.S. Department of Commerce – National Oceanic and Atmospheric Administration
3. California Coastal Commission – National Marine Fisheries Service
4. California State Lands Commission
5. California Governor's Office of Planning and Research
6. AMBAG

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PELICAN POINT RIVERWALL
INITIAL STUDY



DEPARTMENT OF THE ARMY
 SAN FRANCISCO DISTRICT, CORPS OF ENGINEERS
 333 MARKET STREET
 SAN FRANCISCO, CALIFORNIA 94105-2197

MAY 29 2001

Regulatory Branch

SUBJECT: File Number 26159S

Ms. Carol Turley
 Pajaro Dunes Geologic Hazards Abatement District
 2661 Beach Road
 Watsonville, California 95076

Dear Ms. Turley:

1-1 We received your Notice of Intent to Adopt a Mitigated Negative Declaration regarding the Pelican Point Riverwall Repair located at Pajaro Dunes, Santa Cruz County, California, on May 15, 2001. The project is to repair an existing damaged riverwall and construct a new wall along the west bank of Watsonville Slough which is an extension of an existing wall. This project will probably affect waters of the U.S. and may, therefore, be subject to Corps jurisdiction.

All proposed work and/or structures extending bayward or seaward of the line on shore reached by: (1) mean high water (MHW) in tidal waters, or (2) ordinary high water in non-tidal waters designated as navigable waters of the United States, must be authorized by the Corps of Engineers pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403). Additionally, all work and structures proposed in unfilled portions of the interior of diked areas below former MHW must be authorized under Section 10 of the same statute.

Your proposed work appears to be within our jurisdiction and a permit may be required. Application for Corps authorization should be made to this office using the application form in the enclosed pamphlet. To avoid delays it is essential that you enter the file number at the top of this letter into Item No. 1. The application must include plans showing the location, extent and character of the proposed activity, prepared in accordance with the requirements contained in this pamphlet. You should note, in planning your work, that upon receipt of a properly completed application and plans, it may be necessary to advertise the proposed work by issuing a public notice for a period of 30 days.

If an individual permit is required, it will be necessary for you to demonstrate to the Corps that your proposed fill is necessary because there are no practicable alternatives, as outlined in the U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines. A copy is enclosed to aid you in preparation of this alternative analysis.

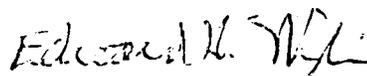
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Should you have any questions regarding this matter, please call Virginia Madlaing of our Regulatory Branch at 415-977-8436. Please address all correspondence to the Regulatory Branch and refer to the file number at the head of this letter.

Sincerely,



 Calvin C. Fong
Chief, Regulatory Branch

Enclosures

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1. RESPONSES TO U.S. ARMY CORPS OF ENGINEERS

- 1-1 Comment identifies potential permit requirements for the project and is noted. The Initial Study indicates that a Corps permit may be required (pages 1-3 and 4-13). No further response is necessary.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Avenue, Rm 325
Santa Rosa, California 95404-6528

JUN 13 2001 In Response, refer to
151422SWR01SR420:JPM

Joe Hanna, Project Planner
County of Santa Cruz, Planning Department
701 Ocean Street, Suite 400
Santa Cruz, California 95060-4073

Dear Mr. Hanna,

Thank you for the opportunity to comment on the Pelican Point Riverwall Repair Project at Pajaro Dunes, Santa Cruz County, California, proposed by the Pajaro Dunes Geologic Hazards Abatement District (GHAD). We received the Notice of Intent to Adopt a Mitigated Negative Declaration and Initial Study on May 17, 2001.

2-1 The purpose of the project is to provide the Pelican Point Homeowners Association property protection against river and wave erosion. Most of an existing wood riverwall, that has failed under storm and ocean conditions, will remain in place and a new driven sheet pile retaining wall system will be installed on the outboard side of the existing riverwall for a linear distance of 715 feet. Approximately 165 feet of the new riverwall will be built along the west bank of Watsonville Slough, of which approximately 85 feet extend beyond the existing wall. Construction of the proposed project will include excavation along the wall alignment to a depth of approximately -6 feet NGVD, to facilitate installation of the sheet metal wall and removal of old rip-rap and wood timbers in some places. Sheet piles will be driven to a depth of -18.0 to -23.5 feet NGVD and king piles to a depth of -49.0 to -52.5 feet NGVD. The area between the two walls will be backfilled with engineered fill. Corrosion protection of the sheet metal wall will be provided by coating the upper 20 feet with coal tar epoxy paint and by using a cathodic corrosion protection system which consists of power supplies and rectifiers located in existing buildings, underground wiring, deep drilled anode beds at 250 feet underground, and cathodes placed on the sheet metal wall. Construction of the wall is planned for the fall of 2001 sometime between September and October. The construction period is expected to take approximately 2 months.

2-2 The construction area is outside of the flowing channel of the Pajaro River, but installation of the riverwall may occur during periods of high water in Watsonville Slough even though construction is scheduled when river flows are not expected, or will be very low. If water is present it may be necessary to dewater the site and provide a system to bypass flows around the construction site. The project could also result in water quality impacts affecting steelhead trout



if excavated materials, or other construction materials, are allowed to discharge into the slough or river channels.

- 2-3 In order to minimize any construction impacts to listed species the Initial Study proposes several mitigation measures. Mitigation measures to avoid impacts to steelhead include Mitigation Measure #2: Prohibit construction activities in or adjacent to Watsonville Slough between mid-December and mid-May, limiting construction activities to outside the periods of steelhead migration seasons. NMFS recommends that Mitigation Measure #2 be changed to read that construction will be prohibited from December 1, through mid-June to assure that construction takes place outside of any potential early or late migrations of steelhead.
- 2-4 We also recommend that if any of the excavated material stored 100 feet from the Pajaro River (Mitigation Measure #6) is left through the rainy season, that regular monitoring and maintenance of the erosion control measures (silt fences, etc.) be scheduled to ensure that they are not being overloaded. Additionally, NMFS recommends that native cord grasses, or other
- 2-5 native plant species be used to stabilize the back-fill behind the installed sheet metal wall.
- 2-6 South-Central California Coast ESU steelhead (*Onchorhynchus mykiss*) were listed as threatened under the Endangered Species Act of 1973 on August 18, 1997. Critical Habitat for the species was designated on February 16, 2000. Take prohibitions took effect in September 2000. Steelhead are present in the Pajaro River and use the Watsonville Slough for migration and limited rearing. The river and its associated lagoon and estuary are designated critical habitat for the species. Steelhead within this South-Central California Coast ESUs are at critically low levels. Any adverse impacts to the species and critical habitat must be minimized to assure that this species does not become extinct.
- 2-7 NMFS has some concern over operation of the cathodic corrosion protection system and its potential to affect steelhead behavior when they come into contact with electric field generated by the system. NMFS contacted the designers of the system, JDH Corrosion Consultants of Walnut Creek, California, and were assured that this system is used in public aquariums and studies have shown that the voltage gradient that fish would experience is less than that which would affect behavior. NMFS would like to review the studies cited by JDH Corrosion Consultants and recommends that a monitoring and testing protocol be developed to ensure that the system continues operating to specifications.
- 2-8 The Initial Study and Mitigated Negative Declaration made no mention of marine mammals. River mouths and estuary- ocean interface sites are areas where marine mammals often congregate. All marine mammals are protected under the Marine Mammal Protection Act (MMPA). Under the MMPA, it is illegal to "take" a marine mammal without prior authorization from NMFS. "Take is defined as harassing, hunting, capturing, or killing or attempting to harass, hunt, capture, or kill any marine mammal. "Harassment" is defined as any act of pursuit, torment, or annoyance which has the potential injure a marine mammal in the wild, or has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including but not limited to migration, breathing, feeding, or sheltering. If you plan to conduct pile driving at the mouth of the Pajaro River, you may need to apply for

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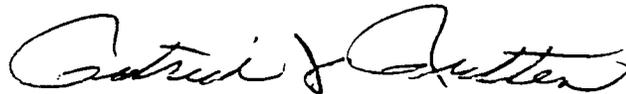
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incidental harassment authorization from our headquarters or consult with the NMFS Long Beach office regarding appropriate mitigation and monitoring in order to minimize any effects to marine mammals. For further information regarding marine mammals, please contact Tina Fahey, at NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213; (562) 980-4023.

If you have any questions concerning the above comments please contact John McKeon at (707) 575-6069.

