MITIGATED NEGATIVE DECLARATION

Trinidad Pier Reconstruction Project
Trinidad Bay
Humboldt County

Applicant:
Trinidad Rancheria
P.O. Box 630
Trinidad, CA 95570
PH: (707) 677-0211
Fax: (707) 677-3921

Lead Agency:
City of Trinidad
P.O. Box 390
Trinidad, CA 95570

August, 2007

CITY OF TRINIDAD **MITIGATED NEGATIVE DECLARATION**

Planning Department **409 Trinity Street, Trinidad, CA 95570** **(707) 677-0223**

PROJECT: **Trinidad Pier Reconstruction**

LEAD AGENCY: **City of Trinidad**
P.O. Box 390
Trinidad, CA 95570

LEAD AGENCY CONTACT PERSON:
Trever Parker, City Planner
STREAMLINE PLANNING CONSULTANTS
1062 G St. Suite I, Arcata, CA 95521
(707) 822-5785; FAX 822-5786; Trever@streamlineplanning.net

THIS *INITIAL STUDY* WAS PREPARED BY:
Pacific Affiliates, Inc.
990 W. Waterfront Drive
Eureka, CA 95501
(707) 445-3001

THIS *MITIGATED NEGATIVE DECLARATION* WAS PREPARED BY:
City of Trinidad
P.O. Box 390
Trinidad, CA 95570
(707) 677-0223

PROJECT LOCATION: Trinidad Pier (end of Bay Street)
Trinidad, CA 95570
APN: 042-071-014 (pier);
042-071-001, -008, -009 (staging area);

PROJECT PROPONENT: Trinidad Rancheria

PROPERTY OWNER: State of California (042-071-014); Trinidad Rancheria (042-071-001, -008); U.S. Coast Guard (042-071-009)

ZONING/GENERAL PLAN DESIGNATION: None (APN: 042-071-014); Open Space (042-071-001, -009); Commercial (042-071-008)

PROJECT SUMMARY: This project proposes to reconstruct the Trinidad Pier located on Trinidad Bay. The 540 ft. long pier is located on tidelands granted by the State of California to the City of Trinidad and leased by the Trinidad Rancheria. The project area consists of the pier (0.31 acres) and a nearby staging area (0.53 acres). The existing pier was constructed in 1946 to serve commercial fishing and recreational uses. Since that time the creosote-treated wood piles which support the pier, as well as the wood decking, have deteriorated and are proposed to be replaced by cast-in-steel-shell (CISS) concrete piles and pre-cast concrete decking, respectively. This will improve the safety of the pier. Existing utilities which will require replacement include electrical, water, sewer, and phone. Additional dock amenities that will be replaced include lighting, railing, four hoists, three sheds, a saltwater intake pipe used by the Telonicher Marine Laboratory, and a water quality sonde utilized by the Center for Integrative Coastal Observation, Research, and Education. The proposed construction schedule is from August 1, 2008 to May 1, 2009.

SURROUNDING LAND USES AND SETTING: The project site is located on Trinidad Bay, approximately one half-mile west of U.S. Highway 101. This site is within an Area of Special Biological Significance designated by the State Water Resources Control Board for the kelp beds located in the bay. The pier is situated between two rock outcroppings: Trinidad Head to the west and Little Head to the east. The staging area is located at the base of Trinidad Head, in a gravel parking lot that serves users of Trinidad State Beach. The parcel containing the staging area is zoned Open Space; the pier has no zoning designation. Land uses surrounding the project site include open space, recreation (boat launch), and commercial (Seascape Restaurant, commercial fishing). Adjacent upland areas are used mainly for residential purposes.

FINDING OF NO SIGNIFICANT EFFECT: It has been determined, after review and evaluation, although the project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agree to by the project proponent and that the proposed project will conform to the City of Trinidad planning and implementation documents and the CA Coastal Act and will not have a significant adverse effect on the environment with mitigation incorporated.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the attached initial study.

☐ Aesthetics	☐ Hazards & Hazardous Materials	☐ Public Services
☐ Agricultural Resources	☐ Hydrology / Water Quality	☐ Recreation
☐ Air Quality	☐ Land Use/Planning	☐ Transportation/Traffic
☐ Biological Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Cultural Resources	☐ Noise	☐ Mandatory Findings of Significance
☐ Geology/Soils	☐ Population/Housing	☒ None

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation:

☐ I find that the proposed project **could not** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project **may** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **may** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Trever Parker (Original Signed)	August 30, 2007
Signature	*Date*
Trever Parker, City Planner	City of Trinidad
Printed Name	*For*

CEQA Section 15183 (a) "mandates that projects which are consistent with the development density established by existing …. General plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant impacts which are peculiar to the project or its site. This project, as analyzed in this Initial Study, has been found to be consistent with the policies of both the City and the County the General Plans. This project area was contemplated in the General Plan for development and analyzed in an EIR. This project will be subject to the mitigation measures through the General Plan policies, as dictated by the EIR and as specified herein. CEQA Section 15162 (a). "Subsequent EIRs and Negative Declarations" states that…. (a) When an EIR has been certified …. no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of **substantial evidence** (emphasis added) in the light of the whole record, one or more of the following:…" This section continues with conditions that would require a Subsequent EIR. This project does not meet any of those conditions. The following document provides this examination.

CHECKLIST AND EVALUATION OF ENVIRONMENTAL IMPACTS: An explanation for all checklist responses are included in the section titled **DISCUSSION OF CHECKLIST RESPONSES**, which immediately follows the checklist. All answers take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The explanation of each issue identifies (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact too less than significance. In the **CHECKLIST** and the **DISCUSSION OF CHECKLIST RESPONSES**, the following definitions are used:

> "**No Impact**" means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the project.
>
> "**Less Than Significant Impact**" means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.
>
> "**Potentially Significant Unless Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.
>
> "**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.

Notice of Determination

Form C

To:

☒ Office of Planning and Research

For U.S. Mail:	*Street Address:*
P.O. Box 3044	1400 Tenth St.
Sacramento, CA 95812-3044	Sacramento, CA 95814

☒ County Clerk
County of: Humboldt
Address: 825 5th St, Fifth Floor
Eureka, CA 95501

From:

Public Agency: City of Trinidad
Address: P.O. Box 390
Trinidad, CA 95570
Contact: Trever Parker
Phone: 707-822-5785

Lead Agency (if different from above):
Same
Address:
Contact:
Phone:

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

State Clearinghouse Number (if submitted to State Clearinghouse): 2007092006

Project Title: Trinidad Pier Reconstruction

Project Location (include county): Coastal end of Bay St., Trinidad, CA 95570; Humboldt County

Project Description:

A proposal by the Trinidad Rancheria to reconstruct the Trinidad Pier in Trinidad Bay in Humboldt County by replacing the current creosite treated piles and pressure treated decking with a new concrete pier. The 540 ft. (165 m) long pier is located on tidelands granted by the State of California to the City of Trinidad and leased by the Trinidad Rancheria.