Sincerely,



Patrick J. Rutten
Northern California Supervisor
Protected Resources Division

cc: J. Lecky - NMFS
P. Anderson - CDFG
C. Turley - GHAD
E. Wylie - Corps

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2. RESPONSES TO NATIONAL MARINE FISHERIES SERVICE

- 2-1 Comment summarizes the project description, and no response is necessary.
- 2-2 Comment on water quality is noted. Water quality impacts are addressed on pages 4-18 and 4-19 of the Initial Study. Mitigation Measures 1, 3 and 6 are included to provide bypass flows if dewatering adjacent to the slough is required, to prevent construction materials from being discharged into adjacent water bodies, and to protect water quality during construction.
- 2-3 Mitigation Measure #2 has been revised in accordance with this comment to prohibit work from December 1 through mid-June in order to assure that construction takes place outside any potential early or late steelhead migration period. (See revised Mitigated Negative Declaration.) It should be noted that with this prohibition and prohibition of work between March and August to prevent impacts to the federally threatened snowy plover, the permissible work period that will be available for project construction is September 1 through November 30.
- 2-4 Mitigation Measure #6 has been revised in accordance with this comment. (See revised Mitigated Negative Declaration.)
- 2-5 Native plant species are recommended for landscaping as identified in the "Recommendations" in the Mitigated Negative Declaration. The referenced cord grass plant is typically found in tidal marsh areas and would not be appropriate for the sands backfilled behind the proposed wall.
- 2-6 Comment is noted. The project will be scheduled outside the steelhead migration period (Mitigation Measure #2), and several mitigation measures (#1, 3 and 6) are included to assure that bypass flows are maintained and that construction activities do not result in water quality degradation that would adversely affect aquatic species. The Initial Study text on page 4-7 is hereby noted and include the following:
- "Critical habitat" for the threatened steelhead was designated on February 16, 2000. "Take" prohibitions took effect in September 2000. The Pajaro River and Watsonville Slough are designated critical habitat for the species. According to information from the National Marine Fisheries Service, steelhead within the South-Central California Coast ESU are at critically low levels.
- 2-7 Comment is noted, and any available studies will be forwarded as requested. Impressed current cathodic protection is used for corrosion protection on metallic structures such as steel sheet pile retaining walls, reinforced concrete structures, off shore pipelines, off shore oil platforms and ships. Some projects that have utilized this system include: Steinhart Aquarium in San Francisco, Bair Island Marina in

Redwood City, Alaskan Way Seawall on Elliot Bay in Seattle, Washington, Marina Del Rey Seawall in Los Angeles, Seattle Aquarium in Seattle, Oil Platforms at Cook Inlet in Alaska and in Santa Barbara, Offshore Oil Transfer Pipelines at PG&E facilities in Moss Landing and in Morro Bay, and Dumbarton Bridge in San Francisco Bay. These projects are located in marine or brackish water environments similar to the Pelican Point Riverwall project, and to reviews of the project engineers (JDH Corrosion Consultants), there have not been any reports of environmental damage or adverse impacts to wildlife. (See attached letter from JDH Corrosion Consultants.)

The voltage gradient from the system is not expected to adversely affect aquatic species near the Pelican Point Riverwall because the anodes for this project are located on the land side of the wall and fish will not swim between the anodes and the wall as would be the case if the anodes were installed on the water side of the wall. During the times when the river is flowing against the wall, the current density to the wall and the resulting voltage gradient through the water will be very low. Most of the cathodic protection current will flow through the soil to the land side of the wall and below the mudline on the water side of the riverwall. The resistivity of the river water will be relatively low compared to the resistivity of the body of a fish. The cathodic protection current will take the path of least resistance through the water around the fish and should not enter the body of the fish. Given the fact that these systems appear to be used successfully in other aquatic areas without adverse effects, further monitoring and testing would not appear warranted.

- 2-7 The biological investigation conducted as part of the Initial Study found no documentation of sightings of marine mammals at the Pajaro River mouth. The area is not a breeding or haul-out area for marine mammals, and species such as seals would not be expected to use the shallow sandy water present in this location.



CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
55 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877

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June 7, 2001



Joe Hanna
Santa Cruz County Planning Department
701 Ocean Street, Suite 400
Santa Cruz, Ca 95060-4073

Carol Turley
Pajaro Dunes Geologic Hazards Abatement District
2661 Beach Road
Watsonville, CA 95076

Subject: *Project Comments for Santa Cruz County Application Number 01-0190 & Pajaro Dunes Geologic Hazards Abatement District Proposed Initial Study/Negative Declaration (Pelican Point Riverwall Repair)*
SCH # 2001052078

Dear Mr. Hanna and Ms. Turley:

Thank you for forwarding the above-referenced development proposal and California Environmental Quality Act (CEQA) document to our office for review. These comments are based upon the Initial Study and Mitigated Negative Declaration (IS/ND) prepared for the Pajaro Dunes Geologic Hazards Abatement District (GHAD) and the proposed site plans that illustrate the project. After preliminary review of these materials, we have some concerns, questions and comments about the proposed development as it relates to applicable Santa Cruz County Local Coastal Program (LCP) and California Coastal Act policies as follows:

Coastal Permit Jurisdiction

3-1 As described in the IS/ND, a portion of the proposed project appears to be located within the Coastal Commission's coastal permit jurisdiction. As the Applicant has previously been informed, the GHAD will need to make an application to this office for a coastal development permit. The standard of review for any such application will be the Coastal Act.

New Wall Versus Replacement Wall

3-2 We note that the project includes a replacement wall measuring roughly 630 linear feet and a new wall extension (nearest Watsonville Slough) of roughly 85 feet. While the overall project raises a number of coastal issues (as discussed below), the new 85 foot section of wall raises issues specific to this component of the project that must be addressed separately. This is because while the replacement wall would not harden an otherwise unarmored stretch of coast, the same cannot be said for the extension. As you are aware, seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" measures designed to forestall coastal erosion can adversely alter natural shoreline processes. Such shoreline structures can 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.

Accordingly, the Coastal Act and LCP only allow such new armoring when certain exacting criteria can be met. The LCP requires that a "significant threat" to an existing structure be documented before shoreline armoring is considered. If a significant threat to an existing structure is documented, the LCP requires a "thorough analysis of all reasonable alternatives, including but not limited to, relocation or partial removal of the threatened structure." Similarly, Coastal Act Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion, and only when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. In this case, the no project alternative and relocation alternatives should be evaluated. (Reference LCP Land Use Plan (LUP) Policy 6.2.16, Zoning Section 16.10.070(h)(3)) If a significant threat to an existing structure is documented, and a hard protective structure is found to be the least environmentally damaging feasible alternative to protect the threatened existing structure, the proposed armoring structures must be constructed in such a way as to, at a minimum, minimize landform alteration, minimize visual intrusion, and not adversely impact shoreline processes and sand supply. (Reference LCP LUP Objectives 5.10.a and 5.10.b, LUP Policies 5.10.7 and 6.2.16, Zoning Sections 13.20.130 and 16.10.070(h)(3); Coastal Act Sections 30235, 30251, and 30253.)

- 3-3 A comprehensive geotechnical report will often document such project characteristics. We note that we have not yet seen such geotechnical analysis for this project. By copy of this letter, we request that the GHAD forward three copies of the geotechnical analysis for this project to our office for review. Such analysis should, at a minimum, address the technical informational requirements that we previously provided to the Applicant in March of this year (see attached). After we have seen the geotechnical report, we may have further comment for you on the proposed project.

Coastal Resource Issues

To the extent a hard protective structure is found necessary here and approvable under the LCP and the Coastal Act, we have a number of concerns about the overall project as follows:

- 3-4 • The project would be constructed at least partially on state-owned beach lands. Accordingly, the Applicant must contact the California State Lands Commission as soon as possible and any lease and/or sale arrangements must be clearly identified. Our current understanding is
- 3-5 that a replacement wall inland of the existing wall on Pajaro Dunes property is infeasible due to previous riverwall construction techniques that placed subsurface structural piles and cabling in this inland area. To the extent that such an alternative inland design is indeed
- 3-6 feasible, such an alternative should be pursued so that state beach lands remain unencumbered. In any case, the loss of any public beach area to such private development must be quantified and will require adequate mitigation.
- 3-7 • The proposed metal sheet pile wall will alter the visual character of the site to the detriment of the public viewshed. To the extent related engineering design issues can be rectified, we would encourage the applicant to evaluate the possibility of a wooden bulkhead in place of the metal piles. Such a wooden structure would better fit within the beach/slough aesthetic, and seems feasible given that such a wall would not be exposed to direct wave attack. Were

such a bulkhead stepped back in a series of several planted terraces, a much more natural back-beach slough aesthetic could be realized. Such a terraced approach should likewise be evaluated.

- 3-8 • We are encouraged that cascading plantings will be required to help soften the appearance of any wall constructed here. However, it should be clear that such landscape treatment must be of native plants; non-native invasives (such as iceplant) should not be used for this purpose. Staff will recommend that any authorization for the proposed project from the Commission include such a native plant requirement.
- 3-9 • The river wall is proposed to be built between 12 and 15 feet above mean sea level. Does the entirety of the current river wall sit at this height or only the spaced pylons? From the IS/ND photo-simulations, it appears that only the existing wooden piles are as high as this currently. Reviewing documents on the Pajaro River breaching procedures show that significant flooding occurs at water elevations of 5.0 feet above mean sea level. This has in the past triggered the county to artificially breach the river mouth when water elevation approached this height. In any case, to address public viewshed aesthetics, we recommend that the riverwall be the minimum height necessary to achieve design objectives. The underlying assumptions and methodologies for arriving at the minimum height ought be clear. Such analysis must account for the geo-morphology of the sand and flood plain during both summer and winter conditions.
- 3-10 • The Commission's experience statewide has been that shoreline protection structures have a significant and measurable effect on shoreline process and sand supply. Natural shoreline processes, 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. The amount of sand and sand generating materials that will be removed from the sand supply system, (including the beach area proposed to be covered and the bluff area proposed to be hardened for the first time) must be quantified and adequate mitigation provided. Please note that for purposes of mitigation, the Commission utilizes a sand supply calculation to determine the amount of sand generating materials withheld by armoring; please contact us if you do not already have this information.
- 3-11 • The IS/ND construction mitigation measures are to be commended. We suggest the following augmentations to those measures: (a) dry cleanup methods are preferred whenever possible; if water cleanup is necessary, all runoff shall be collected to settle out sediments prior to discharge from the site; all de-watering operations must require filtration mechanisms; (b) off-site equipment wash areas are preferred whenever possible; if equipment must be washed on-site, the use of soaps, solvents, degreasers, or steam cleaning equipment shall not be allowed; in any event, this wash water shall not be allowed into the ocean or slough; (c) concrete rinsates shall be collected and properly disposed off-site; (d) good construction

housekeeping shall be required (e.g., clean up all leaks, drips, and other spills immediately; refuel vehicles and heavy equipment off-site and/or in one designated location; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather); (e) the staging area shall be covered with absorbent material wherever fueling, cleaning, or maintenance is conducted and this material would be removed from the site for hazardous waste disposal after construction; and (f) all erosion and sediment controls shall be in place prior to the commencement of grading and/or construction as well as at the end of each day.

- 3-12 • We recommend that water quality monitoring be required in the adjacent Slough before, during, and after construction to monitor the impacts of construction on sediment loads, turbidity, and fuel/oil content of the water.
- 3-13 • According to the IS/ND, the sheet pile wall corrosion protection consists of coal tar epoxy paint and the application of low-grade electrical current. The corrosion protection may present low grade local air or odor emissions including the needed chlorine gas ventilation pipe. The potential effects of low voltage current running through saturated sand on beach or aquatic wildlife are unclear to our office. The applicant will need to provide further analysis of this portion of the proposed project; such analysis should include a discussion of examples of such a methodology currently in use in similar saltwater conditions.
- 3-14 • We are concerned that a 35 to 65 foot deep sheet pile structure will block or otherwise adversely affect groundwater flows and interaction within the saturated sand zone between the slough, river, and Monterey Bay. The brackish slough and lagoon waters maintain interaction with the ocean through subsurface hydrology that may be altered by a large barrier. Additional analysis of this issue is necessary in order to determine adverse impact (if any) and appropriate mitigation.
- 3-15 • Our office received a second request for comments on a related application at Pajaro Dunes regarding the stockpiling of emergency rip-rap (County application number 00-0752) that included little additional information besides the same design plans for the River Wall repair included with this project. It is unclear for what the stockpiled rip-rap is intended and how it relates to the riverwall project. The applicant needs to clarify this component of the project.
- 3-16 In sum, the proposed project involves the installation of a new riverwall outside of a previously built riverwall, as well as a new section of riverwall along Watsonville Slough. The IS/ND photo-simulations make clear that the existing riverwall is a much less significant intrusion into the beach/slough viewshed than would be the proposed sheet pile wall. The existing wood pylons fit more closely with the coastal character of the beach area and the existing wooden condos. The new riverwall would be a continuous corrugated metal wall that would sit between 5 and 15 feet above the sand level. To the extent such a wall can be found approvable under the LCP and Coastal Act shoreline armoring policies, we are concerned that such a project will forever occupy state-owned beach lands and degrade the public viewshed, and may have additional impacts on adjacent habitat areas. We suggest that a stepped wooden bulkhead planted with

Joe Hanna, Santa Cruz County Planning Department
Carol Turley, Pajaro Dunes Geologic Hazards Abatement District
Project Comments for Application Number 01-0190 & GHAD IS/ND (Pelican Point Riverwall Repair)
June 7, 2000
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cascading native species and constructed inland of state lands to the extent feasible be evaluated as a potential alternative. Such an alternative would be more consistent with LCP and Coastal Act policies protecting this public viewshed and habitat area.

In any event, thank you for the opportunity to comment in the development stage of this project. As the County and the GHAD move forward with project analysis and environmental review, the issues identified above, as well as any other relevant coastal issues identified upon further review or due to project modifications, should be considered in light of the provisions of the certified Santa Cruz County LCP and the Coastal Act. We may have more comments for you on the proposal after we have seen additional project information, revisions, geotechnical analysis, and/or CEQA documents. If you have any questions, please do not hesitate to call me at (831) 427-4893.

Sincerely,



Dan Carl
Coastal Planner

Attachment: Application for Shoreline Protection: Technical Information Requirements

cc: Joan Van der Hoeven, Santa Cruz County Planning (project planner for application number 00-0752)
State Clearinghouse

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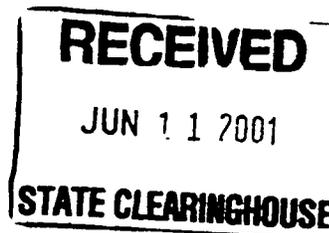
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CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
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June 7, 2001

Joan Van der Hoeven
 Santa Cruz County Planning Department
 701 Ocean Street, Suite 400
 Santa Cruz, Ca 95060-4073

Subject: Project Comments for Application Number 00-0752 (Pajaro Dunes Rip-Rap Stockpiling) SCH # 2001052078

Dear Ms. Van der Hoeven:

3-17 Thank you for forwarding the above-referenced development proposal to our office for review. We note that the preliminary plans provided are identical to those we received in support of the application for riverwall construction at this site (County application number 01-0190). It is unclear to us whether the rip-rap stockpiling application is simply part of this larger riverwall project or a separate request for storing emergency repair materials. Please clarify as soon as possible. In any event, please find attached our comments on application number 01-0190.

We may have more comments for you on this permit after we have seen additional project information especially if the rip-rap is a separate project or an extension of the riverwall project that is not fully discussed in application number 01-0190. If you have any questions, please do not hesitate to call me at (831) 427-4893.

Sincerely,

Dan Carl
 Coastal Planner

cc: Joe Hanna, Santa Cruz County Planning Department (project planner for application 01-190)
 Carol Turley, Pajaro Dunes Geologic Hazards Abatement District
 State Clearinghouse

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QUESTIONS BY HOWARD REEDER
APPLICATION 215721

Application For Shoreline Protection: Technical Information Requirements¹



1. Project Description

The application shall include a comprehensive project description of the proposed temporary and permanent development, including:

- the kind of device that is proposed and where it will be located
- the kind dimensions of the proposed project — height, referenced to a vertical datum; length; and distance from an identifiable back beach feature (such as the bluff, line of vegetation, development, etc.)
- the major components of the proposed protective device (e.g. backfill, filter fabric, toe key, armor layer, etc.)
- the kind and quantities of materials to be used
- the size, shape and source of any rock and backfill to be used
- whether any shoreline protection has been built in the general vicinity of the proposed project and the general condition of this existing protection (this may require a supporting statement from a licensed engineer)
- how the proposed project will fit with the existing protection, if any exists
- how the proposed project will be built — type of construction equipment, access for construction equipment, and staging areas for materials
- how the proposed project will be maintained.

The applicant shall also provide a comprehensive description of the proposed construction process for all proposed temporary and permanent development. This description should include an identification of any associated development including, but not limited to: access roads, staging areas, dewatering efforts, and proposed construction techniques. Since the construction of shoreline protection projects can often disrupt beach use or habitat for sensitive species, the construction description should include schedule information telling when the work will be performed. Finally, if there are any special construction constraints (for example, work can only be done during extreme low tides or equipment must be less than two tons to use the available access) these constraints should be discussed.

2. Maps, Plans and Cross-Sections

Site Plan

The applicant shall provide site plans of the proposed project showing:

- the project footprint in relation to the applicant's property boundaries and any recorded easements

¹ Additional information may be requested at the time of application if determined to be necessary by the Executive Director

- locations of provided cross sections
- topographic contours, at 1 to 5 foot intervals, of the entire project site (beach, bluff, and upland area to the landward property boundary) from a recent (normally within the past two years) topographic survey of the property
- the location of any structure that needs protection, relative to the proposed protective device
- the setback of all existing development from either the top of bluff or seaward extent of dune vegetation
- the locations of any public land boundaries in the immediate project vicinity to which State Lands Commission has agreed
- a permanent surveyed benchmark, referenced to NGVD (National Geodetic Vertical Datum) which can be used for future project maintenance and monitoring.