This is to advise that the City of Trinidad (☒ Lead Agency or ☐ Responsible Agency) has approved the above described project on November 14, 2007 (Date) and has made the following determinations regarding the above described project:

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 mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
4. A statement of Overriding Considerations [☐ was ☐ was not] adopted for this project.
5. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at: Trinidad City Hall, 409 Trinity St. Trinidad, CA 95570

Signature (Public Agency) [signature] Title City Planner

Date January 17, 2008 Date Received for filing at OPR

CAROLYN CRNICH
Humboldt County Clerk
FILED
OCT 09 2009
FILED
BY [signature]

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

Revised 2005

PROPOSED MITIGATED NEGATIVE DECALRATION
TRINIDAD PIER RECONSTRUCTION PROJECT

September 2007

Lead Agency
City of Trinidad
P.O. Box 390
Trinidad, CA 95570
Phone (707) 677-0233
Contact: Mr. Gabe Adams, City Clerk

Project Proponent
Trinidad Rancheria

PROJECT DESCRIPTION

The Trinidad Pier is the northern most oceanfront pier in California and has been used for commercial and recreational purposes over the last 50 years. Trinidad harbor and pier serve a fleet of commercial winter crab fishermen and year-round water angling for salmon, and nearshore/finfish species. Trinidad Pier was first built by Bob Hallmark in 1946. Since that time only minor maintenance activities have occurred on the pier. Today, Trinidad's economy is based on fishing and tourism and the pier supports these activities. The pier also provides educational opportunities by accommodating the HSU Telonicher Marine Lab's saltwater intake pipe, and the California Center of Integrated Technology's (CICORE) water quality sonde.

Currently, the Trinidad Rancheria plays an important role in the economic development of the Trinidad area through three main business enterprises, one of which is the SeaScape Restaurant and Pier. The Cher-Ae Heights Indian Community of the Trinidad Rancheria is a federally-recognized tribe composed of descendants of three tribes, the Yurok, Weott, and Tolowa. The Trinidad Rancheria was established in 1906 by a United States Congressional enactment. In 1908, 60 acres of land were purchased on Trinidad Bay for homeless Indians. The community began developing in the 1950's. In January 2000, Trinidad Rancheria leased a total area of 14 Acres in Trinidad Bay and currently owns and operates the pier, and upland improvements including a boat launch ramp and the SeaScape Restaurant. Funds for permitting and designs of the pier were granted to the Trinidad Rancheria by the California State Coastal Conservancy.

The purpose of the Trinidad Pier Reconstruction Project is to correct the structural deficiencies of the pier and improve pier utilities for the benefit of the public, and indirectly improve the water quality conditions and provide additional habitat for the biological community in the ASBS. Currently it is difficult to maintain the safety of the pier due to excessive deterioration of the creosote-treated Douglas fir piles and the pressure treated decking.

Existing pier improvements are proposed to be replaced one-to-one with approximately 13,500 ft^2 (1,254m^2) of pre-cast concrete decking, 115 concrete piles including batter and moorage piles (18 inches (45.7cm) in diameter)), four hoists, standard lights, guardrail, and dock utility pipes including water, power, phone. In addition, a new stormwater collection system will be incorporated into the reconstructed pier design. The new cast-in-steel-shell (CISS) concrete piles will be separated at 5 ft. (1.5m) intervals along 25 ft. - long (7.6m) concrete bents. A total of 22 bents separated 25 ft. (7.6m) apart shall be used. The decking of the new pier will be constructed of pre-cast 20 ft. - long (6.1m) concrete sections. The new pier will be 540 ft. (164.6m) - long and will vary in width. The southern part of the pier will be 26 ft. (7.9m) - wide and the remaining part of the pier will be 24 ft. (7.31m) - wide (corresponding to the existing footprint).

An additional pile bent will be installed at the existing elevation of the lower deck to provide access to the floating dock. The existing stairs to the lower deck will be replaced with a ramp that is ADA compliant. The decking of the pier will be constructed at an elevation of 21.0 ft. above Mean Lower Low Water (MLLW). The top of the decking will be concrete poured to create a slope for drainage and to incorporate a pattern and a color into the concrete surface in order to provide the pier with an aesthetical pleasing look. An open guardrail, 42 inches (106.7 cm) in height shall be constructed of tubular galvanized steel rail bars (approximately 3/4 inch ((1.2cm)) - diameter)) uniform in shape throughout the length of pier. Lighting will be installed in the decking (and railing in the landing area) along the length of the pier to prevent light pollution. The hoists shall be installed at their current location. A new fish cleaning station will be constructed on the upland area (as a separate project). All design specifications shall conform to the Uniform Building Code.

HSU Marine Lab leases space on Trinidad Pier for placement of a pump and associated plumbing to obtain seawater for the Telonicher Marine Laboratory which will also be replaced. The existing saltwater intake PVC pipes, located directly under the decking of the pier, will be replaced and their size shall be reduced to 4-inches (10.2cm) in diameter. A new shed to house the pump will be built on the pier. CICORE have an Acrylonitrile-Butadiene-Styrene (ABS) pipe attached to a piling on the Trinidad pier that contains the water quality sonde. The proposed water quality sonde system is similar to the existing system and will be composed of the YSI 6600 Extended Deployment System, 6200 Data Acquisition System and two solar panels.

The project is expected to be completed within nine months. Reconstruction of the pier is proposed to commence on August 1st, 2008 and terminate on May 1st, 2009. Excluding weekends and holidays, a total of 217 working days will be available for work during this period. Public access during crab and salmon season will be maintained to the extent possible. During the winter months (November – March) severe weather conditions are expected to occur periodically at the project site. The Contractor may have to halt the work during pile installation due to strong gales winds, large swells, and/or heavy precipitation. Construction of the rest of the pier should not be interfered by large swells, but may be halted due to strong winds or precipitation. The Contractor will work five days per week from 7 a.m. to 7 p.m.