Cross Sections

The applicant shall provide cross-sections², drawn to scale, showing:

- the proposed project in relation to the beach, back bluff or dunes, vegetation and existing features
- the proposed project, the existing structure(s) that would be protected by the protective device, and the landward property line
- beach profiles for the range of landward and seaward beach movement that have been observed for this site or the general area, over time.

If the shoreline protective device changes along the shoreline, detailed cross-sections should be provided for each section.

Engineered Plans

The applicant shall provide engineered plans of the proposed project (both as blueprints and legible 8 1/2 x 11 exhibits). These plans must have been prepared or certified by a registered engineer with expertise in shoreline processes. Normally this means a civil engineer or engineering geologist. On occasion this can be a structural engineer or soils engineer with experience in coastal engineering. Whenever local discretionary approval is required for the project (pursuant to Section 13053 of Title 14 of the California Code of Regulations) there should be evidence that the local government has approved the engineered plans. Also, there should be evidence that the plans that are submitted for the CDP application are the same as the plans that the local government approved. The plans shall show:

- the dimensions of the proposed project, with the vertical dimension referenced to NGVD or another established datum
- plan view of the proposed project, showing its relation to the beach, existing topography and adjacent structures
- detailed drawing of all transition points and edges, such as end walls, keyways, toes, connections to adjacent structures, etc.
- detailed drawings of all joints, tie backs, and drainage

² All cross-sections should be referenced to the National Geodetic Vertical Datum (NGVD), or other established vertical datum

Construction Area
 The applicant shall provide a map or site plan which shows all the areas, on and off-site, to be affected temporarily or permanently by construction activity, including but not limited to: staging areas, access roads, equipment and materials storage areas, coffer dams, dewatering devices, equipment washout areas, etc. All of the above mentioned plans, maps and cross-sections should be prepared and provided at scales sufficient to allow staff and the Commission to identify details of the proposal both in map or blueprint format, for use in project review, and in 8 1/2 x 11 format for use in creating exhibits for the staff report. In limited cases, the 8 1/2 x 11 scale may be sufficient to illustrate specific aspects of the proposed project.

3. Project need, risks posed by the no action alternative and alternatives analysis
 The applicant shall provide a thorough discussion of the need for the project, prepared by a licensed engineer, engineering geologist, geologist or other professional who is familiar with the applicant's site and who can discuss knowledgeably the need for the proposed project. The discussion on project need should include, but not be limited to, such information as:

- whether the shoreline protection is to protect or enhance a public beach in danger erosion
- what evidence exists of active erosion at the site or need for shoreline protection
- what is the approximate rate of erosion and/or bluff retreat occurring at the site
- what particular structures, facilities or recreational activities are threatened by the shoreline erosion occurring at the site
- whether the shoreline protection project can be expected to reduce or eliminate the immediate threat.

The coastal development permit application also shall provide a written analysis of the environmental impacts of the proposed project and alternatives to the proposed project. The analysis should have sufficient information on the impacts from various feasible options to demonstrate that the proposed project is the least environmentally damaging feasible alternative. Potential adverse impacts to coastal resources, public access and recreation shall be identified. Measures to mitigate these adverse impacts should be proposed.

4. Engineering Geologic Information and Coastal Process Information
 The applicant shall provide an Engineering Geologic Report on the project site. The Report shall be prepared by a registered professional geologist or engineering geologist and shall meet the professional standards outlined in the Guidelines for Engineering Geologic Reports or other comparable standard.

The Engineering Geologic Report shall provide technical information relating to project need, feasible alternatives, the possible physical risks and impacts posed by the proposed project and other alternatives, and any site specific conditions which should be addressed in the engineering project design.

¹ Prepared by the State Board of Registration for Geologists and Geophysicists (Rev. 11/93 or as updated) available from the State of California Department of Consumer Affairs, 2535 Central Oaks Drive, Suite 300A, Sacramento, CA 95811 or www.dca.ca.gov/geology

- cross-section of proposed structure in relation to beach and existing topography
- plans and cross-sections of any necessary cut or fill
- other construction details
- construction notes.

The special design constraints of the site shall be noted on the plans and discussed in the engineering notes or in a separate report or letter. The engineered plans or an attached report shall provide detailed information on the engineering design considerations, including, but not limited to:

- design constraints, including constraints posed by up and down coast properties
- design still water level, included anticipated level over the life of the structure, due to sea level rise and global warming, and methodology used to establish this water level
- design wave height and methodology used to establish this height
- design scour depth
- storm event used in design scenario³
- consequences of overtopping and event (or frequency) which could cause overtopping
- erosion rates with the proposed project, at the back beach and from subaerial processes, if these differ
- design life of proposed project
- maintenance requirements to achieve design life (types of activities and either frequency of maintenance or storm events which could trigger maintenance)
- changes to sand supply and littoral processes from proposed project
- possible land effects and efforts to minimize such effects
- frontal height of bluff or back beach, and height of protection
- length of shoreline length) of protection
- seaward encroachment of protection.

Regional Location Map
 The applicant shall provide a regional map that shows the site. Copies of a Thomas Brothers map or USGS Quad sheet can often provide this. In addition, the applicant should provide a map or plan of the general area near the proposed project that shows any existing shoreline protection projects that are near or at the proposed project site and any development stringline. The regional map should also show the proposed project site, in relation to any identified areas of regional significance, public park lands, public beach access, special geologic features, etc.

³ Normally, permanent shoreline protection is designed to withstand a 100-year storm, or a storm equivalent to the storms that occurred in 1982-83. If a lesser standard is used, the engineer should explain why a lesser standard is proposed and note the design changes that would be necessary to withstand a 100 year storm event. Information on the design conditions is needed to evaluate structural stability, as required by Coastal Act Section 30253.

The applicant shall provide coastal process information for the proposed project site and areas close to the project site. The following information shall be provided, along with any additional information that helps to describe the site and the existing coastal situation:

- normal and maximum tidal ranges
- storm surge and anticipated long-term changes in sea level
- maximum expected wave height
- "summer" and "winter" beach profiles (discussed in more detail below)
- erosion rates for the existing site, both at the back beach and upper bluff, if available
- types and frequency of storms which have caused shoreline retreat historically
- conditions leading to subaerial erosion historically
- identification of offshore features affecting the site (island sheltering, canyons, etc.)
- identification of the littoral cell, key sand sources and sinks which dominant the cell, and historic contribution of project site to littoral sand supply
- volume of sand required to establish a square foot of beach in the vicinity of the project
- potential for scour and probable scour depth
- end effects from any shoreline protection which exists near the project site
- discussion of how wave energy, the littoral currents, and other coastal forces may be modified by the proposed protection project
- the extent to which the adjoining shoreline areas have been modified by shoreline protection or shoreline protective devices.
- a plot showing all historic shoreline surveys, with dates of surveys and references
- site drainage and proposed drainage modifications.

Seasonal Profiles

The applicant shall provide a least two seasonal profiles of the proposed project site, showing beach conditions during both a mild wave period and during a high wave energy period (often referred to as summer and winter profiles). Profiles should be superimposed on the cross section for the proposed project. The survey information used to develop the profiles should be noted on the profile, along with any assumptions that were made while developing the profiles. If there is no information on a true "winter" profile, this profile may be extrapolated from available site information, provided the methodology is identified and all assumptions are provided in writing. Plans and profiles must be prepared or certified by a registered professional engineer with expertise in coastal processes. Normally this means a civil engineer or engineering geologist. On occasion, this can be a structural engineer or soils engineer with experience in coastal engineering.

5. Written determination from State Lands Commission

The State Lands Commission (SLC) has responsibility for all state tide-lands, trust lands, and sovereign lands. The applicant shall provide evidence that the SLC has reviewed its jurisdiction

over the proposed project. If the SLC determines that a lease, permit and other form of approval is required, the applicant shall obtain this approval and submit it as part of the coastal development permit application.

6. Other Agency Approvals

The applicant shall provide, for each of the following agencies: (1) a copy of any application for approval submitted to the agency, (2) information about the status of each required application, (3) written comments resulting from any review which has been completed on the project, and (4) a copy of any permit already obtained:

- Local Government
- California Department of Fish and Game
- California Department of Parks and Recreation
- California State Lands Commission
- California State or Regional Water Quality Control Board.
- US Monterey Bay National Marine Sanctuary
- US Army Corps of Engineers
- US Fish and Wildlife Service
- US National Marine Fisheries Service

7. Effects on Public Access and Recreation

The applicant shall provide the following information:

- location of nearest vertical access points, up and down coast
- location of any lateral access between nearest up and down coast access points
- graphic depiction of proposed shoreline protection project on a current beach profile(s)
- discussion or evaluation of the effects of the proposed shoreline protection project upon the public's ability to walk the shoreline, as well as impact of the project upon recreational use of the beach and near shore during the entire year.