Construction of the new pier will facilitate the use of the existing pier during construction. The existing piles will be removed by vibratory extraction and new piles will be installed from the existing dock. All removed piles shall be temporarily stored at the upland staging areas until all demolition activities are complete (approximately 6 months). Following the cessation of demolition activities, the creosote treated piles will be transported by the Contractor to an approved upland disposal site. Following the removal of the existing piles, steel casings will be vibrated to a depth of approximately 2.5 ft. (0.8 meters) above the tip elevation of the proposed pile (25-35 ft. (7.6-10.7m) below the mud line). The steel shell will be coated with a polymer to protect the casings from deteriorating in the salt-water environment. The steel shell shall be used to augur the holes and then left permanently in the ground to support the integrity of the hole. The steel shell is cleaned and concrete is poured underwater using a tremie to seal the area below the shell. The holes are dewatered and steel cages are installed prior to pouring concrete to fill the holes and form the piles.

The staging area utilized for the project consists of the gravel parking lot located west of the pier and is approximately 0.53 acres. The Contractor shall utilize the staging area to store construction equipment and materials. Removed sediment from CISS pile installation (approximately 10 - 100 yd^3, (7.7 - 67.5 m^3) will also be temporarily stockpiled at the staging area until transported by the Contractor to an approved upland disposal site. Seawater removed from the holes will be discharged through peculation at the staging area. The edge of the staging area will be at least 50 ft. (15m) from the beach to the west in order to prevent impacts to the beach.

PROJECT LOCATION

The Trinidad Pier is located on the northern California coast in Humboldt County, approximately 300 miles north of San Francisco. The project site is located in Trinidad Bay, and is bounded from the north by the City of Trinidad. The project site is bounded from the east and west by two large rocks named Little Head and Trinidad Head respectively. The pier is located on Tidelands granted by the State of California to the City of Trinidad and are leased by the Trinidad Rancheria. The project site is located on APN 042-071-014, which encompass approximately 0.30 acres (Figure 1, Vicinity Map).

PROPOSED FINDING OF NO SIGNIFICANT EFFECT ON THE ENVIRONMENT

Based on the attached Initial Study and other pertinent information, with the recommended mitigation measures, the project will not have a significant effect on the environment. Mitigation measures have been added to the project to reduce potentially significant impacts to a less than significant level.

MITIGATION MEASURES

The mitigation measures below are compiled from the attached Initial Study (their numbers are keyed to the environmental checklist). These mitigation measures have been added to the project, and they will reduce all potentially significant impacts of the proposed project to less than significant.

IMPACT IV-1: Potential impacts to mammals and fish from noise levels generated underwater as result of construction activities.

MITIGATION IV-1: To insure that no impacts occur to fish and mammals during pile installation, the Contractor shall perform a noise study to confirm that noise levels are not above the thresholds specified by NMFS.

The noise study will be conducted by Illingworth & Rodkin, Inc. based in Petaluma, California. Illingworth & Rodkin, Inc. has unique experience in measuring and assessing the impacts of underwater sounds on the marine environment and has made presentations of the sound pressures from these activities to a number of agencies on the behalf of Caltrans and several different construction companies. Illingworth & Rodkin, Inc will measure the ambient sound levels in the air and water in Trinidad Harbor and will measure noise levels generated from drilling and steel casing installation for the piles.

"Based on past experience Illingworth and Rodkin , Inc. had with NMFS, noise levels would be measured simultaneously at 10m (32.8 ft.) from pile installation and an attempt would also be made to measure the sound levels at 20 - 100m (6.1 ft. – 328 ft.) depending on conditions. "Measurements will be made using G.R.A.S. 10CT hydrophones with PCB in-line charge amplifiers (Model 422E13) and PCB Multi-Gain Signal Conditioners (Model 480M122) or equivalent systems. The signals will be fed into Integrating Sound Level Meters (SLM) and Solid State Recorders (SSR) or equivalent equipment (Keith Pommerenck Email comm., 2007)."

"The peak pressure and root-mean square average sound pressure levels ($RMS_{impulse}$ levels) will be measured 'live' using the SLM. The SLM will have the ability to measure the unweighted peak sound pressure and RMS sound pressure levels over the relative short periods (e.g., less than 50 milliseconds). Many SLMs can measure the RMS sound pressure level of these pulses using the standard 'impulse exponential-time weighting' (35 millisecond rise time) function.

Additional subsequent analyses of the acoustical impulses will be performed using a Real Time Analyzer capable of providing narrow band frequency and corresponding pressure over time analysis (waveform), (Keith Pommerenck Email comm., 2007)."

"Quality Control. The measurement systems will be calibrated prior to use in the field. For example, an acoustical pistonphone and hydrophone coupler could be used to send known sound signals to the underwater sound measurement system. This type of pistonphone used with the hydrophone coupler, produces a continuous 145 dB (re 1 μPa) tone at 250Hz. The SLMs are calibrated to this tone prior to use in the field. The tone is then measured by the SLM and is recorded on to the beginning of the digital audiotapes that will be used. The system calibration status would be checked at the end of the measurement event by both measuring the calibration tone and recording the post-measurement on the tape. The taped calibration tones are used to calibrate the real time analyzer prior to analysis of tape-recorded pulses."

All field notes would be recorded in water-resistant field notebooks. Such notebook entries would include calibration notes, measurement positions, pile-installation information, system gain setting, and equipment used to make each measurement (Keith Pommerenck Email comm., 2007).

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc Project Manager/NMFS, USAOCE, CDFG.
Monitoring Frequency: Once during CISS pile installation.
Evidence of Compliance: Submit report to USACOE, CCC, NMFS, CDFG, and the City of Trinidad.

MITIGATION IV-2: Daily work windows would be enforced for noisy work. Any work that is above peak ambient levels would be restricted to the period between 7 AM and 7 PM except for concrete pouring.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc Project Manager
Monitoring Frequency: Daily
Evidence of Compliance: Project Manager Daily Logs.

MITIGATION IV-3: Minimize noise impacts during pile installation of CIP piles by vibrating steel plates into place, drilling the holes, and pouring the concrete.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager
Monitoring Frequency: During CISS pile installation.
Evidence of Compliance: Project Manager Daily Logs.

MITIGATION IV-4: Two trained personnel in identification of marine mammals shall attend the project site one hour prior until one hour after construction activities cease each day throughout the construction window. The trained personnel shall be trained by Dr. Dawn Goley, which prepared the biological assessment for the Harbour seals and Gray whales for the project. Should the trained personnel identify marine mammals within 500m (1640 ft.) of the project area, they shall notify the Project Manager/Engineer whom will notify the Contractor. When working on pile removal or installation, the Contractor shall temporarily stop work to allow the species to move away from the project site. The Contractor will not be required to stop the work when working on the removal or construction of the pier decking. The trained personnel shall invoke clapping motion to force the mammals to move away from the project site. All sighting will be recorded and documented for future references.

> Timing for Implementation/Compliance: During pile replacement.
> Person/Agency Responsible for Monitoring: Trained personnel and Pacific Affiliates, Inc Project Manager/NMFS, USAOCE, CCC, and CDFG.
> Monitoring Frequency: Daily during reconstruction work.
> Evidence of Compliance: Monitoring logs submitted to the USACOE, CCC, NMFS, and the CDFG.

IMPACT V-1: Potential impacts to historical, archeological and human remains.

MITIGATION V-1: The Trinidad Rancheria will employ an elder of the Yurok Tribe qualified by the State Historical Preservation Officer to monitor the construction site for cultural and archeological resources. The monitor will be present during pile removal and pile installation activities. The Tribe monitor will inspect the sediment removed from the construction area for cultural or archeological resources. The Tribe monitor will inspect the material as it is bored out of the holes and will also be able to continuously inspect the material at the temporary stockpiling location.

> Timing for Implementation/Compliance: During pile replacement activities.
> Person/Agency Responsible for Monitoring: Certified Cultural Monitor, Elder of the Yurok Tribe.
> Monitoring Frequency: As needed during pile replacement activities.
> Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG

MITIGATION V-2: The Contractor will be notified of, and required to monitor for signs of potential undiscovered archeological, ethnic, religious, or paleontological resources. If cultural/archeological resources are discovered during pile removal or pile installation, operations will be halted until a qualified cultural resources specialist is consulted. Subsurface surveys shall be conducted to determine the boundaries of the resource. If human remains are discovered, the County Coroner must be contacted. Required procedures to be followed in the event of accidental discovery of cultural materials or human remains are described in sections 15064.5(e) and 1564.5(f) of the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). A protocol to follow in the event that cultural/archeological resources are discovered shall be prepared by the contractor prior to commencement of the project. A copy of this protocol shall be submitted to the City of Trinidad and the Yurok Tribe.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: NCIC and Yurok Tribe.
> Monitoring Frequency: As needed.
> Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG.

IMPACT VII-1: Potential impacts to water quality from the use of hazardous construction materials and fueling of construction equipment.

MITIGATION VII-1: The contractor shall submit to the Project Engineer a Hazardous Materials Spill Prevention Plan that will include a list of all materials and equipment to be used, a list of equipment that shall be used in case of a spill and the necessary resource and regulatory agencies that must be notified in case of an accidental spill of any hazardous material. A copy of this plan will be submitted to the City of Trinidad.

Timing for Implementation/Compliance: Submit plan prior to construction/during project.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC and the City of Trinidad.
Monitoring Frequency: Implement as needed.
Evidence of Compliance: Daily project logs.

Additional Mitigation Measures and BMP's to prevent impacts to water quality and the biological resources from the use of Hazardous Materials during construction activities are described in Section IV - Biological Resources and Section VIII - Hydrology and Water Quality.

IMPACT VIII-1: Potential impacts to water quality during reconstruction activities.

MITIGATION VIII-1: The following measures are proposed to reduce the effect of potential project impacts to water quality and will be implemented at the staging area and the project site:

- The demolition plan as described in Section IV.B.3, shall be implemented including provision that no debris shall be allowed to fall into Trinidad Bay.

- Sediment and cuttings from CISS pile installation shall be removed from the work site into closed containers and shall receive appropriate treatment, as required by the Regional Water Quality Control Board prior to disposal.

- The contractor shall test the pH of the water one day following pouring of the concrete seal to insure that the pH of the water did not change by more than 0.2 units from the ambient pH. The water shall then be pumped into 50-gallon drums and transported to the staging area for discharge through percolation to eliminate solids. Should the pH of the water change by more than 0.2 units from ambient pH, then the contractor shall haul the water to the Eureka Wastewater Treatment Plant for treatment prior to discharge.

- No concrete washing or water from concrete will be allowed to flow into the ASBS and no concrete will be poured within flowing water.

- Temporary construction BMP's for the staging area will be implemented in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). BMP's for the staging area may include, but are limited to: mulches, silt fences, fiber rolls, straw bales, and sandbag barriers. The contractor shall utilize those BMPs listed in the CASQA Handbook and throughout this document as they apply.

- Temporary construction BMP's for the project area in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). BMP's for the construction site include protecting the waters from incidental discharge of debris by providing a protective cover directly under the pier and above the water to capture any incidental loss of demolition or construction debris. A copy of the SWPPP shall be provided to the City of Trinidad.

  Timing for Implementation/Compliance: During Construction.
  Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC, and the City of Trinidad.
  Monitoring Frequency: Daily.
  Evidence of Compliance: Daily project logs.

IMPACT VIII-2: Potential impacts to substrate and water quality during tremie concrete seal pouring.

MITIGATION VIII-2: The following measures shall be implemented in the event of leaking of concrete into the sediment during tremie pouring:

- Stop construction activities.
- Notify the Regional Water Quality Control Board
- Determine the cause for leaking of concrete
- Develop mitigation restoration plan with regulatory agencies

  Timing for Implementation/Compliance: During Construction.
  Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC.
  Monitoring Frequency: Daily.
  Evidence of Compliance: Daily project logs.

IMPACT IX-1: Potential temporary impacts to public access to the pier during construction of the pier.

MITIGATION IX-1: The following BMP shall be implemented by the contractor to insure that public access is maintained to the extent possible while securing the safety of the public:

- The Contractor shall clearly mark with orange barrier fencing the perimeter of the working area and the staging area to insure the safety of the public and to alert the public of the areas that are closed for use.
- Signs shall be installed in the vicinity of the pier and the parking lots to alert the public of the construction activities.
- The contractor shall submit a detailed plan to the Project Engineer describing the procedures that will be followed to maintain public access to the pier and upland parking lot to the extent possible during construction activities.
- The Project Engineer shall coordinate all construction activities with the Trinidad Pier Harbor Master.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
Monitoring Frequency: Daily.
Evidence of Compliance: Daily project logs.

IMPACT XI.-1: Potential increase in noise levels above the NAC value of 67 Leq within 450 ft. (137m) of the project site.

MITIGATION XI-1: **Construction site tool or equipment noise.** The following shall apply to construction noise from tools and equipment: Hours of Construction. The operation of tools or equipment used in construction, drilling, repair, alteration or demolition shall be limited to between the hours of 7 A.M. and 7 P.M. Monday through Friday, and between 9 A.M. and 7 P.M. on Saturdays. No heavy equipment related construction activities shall be allowed on Sundays or holidays. Concrete pouring shall be allowed after 7 P.M. in order to allow the concrete to cure during the night. **Stationary and construction equipment noise.** Trucks used for transport and all stationary and construction equipment shall be maintained in good working order, and fitted with factory approved muffler system. A sign shall be posted at the project site notifying the public of the hour of work.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
Monitoring Frequency: Daily.
Evidence of Compliance: Daily project logs.