8. Monitoring Plan

The applicant shall provide a preliminary monitoring plan that includes:

- objectives listing the specific aspects or effects of the proposed project to be monitored
- success standards to evaluate the performance of the proposed project
- monitoring techniques and schedule
- reporting techniques and schedule
- expertise and professional qualifications for persons performing the monitoring.

- types of mechanized equipment which will be on the beach
- anticipated noise levels during different phases of construction
- plans for placing material on the beach or in the near shore, including stockpiling plans
- access plans
- staging areas
- maps or plans showing all areas to be used for construction activities (in blueprint format if available (for project review) and in reduced 8 1/2 x 11 format (for use as exhibits for the staff report))
- maps of any areas which will have temporary or permanent access restrictions
- schedule of all construction activities, including anticipated starting dates, duration and indications if there is any flexibility in each activity
- timing for all activities (e.g., 8am to 5pm work day, 12 hours a day; 24 hours a day; Monday through Friday; just weekends; every day; etc. and indications if there is any flexibility in each activity).

9. Other Required Information

Effects on Sensitive Marine and Shoreline Habitat
 The applicant shall provide a Biological Impact Analysis prepared by a qualified professional, containing the following information:

- a biological survey of the habitats found at the project site and in nearby areas prepared by a biologist that includes a map of habitat areas, a narrative description of the habitat types, a list of species present, and a quantification of the amount and density of habitat and species types
- a discussion or evaluation of the impacts of the construction and maintenance of the proposed shoreline protection project on the habitat areas identified in the biological survey
- a mitigation plan

Professional Qualifications of the biological experts who prepared the plan and who will implement the proposed mitigation.

Visual Impacts Information

The applicant shall provide a visual analysis of the area that includes the following:

- a map showing sight lines to the project site from any nearby public recreation areas and/or vista points/overlooks of high scenic and public interest, which will illustrate the project's visibility from those locations
- a description of the temporary visual impacts of the project during construction indicating the location and extent of all areas to be cleared or graded for the proposal protective work, construction access roads, staging areas, and coffer dams, and other related improvements, the appearance and relative visibility of any stockpiles, staging areas, etc.
- the construction schedule and anticipated length of time that the temporary visual impacts from construction will occur

- samples that show the color and texture of the permanent shoreline structures and any drainage devices that will be visible
- a narrative analysis of the permanent visual impact of the proposed project in light of Coastal Act concerns for protecting public views, minimizing landform alteration, and keeping new development visually compatible with the character of the surrounding area.

Effects of Shoreline Protection Project on Dunes

The applicant shall provide an analysis of the possible impacts to dunes, including:

- a map of the proposed project in relation to the dune complex around the site
- an analysis of how wave energy, currents, wind and other forces that shape the existing dune complex would be altered and what the resulting effects on the dunes would be
- description of any proposed landscaping and analysis of the interaction of the landscaping plants with native dune vegetation

Construction Description, with maps

The applicant shall provide information on the construction activities, covering all aspects of the proposed project. The discussion should identify:

3. RESPONSES TO CALIFORNIA COASTAL COMMISSION

- 3-1 Comment is noted. The Coastal Commission is identified as a responsible agency on page 1-3 of the Initial Study.
- 3-2 The existing timber pile/wood lagging riverwall and the inboard existing residential structures are subject to significant threats from short-term, deep scour. During peak river flows and/or coastal storms, the existing wood lagging has been subject to undermining and emergency repairs. Undermining of the riverwall has caused loss of sand backfill from the riverwall on several occasions since it was constructed in 1969. This causes dangerous conditions along the top of the riverwall due to erosion and sinkholes that develop there and upon occasion damage to the boardwalks and trails. This undermining also has the potential to remove lateral support from the building foundations. If during future deep scour events, the emergency repairs cannot be performed due to severity of the flooding event, the wood lagging will be undermined and soils adjacent to the residential structure's pile foundation will be scoured away, removing lateral support and jeopardizing the stability of the residences.

The existing riverwall is subject to the mechanical removal of the wood lagging due to battering by debris and also frequent overtopping due to existing relatively low height. Also the spread footing systems supporting one set of the three story deck system on Building "D" has been undermined due to floodwater erosion.

Preliminary alternatives analyses have been conducted as part of the project geotechnical studies (Foxy, Nielsen & Associates, April 1999) and as part of reviews conducted by the Pelican Point Homeowners Association. The GHAD understands that an alternatives analysis will be required as part of the Coastal Commission permit application, and intends to prepare and submit this with the application materials. (See also Response to Comment 3-5). The relocation of the existing Pelican Point condominium Building D is not considered a feasible or practical alternative to consider. Alternatives to be considered include:

1. No Project
2. Proposed Project
3. Replacement of Existing Wall
4. Relocation of Wall Inland
5. Alternative Materials Design-Use of Wood
6. Terraced Wood Bulkhead

The alternatives analysis will consider engineering constraints, geotechnical issues, including effects upon shoreline processes and sand supply, environmental impacts, including, but not limited to impacts upon landform alteration, visual impacts, sensitive habitat/species impacts, and cost considerations. It should be noted that the Initial Study for the proposed project found that significant impacts could be

- reduced to a less-than-significant level with implementation of mitigation measures.
- 3-3 Geotechnical studies conducted for the project include the Foxx, Nielsen & Associates April 1999 report and the Haro, Kasunich and Associates December 2000 report. The GHAD will submit these documents to the Coastal Commission as requested.
- 3-4 The State Lands Commission is identified as a responsible agency on page 1-3 of the Initial Study. GHAD has been in contact with the State Lands Commission regarding use/lease of State lands. See also Response to Comment 4-1.
- 3-5 A replacement wall inland of the existing wall was previously considered. While, the inboard wall design is feasible, it was eliminated from further consideration due to increased costs and difficulties with construction. Existing tiebacks and sections of emergency rip-rap would need to be removed prior to inboard construction. Also there is insufficient area available at Building "D" to construct an inboard wall without the removal of the existing riverwall elements. This would result in increased construction time and costs and was eliminated from further consideration. Furthermore, replacement of existing horizontal wood lagging and extending them to the recommended design scour depth (-6 feet MSL) would require use of coffer dams and/or human divers to install the material below water levels. See also Response to Comment 3-2.
- 3-6 Calculations by Haro, Kasunich and Associates indicate that the area of beach lost as a result of the project is approximately 2,915 square feet.¹ The loss/conversion of existing beach area is not an impact topic to be addressed under CEQA (see Environmental Checklist questions in the Initial Study), and mitigation is only required for significant impacts under CEQA. Nonetheless this amount of beach area removed as a result of the project would not be considered significant in relation to the amount of remaining beach lands in the vicinity. However, it is acknowledged that this may be a concern to the Coastal Commission staff.
- 3-7 The visual impacts of the proposed sheetpile wall are addressed on pages 4-1 through 4-4 of the Initial Study. The analysis concluded that the typical wall heights are the same as the existing, but the dark color of the proposed wall would provide more contrast than what currently exists. However, given the orientation of views toward the ocean, and the fact that the wall would not block or affect scenic vistas, visual impacts were found to be less-than-significant. Landscaping was recommended with species that could provide a cascading effect to further screen the wall. Additionally, during the public review period, further investigation into alternative colors and finishes determined that other colors could be used. Thus, a recommendation has been added to epoxy the wall a sand color or similar neutral color to better blend with the beach and landscaping. It is believed that the

¹ Based on 550 feet length of wall along the beach and width of existing water beam of approximately 5.3 feet for a total of 2,915 square feet.

combination of epoxy and landscaping will substantially minimize and screen the visual appearance of the proposed wall.

See Response to Comments 3-2 and 3-5 regarding use of a wooden bulkhead and other alternatives. With regards to a terraced wood wall design, the height of the wall would remain the same, but terracing would require more space and the wall would need to be set further seaward than the proposed project design. Furthermore, landscaping on the lower terraces could be destroyed by flooding and inundation.

- 3-8 Comment is noted. The landscaping recommendation included in the Mitigated Negative Declaration has been revised to specify use of native plants. It should be noted, however, that native coastal dune species which provide cascading effects may be limited.
- 3-9 The 100-year flood elevation at the Pajaro River mouth is 5.0 feet NGVD (MSL) per the FEMA maps. The Pelican Point HOA section of 100-year flood elevation is 9 to 10 feet NGVD for river flooding and 21 feet NGVD for coastal flooding/wave inundation. The existing and proposed riverwall will be overtopped by wave runup. Wave overtopping will be very infrequent at the slough end of the wall and frequent at the ocean end. The wall heights chosen for the proposed wall were a compromise between minimizing overtopping/flooding and not trapping flood waters while preventing backfill materials from flowing to the river.

The assumptions and methodologies for arriving at the minimum wall height were based on FEMA flood elevations and site topography inboard of the existing wall. The geomorphology of the sand and floodplain during summer was not applicable to the wall design. In a general manner of thinking, wave overtopping occurs during periods of maximum scour (deeper water adjacent to the wall allows a larger wave to impact the wall), and the summer profile would promote maximum river flooding due to sand occupying a portion of the river channel.

- 3-10 Comment is noted regarding effects of shoreline protection structures on shoreline processes and sand supply. It is noted that such devices can restrict bluff retreat, and thus elimination a natural sand source to beach sand supplies. In the present case, the proposed riverwall is a repair to an existing structure that protects existing development. The project will not result in construction of a new structure adjacent to a coastal bluff that would represent a source of beach sand.

Approximately 85 feet of the proposed structure adjacent to Watsonville Slough would be a new structure, but would be located adjacent to an existing slough channel. It is not clear whether this area would be considered an area affecting beach and shoreline sand processes. However, calculations of potential sand loss were developed by Haro, Kasunich and Associates using Coastal Commission

APPENDIX B. PUBLIC COMMENTS AND RESPONSES

formulas. Assuming a long-term erosion rate of 0.3 feet/year², the new 85-foot long riverwall extension could result in a loss of approximately 366 cubic yards over a 30-year period. This would not be considered significant over a 30-year period (i.e. approximately 12 cubic yards per year) in relation to an estimated 300,000 cubic yards of material transported in the northern Monterey Bay area.³ See Response to Comment 3-6 regarding loss of beach sand due to encroachment of the proposed wall onto the beach.

- 3-11 With regards to the recommendations included in this comment, items "a" and "f" are applicable where grading and uncontrolled runoff of sediments are issues, but are not applicable to the proposed project where there will be no grading and only some excavation of beach sands to install the wall. Item "b" recommends offsite equipment wash areas, but equipment for the project consists primarily of a pile driver that will remain on the beach for the short-term duration of project construction. Although washing of equipment is not expected, prohibiting onsite equipment washing has been added to Mitigation Measure #3, which then eliminates the need for the recommendation in item "c". Applicable portions of recommended items "d" and "e" have been added to Mitigation Measures 3, 6, and 6A. See revised Mitigated Negative Declaration.
- 3-12 Comment is noted. However, all measures and best management practices to protect water quality during construction have been included as construction specifications, mitigation measures and/or recommendations, and no further monitoring or additional mitigation is deemed necessary.
- 3-13 See Response to Comment 2-7.
- 3-14 A review of the effects of the sheetpile wall on groundwater was conducted by Weber, Hayes & Associates. The results of the review are attached at the end of this document, and summarized in this response. The proposed sheet pile wall will be a partial barrier to shallow groundwater flow, but it will not prevent shallow groundwater flow in the project area due to leakage (seepage) known to occur at sheet pile connections and due to expected groundwater underflow through sediments beneath the base of the sheet piles. Because the sheetpiles (with a maximum depth of about 35 feet) will not be keyed into a bedrock layer, groundwater flow beneath the wall can occur in either direction, in response to fluctuating water elevations. No measurable reduction in groundwater recharge flow to the Watsonville Slough and Pajaro River is likely because of the limited surface area behind the riverwall in comparison to the total area bordering the lagoon and due to the remaining routes for groundwater flow if the wall is built. Likewise, the length of the wall along the river and river lagoon is slight compared

² Mark Foxx, GHAD Engineering Geologist, personal communication to Rick Parks, Haro, Kasunich & Associates.

³ The 300,000 cubic yard number is referenced Coastal Commission staff report for application 3-97-65 (dated 3/6/98) as being identified in the U.S. Army Corps of Engineers "Santa Cruz Harbor and Vicinity shoaling Study." January 1994.

to the riverbank area on both sides where groundwater flow into the lagoon can occur. Therefore, the proposed project is not expected to change the groundwater flow directions, water chemistry or have a significant impact on groundwater quality in the Watsonville Slough or Pajaro River Lagoon.

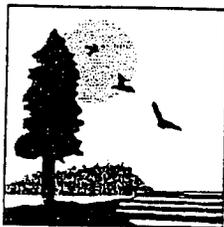
3-15 The referenced permit application (00-0752) is not part of the proposed riverwall repair project. That application is stockpile riprap in specified locations for use in an emergency to protect and repair the existing rock revetment (existing seawall) fronting the Pelican Point Condominium buildings.

3-16 Comment is noted. See Response to Comment 3-7 regarding visual impacts and design with a stepped wooden bulkhead. See Response to Comment 3-2 regarding alternatives. As discussed in the Initial Study, the project would not result in removal or degradation to sensitive habitat areas. Impacts identified could potentially occur during the short-term construction period, but can be mitigated as discussed in the Initial Study.

3-17 See Response to Comment 3-15 regarding permit application 00-0752.

CALIFORNIA STATE LANDS COMMISSION

100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202



June 14, 2001

PAUL D. THAYER, Executive Officer

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File Ref: PRC 4742

Ms. Nadell Gayou
The Resources Agency
1020 Ninth Street, 3rd Floor
Sacramento, CA 95814

Ms. Carol Turley
Pajaro Dunes Geological Hazard Abatement District
2661 Beach Road
Santa Cruz, CA 95076

Dear Ms. Gayou and Ms. Turley:

Subject: **Initial Study and Mitigated Negative Declaration (MND) for the Pelican Point Riverwall Repair Project, SCH #2001052078, Santa Cruz County**

4-1 Staff of the California State Lands Commission (CSLC) has reviewed the above referenced MND. As you are aware, a lease from the CSLC is required for the proposed project and we are a Responsible Agency under the California Environmental Quality Act (CEQA). Based on our review of the document, we offer the following comments.

General Comments

4-2 The construction for the project is proposed for fall 2001. Based on the information provided, it does not appear that Section 7 of the Federal Endangered Species Act has been initiated for western snowy plover, tidewater goby, and steelhead (south/ central California ESU). A Biological Opinion needs to be obtained from the U.S. Fish and Wildlife Service and National Marine Fisheries Service prior to project construction. Has consultation been initiated?

4-3 The environmental document identifies windows to avoid nesting western snowy plover (March 1 and August 31) and steelhead migration (mid-December and mid-May)(Page 4-11). This leaves a construction window from September 1 to mid-December, and the project is proposed for a 2-month window during September and October of 2001 (Page 2-6). However, tidewater goby is known to have extended spawning from late August through November (Page 4-7). Please provide information relative to the measures that will be implemented to protect tidewater goby from construction activities in Watsonville

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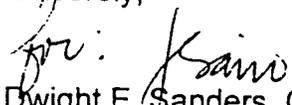
Slough, particularly as it relates to any necessary dewatering or instream work during high water periods.

Specific Comments

- 4-4 Mitigation Measure #3 references potential spills and states, "As a precaution, require contractor to maintain adequate materials onsite for containment and clean-up of any spills". Please further describe "adequate materials" and provide a copy of a contingency plan that would govern the use and deployment of such materials.
- 4-5 Mitigation Measure #5 references potential impacts to legless lizards and states, "Conduct a pre-construction survey to determine whether legless lizards are present on the site, and/or require a qualified professional biologist monitor to be present during initial construction activities (removal of old pilings, vegetation) to monitor activities and potential sitings of legless lizards". It further states that, "If observed, lizards shall be relocated as may be required, in consultation with appropriate agencies." Staff of the CSLC suggests that the mitigation measure include both the pre-construction survey and the presence of a qualified biologist to monitor activities and potential sitings of legless lizards.
- 4-6 Section 1, GHAD History – It is stated that an "Emergency Response Plan" has been prepared to outline measures to protect the seawall and riverwall during high storm events or failure during an earthquake. Please provide us with a copy of the "Emergency Response Plan".
- 4-7 Section 4, item 1.c-d) – We recommend that the riverwall be landscaped with appropriate coastal species to soften visual appearance. Please provide a potential list of species that may be planted within the backfill area.
- 4-8 Section 4, item 4. a) – Monterey spineflower was identified as potentially occurring in the project area. This species was not included in Appendix A: Summary of Special Status Species. Coast wallflower (CNPS List 1B) also is known to occur in the project area. Has a botanical survey been conducted to rule out the presence of these species or any other potential sensitive plants in the project area? Please provide more detailed information on sensitive plants in the project area including any survey data.

Thank you for the opportunity to comment. If you have any questions regarding the CSLC's leasing process, please contact Nancy Smith at (916) 5741862. For questions regarding the above environmental comments, please contact Betty Silva at (916) 574-1872.