All Best Management practices (BMP) specified in the Initial Study in addition to the mitigation measures described above are referenced to the California Storm Quality Association (CASQA) Construction Handbook.

DRAFT
INTIAL STUDY

Trinidad Pier Reconstruction Project
Trinidad Bay
Humboldt County

Prepared by

PACIFIC AFFILIATES, INC.
A CONSULTING ENGINEERING GROUP
990 W. Waterfront Drive
Eureka, CA 95501
◆
(707) 445-3001

For the

Trinidad Rancheria

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I. SUMMARY

The Trinidad Rancheria is proposing to reconstruct the existing Trinidad Pier adjacent to the City of Trinidad in Humboldt County (Figure 1). The pier is located on Tidelands granted by the State of California to the City of Trinidad and are leased by the Trinidad Rancheria. The project site is located on APN 042-071-014, which encompass approximately 0.30 acres. The existing pier was constructed in 1946 by Bob Hallmark to serve commercial fishermen and the general public for recreational uses. Since that time the creosote-treated wood piles, which support the pier and the wood decking, have deteriorated and are proposed to be replaced by concrete piles and concrete decking respectively. Currently it is difficult to maintain the safety of the dock due to excessive deterioration of the wood-piles and the deck. The proposed project is designed to correct these deficiencies. A concrete pier will be built on the existing pier footprint (preferred Alternative 2). Two alternatives, in addition to the No Build Alternative, were considered. Alternative 1 proposes to replace the existing pier one-to-one with the addition of a temporary sidewalk, which will extend west beyond the existing footprint of the pier. The temporary sidewalk will allow public access to the pier and mooring area during construction of the new pier. Both Alternative 1 and 2 propose to replace the existing partially pressure treated Douglas-fir pier decking and creosote treated Douglas-fir piles with cast-in-steel-shell (CISS) concrete piles and pre-cast concrete decking.

Existing pier utilities are affected by the project and will require replacement. In addition, Humboldt State University's (HSU) Telonicher Marine Lab has a saltwater intake pipe that will be replaced, and the Center for Integrative Coastal Observation, Research, and Education (CICORE) has a water quality sonde located on the pier that will be replaced.

The proposed project will result in temporary impacts to the environmental resources. The project site is located within an area designated as Area of Special Biological Significance (ASBS) for the kelp beds by State Water Resource Control Board. According to the biological resources surveys and the literature review conducted for this project, no rare, threatened, or endangered species are present within the project site. The proposed mitigation measures, designed to reduce the affect of potential direct impacts to species and critical habitats located within Trinidad Bay, employment of Best Management Practices (BMP's), and resource and regulatory agency permit conditions will insure that the project impacts are reduced to a less than significant level.

The proposed project has a nine-month construction schedule with the work proposed to commence on August 1st, 2008 and terminate on or before May 1st, 2009.

II. GENERAL INFORMATION

1. **Project Title:** Trinidad Pier Reconstruction Project

2. **Lead Agency**
   City of Trinidad
   Attn: Mr. Gabe Adams, City Clerk
   409 Trinity Street
   P.O. Box 390
   Trinidad, CA 95570

   Agent for the Lead Agency
   Streamline Planning Consultants
   Attn: Mr. Robert Brown, AICP, City Planner
   Attn: Ms. Trever A. Parker, City Planner
   1062 G Street, Suite I
   Arcata, CA 95521

3. **Project Location:**
   Trinidad Bay is located approximately 300 miles north of San Francisco. The existing pier extends 540 ft. (164.6m) from the shore and encompasses 13,500 sq. ft., and the new pier will be constructed on essentially the same footprint. The staging area for the project encompasses approximately 0.50 acres (0.20 hectares) and is located on APNs 042-071, 042-071-008, and 042-071-009. The Trinidad Pier (APN 042-071-014) is located approximately ½ mile west of Highway 101. To reach the Trinidad Pier from U.S. Highway 101 take the Trinidad exit (Main Street) west, proceed to Trinity Street and turn south, continue to Edwards Street and turn west, follow Edwards Street as it turns into Bay Street, then south along Bay Street until it dead ends at the Trinidad Pier.

4. **Project Applicant and Operator**
   Trinidad Rancheria
   Attn: Mr. Greg Nesty, Environmental Program Director
   P.O. Box 630
   Trinidad, CA 95570
   Phone: (707) 677-0211
   Fax: (707) 677-3921

5. **Property Owner**
   a) Project Parcel - **APN 042-071-014** - Tideland parcel (on which the pier is located) owned by State and leased to the City of Trinidad, which leases the tidelands to the Trinidad Rancheria. Area of parcel is 0.30 acres (Figure 1A)
   b) Upland Parcels - staging area parcels and adjacent parcels to the project parcel are noted below:
   APN 042-071-001 - Trinidad Rancheria - Total Parcel area1.25 acres. Utilize approximately 0.15 acres for Staging Area.

5. Property Owner -con't.

APN 042-071-002 - Trinidad Rancheria - (adjacent)
APN 042-071-004 - Hallmark Robert - (adjacent)
APN 042-071-005 - Trinidad Rancheria
APN 042-071-008 - Trinidad Rancheria - Total Parcel area approximately 4.0 acres. Utilize approximately 0.15 acres for Staging Area.
APN 042-071-009 -United States of America PL (Utilize Staging Area). Total Parcel area approximately 1.37 acres. Utilize approximately 0.5 acres for Staging Area with permission from the US Coast Guard.
APN 042-071-010 - Odom Thomas J & Elizabeth A
APN 042-071-011 - Ratzlaff Donald D & Barbara J
APN 042-071-012 - Trinidad Rancheria
APN 042-071-013 - Trinidad Rancheria
APN 042-071-014 - California State of PL

6. Zoning & General Plan Designation (but not all certified):

a) APN 042-071-014 - The pier is located on a parcel that does not have a zoning designation – not certified
b) The upland parcels
APN 042-071-001 - Open Space - certified - required Use Permit for staging area
APN 042-071-002 (southeast portion) - Commercial- certified
APN 042-071-002 (remainder) - Open Space
APN 042-071-004 - Commercial - certified - required Use Permit for staging area
APN 042-071-005 - Commercial - not certified
APN 042-071-008 - Commercial - not certified
APN 042-071-009 - Open Space - certified
APN 042-071-010 - Residential - certified
APN 042-071-011 - Residential - certified - required Use Permit for staging area
APN 042-071-012 - Commercial - not certified
APN 042-071-013 - Open Space - not certified

7. Agency Permit Requirements

a. City of Trinidad - Lead Agency for CEQA and Design Review, Coastal Development Permit for staging area.
b. California Coastal Commission (CCC) - Coastal Development Permit (CDP) for reconstruction of the pier.
c. US Army Corps of Engineers (USACOE) - Nationwide Permit 3 and Section 10 of Rivers and Harbors Act of 1899.
d. Regional Water Quality Control Board - Water Quality Certification.