Sincerely,


Dwight E. Sanders, Chief
Division of Environmental
Planning And Management

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4. RESPONSES TO CALIFORNIA STATE LANDS COMMISSION

- 4-1 Comment is noted.
- 4-2 The need for consultation with the U.S. Fish and Wildlife Service (USFWS) due to presence of federally listed species is identified on page 1-3 of the Initial Study. Consultation has not yet been initiated, although a copy of the Initial Study was submitted to the USFWS during the public review period. Consultation will need to be initiated, and may be initiated as a Section 7 consultation if U.S. Army Corps of Engineers permit is required (see Comment Letter 1) or as a Section 10 consultation initiated by GHAD.
- 4-3 Follow-up discussions between the consultant's biologist, Bill Davilla, and fisheries consultant, Don Alley, indicate that tidewater gobies typically spawn in the spring, although it is possible that spawning occurs later. However, it is expected that the amount of gobies spawning in the summer would be very low, and spawning is not likely in the fall or winter due to stream flows and colder water temperatures. Thus, the project as scheduled in the fall would not result in a significant effect on spawning. Mitigation Measure #1 requires protection of flows in the slough if dewatering is required for construction. Mitigation Measures 3, 6 and 6A includes measures to be implemented during construction to prevent sediments and other materials from entering the slough and degrading water quality. Additional measures will be implemented as may be required by the U.S. Fish and Wildlife Service as part of the consultation process.
- As noted in Response to Comment 2-3, prohibition of work during steelhead migration period (December 1 through mid-June) and prohibition of work between March and August to prevent impacts to the federally threatened snowy plover, leaves an available 3-month construction period from September 1 through November 30.
- 4-4 Materials and methods for emergency cleanup would be specified in a contingency plan. This requirement has been added to Mitigation Measure #3.
- 4-5 Comment is noted. Mitigation Measure #5 leaves the option open for a pre-construction survey or monitoring due to the fact that this species occurs primarily in scrub habitat, and the potential for occurrence at the site is not considered high.
- 4-6 A copy of the GHAD Emergency Plan has been forwarded to the State Lands Commission as requested.

- 4-7 The landscaping recommendation included in the Initial Study has been revised to specify use of native plants. (See revised Mitigated Negative Declaration.) Species will be determined as part of the landscaping plan. See also Response to Comment 3-8.
- 4-8 The project site was reviewed by EcoSystems West Consulting Group as part of the preparation of the Initial Study, including a site visit and a review of the California Department of Fish and Game Natural Diversity Data Base (CNDDDB). The site is highly disturbed, contains horticultural plantings, and is adjacent to an active beach area. The review found no evidence of existing or potential special status plant species. The Monterey spineflower has been sighted in sand dune habitat areas that is not present on the project site.



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse

LETTER 5



Steve Nissen
DIRECTOR

June 14, 2001

Carol Turley
Pajaro Dunes Geological Hazard Abatement District
2661 Beach Road
Watsonville, CA 95076

Subject: Pelican Point Riverwall
SCH#: 2001052078

Dear Carol Turley:

5-1

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 14, 2001, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

**Document Details Report
State Clearinghouse Data Bas**

SCH# 2001052078
Project Title Pelican Point Riverwall
Lead Agency Pajaro Dunes Geological Hazard Abatement District

Type **Neg** Negative Declaration

Description The project consists of a repair to an existing damaged riverwall. The existing riverwall will remain in place and a new driven sheet pile retaining wall system will be installed adjacent to the outboard side of the existing riverwall for a distance of approximately 715 feet. The purpose of the project is to repair the existing damaged wall and to provide protection to existing residential structures from coastal erosion and river/wave scour.

Lead Agency Contact

Name Carol Turley
Agency Pajaro Dunes Geological Hazard Abatement District
Phone 831 761-7744 **Fax**
email
Address 2661 Beach Road
City Watsonville **State** CA **Zip** 95076

Project Location

County Santa Cruz
City
Region
Cross Streets Beach Road
Parcel No. Various
Township **Range** **Section** **Base**

Proximity to:

Highways 1
Airports Watsonville Airport: within 3 mi
Railways
Waterways Pajaro River, Watsonville Slough, Monterey Bay
Schools
Land Use Urban Low Residential/Special Use

Project Issues Aesthetic/Visual; Air Quality; Flood Plain/Flooding; Geologic/Seismic; Noise; Soil Erosion/Compaction/Grading; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Wildlife; Drainage/Absorption

Reviewing Agencies Resources Agency; Department of Boating and Waterways; California Coastal Commission; Department of Conservation; Department of Fish and Game, Region 3; Department of Parks and Recreation; Caltrans, Division of Aeronautics; Caltrans, District 5; Regional Water Quality Control Board, Region 3; Native American Heritage Commission; State Lands Commission

Date Received 05/16/2001 **Start of Review** 05/16/2001 **End of Review** 06/14/2001

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Note: Blanks in data fields result from insufficient information provided by lead agency.

5. CALIFORNIA OFFICE OF PLANNING AND RESEARCH - STATE CLEARINGHOUSE

5-1 Comment is noted; no response is necessary.



June 14, 2001

Ms. Carol Turley
Pajaro Dunes Geologic Hazards
Abatement District
2661 Beach Road
Watsonville, CA 95076

**Re: MCH # 060127 -Notice of Intent to Adopt a Mitigated Negative Declaration
for Pelican Point Riverwall Repair**

Dear Ms. Turley:

6-1

AMBAG's Regional Clearinghouse circulated a summary of notice of your environmental document to our member agencies and interested parties for review and comment.

The AMBAG Board of Directors considered the project on **June 13, 2001**, and has no comments at this time.

Thank you for complying with the Clearinghouse process.

Sincerely,

Nicolas Papadakis
Executive Director

6. AMBAG

6-1 Comment is noted; no response is necessary.

REVIEW LETTERS

JDH Corrosion Consultants
Weber, Hayes and Associates



**JDH Corrosion Consultants
Incorporated**

July 5, 2001

Strelow Consulting
P.O. Box 2896
Santa Cruz, CA 95063-2896

Attention: Stephanie Strelow

Subject: Pelican Point Riverwall
Environmental Project Review

Dear Ms Strelow,

We have reviewed the letters from the California Coastal Commission and from the National Marine Fisheries Service. We hope our response will address the concerns raised in the correspondence.

Impressed current cathodic protection is used for corrosion protection on metallic structures such as steel sheet pile retaining walls, reinforced concrete structures, off shore pipelines, off shore oil platforms and ships. Some of the projects we have worked on or we have knowledge of are the following:

1. Steinhart Aquarium – San Francisco, CA
2. Bair Island Marina – Redwood City, CA
3. Alaskan Way Seawall on Elliot Bay – Seattle, WA
4. Waterfront Park Seawall on Elliot Bay – Seattle, WA
5. Marina Del Rey Seawall – Los Angeles, CA
6. Seattle Aquarium – Seattle, WA
7. Hunters Point Shipyard – San Francisco, CA
8. Oil Platforms, Cook Inlet Alaska and Santa Barbara, CA
9. Offshore Oil Transfer Pipelines, PG&E Moss Landing, PG&E Morro Bay
10. Dumbarton Bridge, San Francisco Bay
11. Orange County Flood Control Channel

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These projects are located in marine or brackish water environments similar to the Pelican Point Riverwall project and to our knowledge these projects have not had any reports of environmental damage or harming wildlife.

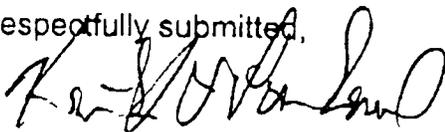
We discussed the environmental effects of cathodic protection on fish and animals with Mr. John Keppler of Norton Corrosion Limited. Mr. Keppler has extensive experience designing and testing cathodic protection systems installed in marine and fresh water applications. However, Mr. Keppler was not able to provide us with documents indicating cathodic protection in marine environments does or does not harm fish or animals. He was able to review the conceptual design and his opinion is the cathodic protection system for this project would not harm fish or animals.

The worst case conditions for harming fish or animals would be a cathodic protection system with the anodes installed in very high resistivity fresh water. In this situation, the voltage gradient through the water would be high enough to cause the cathodic protection current to enter the body of the animal and flow through the animal's nervous system and paralyze the animal which then drowns. Any animals near the Pelican Point Riverwall should not be harmed because of the following conditions for this project:

1. The anodes for this project are located on the land side of the wall and fish will not swim between the anodes and the wall as would be the case if the anodes were installed on the water side of the wall.
2. During the times when the river is flowing against the wall, the current density to the wall and the resulting voltage gradient through the water will be very low. Most of the cathodic protection current will flow to through the soil to the land side of the wall and below the mudline on the water side of the riverwall
3. The resistivity of the river water will be relatively low compared to the resistivity of the body of a fish. The cathodic protection current will take the path of least resistance through the water around the fish and should not enter the body of the fish.

We appreciate the opportunity to assist you with this project. If you have any questions or if we can be of any additional assistance at this time, please contact our office at (925) 927-6630.

Respectfully submitted,



Keith A. Packard, P.E.
JDH CORROSION CONSULTANTS, INC.
Corrosion Engineer

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Weber, Hayes & Associates
Hydrogeology and Environmental Engineering
120 Westgate Dr., Watsonville, CA 95076
(831) 722-3580 (831) 662-3100
Fax: (831) 722-1159

July 2, 2001

Rick Parks
Haro, Kasunich and Associates
116 East Lake Avenue
Watsonville, CA 95076

Subject: Pelican Point Riverwall Repair; Review of Potential Impact on Groundwater Flow

Dear Mr. Parks:

This letter presents our review of the proposed Pelican Point Riverwall Repair project. The purpose of our review was to evaluate the potential for the proposed sheetpile wall to have a significant impact on groundwater flow or groundwater quality in the Pajaro River Lagoon area. This work was conducted in response to a request for additional review of this specific issue, as requested in a letter from the California Coastal Commission dated June 7, 2001, addressing Project Comments on the Initial Study/Negative Declaration for the Pelican Point Riverwall Repair.

The scope of our work included; 1) review of a set of Pelican Riverwall Repair project plans, dated 4/11/01, prepared by Haro, Kasunich and Associates, and a review of sheetpile wall design characteristics in soil engineering texts, 2) review of environmental documentation presented in the Initial Study and Mitigated Negative Declaration for the project (Initial Study), prepared for the Pajaro Dunes Geologic Hazards Abatement District by Strelow Consulting, 3) review of background documentation on the Pajaro Lagoon, including the Pajaro River Lagoon Management Plan (Swanson and Associates, 1993), and the FEMA Zero-Rise Analysis for the riverwall project, prepared by Phillip Williams and Associates (1/12/2001), 4) aerial inspection of the project site and surrounding locations by low altitude overflight in a small plane, and 5) preparation of this review letter.

Summary

The results of this review indicate that the proposed sheet pile wall will be a partial barrier to shallow groundwater flow, but it will not prevent shallow groundwater flow in the project area, due to leakage (seepage) known to occur at sheet pile connections, and due to expected groundwater underflow through sediments beneath the base of the sheet piles.

No measurable reduction in groundwater recharge flow to the Watsonville Slough and Pajaro River from the Pajaro Dunes property is likely, because of the limited surface area behind the riverwall in comparison to the total area bordering the lagoon, and due to the remaining routes for groundwater flow if the wall is built. The length of the riverwall along the Watsonville Slough (approximately 165 feet) is minimal in comparison to the overall length of the slough. Likewise, the length of the wall along the river and river lagoon is slight compared to the riverbank area on both sides, where groundwater flow into the lagoon can occur.

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A review of groundwater flow nets and sheetpile design texts shows that shallow groundwater flow may be altered by the wall, with higher flow velocities and more flow occurring through sediments beneath the wall due to the shallow barrier. Because the sheetpiles (with a maximum depth of about 35 feet) will not be keyed into a bedrock layer, groundwater flow beneath the wall can occur in either direction, in response to fluctuating water elevations. Therefore, the proposed project is not expected to change the groundwater flow directions, water chemistry, or have a significant impact on groundwater flow or groundwater quality in the Watsonville Slough or Pajaro River Lagoon.

Project Description

The retaining wall project is described in detail in the Initial Study and in the engineered plans, and therefore will be only briefly described here. The proposed driven sheet pile riverwall is approximately 715 feet long, with 165 feet of sheet pile along the west bank of the Watsonville Slough and the remainder along the Pajaro River at its confluence with the Pacific Ocean (the Pajaro River Lagoon). King piles will be driven up to 65 feet deep, and interlocking sheet piles (which bridge the area between king piles) will be driven 30-34 feet deep. The riverwall area is underlain by deep, interfingered deposits of sands and silty clays, with high liquefaction potential (Foxy, Nielsen and Associates, 1999). The base of the piles will not be keyed into bedrock or into a low permeability layer. The piles will be driven into unconsolidated sediments underlying the river mouth and beach. No bedrock is encountered to depths of over 100 feet in these deep sediments (Initial Study, May 14, 2001).

Hydrologic Setting

The Pajaro River Lagoon and Watsonville Slough are part of a dynamic coastal waters and wetlands system, with complex saltwater/freshwater interactions. Groundwater flow gradients and groundwater elevations in the area are likely to fluctuate on an annual, seasonal, daily tidal, and episodic (storm event) basis. Groundwater flow in shallow sediments may occur from land into the lagoon, or may reverse during periods with a sandbar in place and higher water elevations in the lagoon, with flow from the lagoon towards land. During some periods, groundwater elevations on either side of the riverwall may be similar. The wall is designed to withstand erosion of the surface elevation on the beach side of the wall which may result in a surface elevation difference across the wall of greater than 10 feet, which could create similar differences in groundwater elevation.

Surface water inflow of fresh water to the Watsonville Slough and Pajaro River from their extensive surface drainage areas is the dominant source of freshwater in the lagoon and slough. The slough and river also receive subsurface baseflow of groundwater, both in upstream areas and along the existing and proposed Pelican Point riverwall. Rainfall recharge to groundwater on the Pajaro Dunes site in the area behind the proposed riverwall would contribute to the subsurface component of the groundwater flow.

Criteria for Significant Impact

Based on discussion with Stephanie Strelow (Strelow Consulting) we set the following criteria for significance to evaluate the potential impact of the proposed riverwall.

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The project would be considered to have a significant impact on groundwater flow :

- 1) if the project would significantly prevent or reduce groundwater recharge to the Watsonville Slough or to the Pajaro River Lagoon,
- 2) if the project would prevent groundwater flow in either direction, with a resulting reduction in fresh/saline water mixing,
- 3) if the project would cause ponding, surface saturation, localized springs or erosion by creating a barrier to groundwater flow.

Discussion of Potential Impacts

A review of sheet pile wall design texts showed sheetpile walls are an effective barrier to groundwater flow to the depth of the sheet piles, but significant seepage is known to occur at sheetpile connections. Due to this leakage, sump pumping may be required where sheetpiles are used to limit flow into excavations. Expected seepage at sheetpile connections was quantified as 0.01 gpm of seepage per square foot of wall, per foot of differential head (US Navy Facilities Engineering Command Design Manual 7.02, 1986). For 715 linear feet of wall, 35 feet deep, this equals approximately 250 gpm of seepage per foot of differential head. Seepage would increase linearly with increased differential head across the wall. Although special precautions (seals) can be taken to minimize leakage at sheetpile connections, these sealants at connections are not part of the design.

In addition to leakage at sheetpile connections, increased groundwater flow will occur below 34 feet deep, beneath the wall. Note that the king piles (which extend up to 65 feet deep) are essentially individual anchors, and will not obstruct groundwater flow like the interlocking sheets driven to 30-34 feet deep. A groundwater flow net to estimate flow patterns beneath sheetpile walls shows that groundwater velocities and groundwater flow will be increased in the sediments beneath the wall, as long as the sheet piles are not keyed into bedrock or a continuous low permeability layer.

Finally, groundwater flow into the Watsonville Slough and the Pajaro River Lagoon will continue unaffected over the great majority of waterways. No measurable reduction in groundwater recharge flow to the Watsonville Slough and Pajaro River from the Pajaro Dunes property is likely, because of the limited surface area behind the riverwall in comparison to the total area bordering the lagoon, and due to the remaining routes for groundwater flow if the wall is built. The length of the riverwall along the Watsonville Slough (approximately 165 feet) is minimal in comparison to the overall length of the slough (over 1.25 miles long behind the Pajaro Dunes property). Likewise, the length of the wall along the river and river lagoon, is slight compared to the riverbank area on both sides, where groundwater flow into the lagoon can occur.

The results of this review indicate that the proposed sheet pile wall will be a partial barrier to shallow groundwater flow, but it will not prevent shallow groundwater flow in the project area, because leakage will occur through the wall, flow will increase below the wall, and flow will continue around the wall.

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Pelican Point Riverwall Repair
Hydrology Review
July 2, 2001

This summarizes our review of the possible impacts of the Pelican Point riverwall on groundwater flow. Please contact me if you would like to discuss this information. Thank you for the opportunity to conduct this work.

Limitations

Our service consists of professional opinions and recommendations made in accordance with generally accepted geologic principles and practices. This warranty is in lieu of all others, either expressed or implied. The analysis and conclusions in this report are based on review of existing information. Additional data from future work may lead to modification of the opinions expressed herein.

Sincerely,
Weber, Hayes and Associates

A handwritten signature in cursive script that reads "Joe Hayes".

Joseph Hayes
Certified Hydrogeologist #373

cc: Stephanie Strelow, Strelow Consulting

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