III. BACKGROUND

The Trinidad Pier is the northern most oceanfront pier in California and has been used for commercial and recreational purposes over the last 50 years. Trinidad Pier was first built by Bob Hallmark in 1946, since that time, only minor maintenance activities have occurred on the pier. The pier is in service today.

Trinidad's economy is based on fishing and tourism (NOAA, 2004). Trinidad harbor and pier serve both commercial and recreational fishermen throughout the year. A fleet of commercial fishermen utilizes the pier during the winter for crab fishing and during the summer for salmon fishing. Recreational fishing for salmon and nearshore/finfish species (including rock cod, ling cod, and cabezon) occurs years-round. The pier remains one of the main ports of departure for a variety of recreational boating including, kayaking and whale watching/sightseeing cruises sites along the west coast (Ryan, 2001). Trinidad Harbor is listed as a Port of Refuge from the northwest winds on the Safe Boating website of the California Department of Boating and Waterways (MFG, 2006).

Reconstruction of the pier will result in temporary impacts to commercial and recreational activities on the pier. The project is expected to be completed within nine months. Reconstruction of the pier is proposed to commence on August 1st, 2008 and terminate on May 1st, 2009. Excluding weekends and holidays, a total of 217 working days will be available for work during this period. Public access during crab and salmon season will be maintained to the extent possible (see Section VII-Affected Environment for further discussion of temporary recreational impacts and proposed mitigations).

The pier also provides educational opportunities by accommodating the HSU Telonicher Marine Lab's saltwater intake pipe, and the California Center of Integrated Technology's (CICORE) water quality sonde. These facilities provide the public and the academic communities views of marine life studied within the lab and real time data on water quality within Trinidad Bay.

Trinidad Pier provides exceptional views to the public of the marine biological resources that encompass Trinidad Bay. The California State Water Resources Control Board designates the bay as an Area of Special Biological Significance (ASBS) No. 6, now re-designated as a State Water Quality Protection Area. The ASBS was established in the mid-1970's in order to protect marine life through prohibition of waste discharges within this area. The ASBS is 1.8 mi. (2.90 km) long and has 297 acres (120 hectare) of marine waters. The California Ocean Plan requires the protection of the kelp beds, *Nereocystis lutkeana* at the Trinidad Head ASBS (Ocean Unit, Division of Water Quality, August 2006). The kelp beds are considered biologically significant for both the food and shelter provided to fish and invertebrates. The State Water Board considers this a high priority ASBS as there are currently a total of 34 ASBS in California. Trinidad Bay is also designated by the California Coastal Commission (CCC) as Critical Coastal Area (CCA), and was chosen as one of the five pilot programs to address nonpoint source pollution.

The Cher-Ae Heights Casino, and the SeaScape Restaurant and Pier, which are owned by the Trinidad Rancheria plays an important role in the economic development of the Trinidad area. The Cher-Ae Heights Indian Community of the Trinidad Rancheria is a federally-recognized tribe composed of descendants of three tribes, the Yurok, Weott, and Tolowa. The Trinidad Rancheria was established in 1906 by a United States Congressional enactment. In 1908, 60 acres of land were purchased on Trinidad Bay for homeless Indians. The community began developing in the 1950's. In January 2000, Trinidad Rancheria leased a total area of 14 Acres in Trinidad Bay and currently owns and operates the pier, and upland improvements including a boat launch ramp and the SeaScape Restaurant.

IV. PURPOSE AND NEED

The purpose of the Trinidad Pier Reconstruction Project is to correct the structural deficiencies of the pier and improve pier utilities for the benefit of the public, and indirectly improve the water quality conditions and provide additional habitat for the biological community in the ASBS. Currently it is difficult to maintain the safety of the pier due to excessive deterioration of the creosote-treated Douglas-fir piles and the pressure treated decking. The hoists on the pier are approximately 30 years old and need to be replaced to accommodate the landings at the pier. Other utilities the pier currently lacks include ADA accessibility. The creosote used to treat the piles may have been leaching into the waters of the ASBS over the last 50 years and do not provide adequate habitat for the macroinvertebrates and algae present in the project area.

The data on commercial and sport fishing landings, presented below, demonstrates the need by the Trinidad community for a new pier.

<u>Commercial Fishing.</u> Trinidad is mostly known for its seasonal crab fishing, which commences annually in December and terminates in July. Trinidad Pier is also utilized to accommodate landings of salmon, lingcod, rockfish, bottom fish, surf fish, and other sport fish (albacore). Dungeness crab supports a multi-million dollar commercial industry in California, with the bulk of all statewide landings in Eureka, Crescent City, Trinidad Head, and Fort Bragg. Between 1991 and 2001, the annual volume of crab landings in Trinidad varied significantly between the years, ranging between 400,000 to 1,300,000 lbs (Ryan, 2001). Variations in the harvest levels are typical for the fishing industry, which is subject to random cycles in oceanographic conditions. Currently, there are 100 mooring sites at the Trinidad Harbor; local commercial fishermen occupy 17 of the mooring sites and the remaining sites occupied by recreational fishermen (per comm. with Harbor Master Craig Richardson, 2007). In 2000, a total of 38 vessels, all commercially registered, delivered landings to Trinidad.

In 2004, 2005, and 2006, 1,721,214 lbs, 1,247,218 lbs, and 672,217 lbs of crab were landed at the Trinidad Pier respectively. In 2004, 2005, and 2006, 22,357 lbs, 18,753 lbs, and 20,478 lbs of Rockfish were landed at the Trinidad Pier (per comm. with Harbor Master, Mr. Craig Richardson, 2007).

<u>Sport fishing.</u> The protected Trinidad harbor and pier, offer deep water angling for salmon, lingcod, bottom fish, rockfish, crabbing, clamming, and surf fishing. In 2000, Trinidad residents purchased four sports fishing licenses for Alaskan fisheries. Trinidad had at least three sport fishing vessel permits in 2003. Currently, there are seven charter vessels that are used for sport fishing in the summer; in the winter, four of the vessels are converted back to commercial crab fishing boats (per personnel comm. Craig Richardson, July 2007). These numbers do not reflect other Humboldt county residents and out of the area visitors using the facility.

Fishing conducted in the Trinidad Harbor by the members of the Trinidad Rancheria is also reflected in the above sportfishing data. Nontribal and tribal fishermen, including members of the Trinidad Rancheria, may utilize marine and stream resources for subsistence means from the areas surrounding Trinidad. The government is committed to protect the biological resources for the benefit of the tribe. The term “recreational” is referenced by the California Department of Fish and Game (CDFG) to those fishermen that do not earn revenue from their catch but rather fish for pleasure and/or provide food for personal consumption (NOAA, 2004).

Funding.

Pier Reconstruction. In 2005, the Rancheria requested from the State Coastal Conservancy a grant to assist them with the project to replace the pier. The State Coastal Conservancy authorized on October 5th, 2006 disbursement of an amount to exceed $375,000 to the Cher-Ae Heights Indian Community of the Trinidad Rancheria to develop engineering design, complete environmental documentation, and secure permits for the reconstruction of the Trinidad Pier. The Coastal Conservancy has been involved with the Trinidad Pier for years through public access projects and through participation on the committee for the Critical Coastal Area pilot study to address watershed assessment activities to protect the harbor and bay waters. Funds for reconstructions are also expected to be provided by State Grants.

Prop. 50 - Clean Beach Initiative. The State established the Clean Beaches Initiative (CBI) Grant Program in response to poor water quality and closure of beaches in California. The goal of the program is to reduce the health risks through improved water quality at California's beaches. Integrated Regional Water Management Plan (IRWM) funded by Prop 50 Chapter 8 is aimed at protecting and improving water quality and improving water security by reducing the dependence on importing water. The IRWM program is administrated by the State Water Board, and the Department of Water Resources (DWR).

In 2002, $46 million from Proposition 40 and Proposition 50 were approved to fund the Clean Beaches program. CBI funds were secured to improve, upgrade, or convert the existing sewer collection or septic systems to reduce or eliminate sewage spills. Project proponents are required to submit a monitoring plan as part of the project, and prepare a final report that evaluates the project effectiveness at reducing beach contamination. As of March 2007, $23 million in funding is available for this program through Proposition 50, and approximately $4 million is remaining from Proposition 13 and 40.

The Trinidad Rancheria submitted a Concept Proposal in response to the State Water Board's Solicitation Notice for the CBI Grant Program which was approved on March 9, 2007. The Trinidad Rancheria is now responsible for submitting a detailed application to the State Water Board. The State Water Board approved the Recommended Project List on April 18th, 2007. The funds from this grant, $1,700,000 are expected to be used for the reconstruction of the septic system that will serve the Seascape restaurant and bathroom and a fish cleaning station, which will be located upland by the launch ramp (a different project).

Coastal Watershed Management Plan. The City of Trinidad has applied and received a grant from the State Water Resources Control Board to develop an Integrated Coastal Watershed Management Plan for the Trinidad ASBS. The project began in March 2006 and will continue through March 2008. The plan will be used to assess the watershed assessment for Luffenholtz Creek, Mill Creek, McConnahas Mill Creek, Dead Man's Gulch, Joeland, and Parker Creek and storm water analysis for the City of Trinidad and the Community of Westhaven and the analysis of on-site water treatment systems in the community (City of Trinidad, 2007).

VI. PROJECT ALTERNATIVES

Project alternatives considered include Alternative 1, reconstruction of the pier and a temporary west side walkway to provide public access to the pier during construction; Alternative 2, reconstruction of the pier on the existing footprint; and Alternative 3, a No Build Alternative.

Alternative 2 is the proposed preferred alternative because it will result in the least environmental impacts to the ASBS from reconstruction of the pier. Alternative 1 proposes expansion of the pier beyond the exiting footprint, to allow public access, which will result in additional permit requirement and may prove to be financially infeasible (see part C of this Section for more information). Public access to the pier will be maintained to the extent possible during reconstruction of pier, while implementing Alternative 2, the preferred alternative. Section VII – Affected Environment – Recreation provides further discussion of public access to the pier during construction.

A. Alternative 2, Preferred Alternative. Existing pier improvements are proposed to be replaced one-to-one with approximately 13,500 ft^2 ($1254m^2$) of pre-cast concrete decking, 115 concrete piles including batter and moorage piles (18 inches (45.7cm) in diameter)), four hoists, standard lights, and dock utility pipes including sewer, water, power and phone.

Construction of this alternative would be on the existing pier alignment (Figure 2 and Figure 3). Construction of the new pier will facilitate the use of the existing pier during construction. The existing piles will be removed and new piles will be installed from the existing dock.

The new cast-in-steel-shell (CISS) concrete piles will be separated at 5 ft. (1.5m) intervals along 25 ft.-long (7.6m) concerted bents. A total of 22 bents separated 25 ft. (7.6m) apart shall be used. The decking of the new pier will be constructed of pre-cast 20 ft.-long (6.1m) concrete sections (Figure 3 and Figure 4). The new pier will be 540 ft. (164.6m) -long and will vary in width. The southern part of the pier will be 26 ft. (7.9m) -wide and 100 ft. (30.5m) long, and the remaining part of the pier will be 24 ft. (7.31m) -wide (corresponding to the existing footprint). The stairs and gangway leading to the floating dock will be replaced and shall be ADA compliant. The decking of the pier will be constructed at an elevation of -21.0 ft. Mean Lower Low Water (MLLW)*. The top of the decking will be concrete poured to create a slope for drainage and to provide an aesthetical pleasing look to the deck (see Section VII – Affected Environment – Aesthetics, for further discussion of pier aesthetics). The pier's appearance will match the existing surrounding.

Specific pier improvements are included below:

Utilities. Utilities located on the pier will require relocation during construction and replacement following construction of the pier footings and decking. Utilities include:

Power: A 2-inch PG&E power line that is currently attached to the west side of the pier and PG&E electrical boxes located along the west side of the pier.

Water: Fresh water is delivered to the pier through a 2-inch PVC located on the east and west sides of the pier.

Phone: There is currently an exiting phone line on the pier, which will be replaced.

* Note: Elevations for this project are referenced to Mean Lower Low Water vertical datum. Elevations above MLLW are designated with a negative sign. For example, -24 ft. MLLW indicates an elevation of 24 ft. above MLLW.

Sewer: Currently there are no sewer pipes on the pier. Visitors to the pier are served by a temporary restroom located on the south side of the pier. No direct discharge is allowed in the ASBS.

Stormwater: There is no runoff collection system on the pier. Currently, runoff drains from the existing pier directly into the ASBS. A storm water outfall for the City of Trinidad is located near the base of the pier.

Hoists: Currently there are four existing hoists on the pier. Three of the hoists are used to load and unload crab pots from the pier and the fourth hoist located at the end of the pier is suited to load and unload skiffs. Three of the hoists are used to load and unload crab pots from the pier can be used to lift up to 2,000 lbs. (907 kg). The fourth hoist can be used to lift approximately 800 - 1000 lbs. (362.9 - 453.6 kg). The hoists are approximately 30 years old and may have had the Yale motors replaced since the time they were installed.

New utilities installed include water, phone and electrical. New pier utilities will be constructed along the east and west side of the pier and will be enclosed within concrete utility trenches, except for the marine intake pipe, which will be located under the decking of the pier. Water pipes shall be routed along both sides of the pier to several locations along the pier. Phone lines shall be routed along the west side of the pier. All electrical switches will be located in one central box towards the west end of the pier by the loading and unloading landings location.

The pier decking shall be sloped to the west in order to direct runoff from the pier to the stormwater collection pipe. The runoff shall be routed along the west side of the pier and discharged into a sedimentation basin which will be constructed at a later date. Another alternative proposes to route the runoff to a drainage inlet, where it will be treated to the standards set by the State Water Resources Control Board and the North Coast Regional Water Quality Control Board and discharged from the pier. The runoff will then be discharged back into the ocean.

Although the second alternative was not discussed with the agencies listed above prior to preparation of this document, Alternative 1 may be technically infeasible to implement using a gravity system, and the runoff will have to be pumped in order to be routed to the proposed percolation basin, which is located above the grade of the north end of the pier. However, an onsite system to treat the runoff for reduction of solids, bacteria, and oils to the standards set by the regulatory agencies may be implemented. Should the agencies not approve discharge of treated runoff into the ASBS, then the first alternative will be implemented. An alternative location for the discharge of the runoff is by the launch ramp, where another percolation basin may be constructed.

The CA Ocean Plan (Ocean Plan) establishes water quality objectives for the California’s ocean waters and is the basis for regulation of wastes discharged into the State’s coastal waters. This plan is implemented by the State Water Resources Control Board (SWRCB) and the six Regional Water Quality Control Boards. Since 1983, the Ocean Plan prohibits waste discharges to ASBS. The State Water Board considers marine and pier operations, fish cleaning stations, and marine laboratories as high threat discharges that cause potential threat in the ASBS.

Other dock amenities to be installed include four new hoists, guardrail, and lighting. The hoists shall be installed at their current location, and will be similar to the exiting hoists described above. An open guardrail will be constructed of tubular galvanized steel rail bars (approximately 3/4 inch (0.9cm) in diameter)) uniform in shape throughout the length of pier. Guardrail specifications shall be in accordance to the Uniform Building Code (UBC). Lighting will be installed in the decking of the pier to prevent light pollution. Additional lighting will be installed in the railing along the landing area on the south end of the pier. See Section VII – Affected Environment – Aesthetics, for further discussion of proposed pier lighting and railing.

Fish Cleaning Station. There was a fish cleaning station on the pier, but its use was terminated on March 21st, 2006. In October 2004, the State Water Board notified the Trinidad Rancheria that they must cease discharge from the fish cleaning station or apply for an Ocean Plan exception. On December 9th, 2004, the Trinidad Rancheria submitted the application for exception to the State Water Board. The State Water Board sent a letter dated August 18th, 2005 requiring the discontinuation of the operation of fish cleaning station by December 31st, 2006. A new fish cleaning station will be constructed on the upland area as part of a separate future project (discussed in funding in the previous section).

HSU Marine Telonicher Laboratory Salt Water Intake Pipe. The Trinidad Pier is essential for supporting teaching and research conducted at the HSU Marine Lab and provides a service to the general public. More than 11,000 visitors come to the Marine Lab each year. The public display and research tanks are completely dependent on the sea water system for the sea water for the marine plants and animals. The sea water is pumped from the pier up hill in pipes below Galindo Street which also runs on the east side of the marine lab building under the driveway behind the main building. From the storage tanks sea water is then gravity fed to a sump, and then pumped through sand filters and water chillers, into the building supply and returning in the sump. A common drain system of stormwater, some lab and the sea water drain system meets under Edwards Street, and then drains to the outfall adjacent to the Marine railway near Little Head (HSU Marine Lab, 2005).

In contrast to many Coastal Marine Labs, this system was designed from the outset to circulate the water as much as practical to reduce discharge. Over the past 40 years several additional elements have been added to the current system to expand the overall volume and to control water temperature (1988) and reduce the need for additional water exchange. Routine maintenance of the system is the only significant discharge back into the ASBS (HSU Marine Lab, 2005).

The total volume of sea water discharged on an annual basis from the HSU Marine varies from year to year (from 160,000 gallons in 2006 to 40,000 gallons 2001). The maintenance of the HSU aquarium systems require an occasional routine back wash of the sand filters on a monthly basis; this usually discharges about 7,000-10,000 gallons. On those years when an entire replacement of the lab’s sea water is required, the Marine Lab then discharge and replace more than 75,000 gallons. It is important to note that there is no daily or routine discharge of sea water from the HSU aquarium system (HSU Marine Lab, 2005). The HSU Marine Lab sea water is drained to the outfall adjacent to the Marine railway near Little Head.

HSU Marine Lab leases space on Trinidad Pier for placement of a pump and associated plumbing to obtain seawater for the Telonicher Marine Laboratory. The Telonicher Marine Lab has a 20 hp (14.9 kW) pump that is housed in an 8 ft. (2.4m) -long and 8 ft. (2.4m) -wide shed on the west side of the pier. Seawater is pumped to the lab via two 6-inch (15.2cm) PVC pipes located under the deck boards of the pier. The Lab has its own PG&E meter located near the Seascape Restaurant. Freshwater for the pump is provided by the owner of the pier. The Marine Lab submitted a request to extend their exception to discharge recirculated pumped sea water back into the ASBS separately from the Trinidad Rancheria. The Sate Water Resources Control Board is currently reviewing the HSU Marine Lab and other marine labs applications for their request.

The existing saltwater intake PVC pipes, located directly under the decking of the pier, will be replaced and their size shall be reduced to 4-inches (10.2cm) in diameter. A new shed to house the pump will be built on the pier.

HSU Water Quality Sonde. The California State University's Center for Integrative Coastal Observation, Research and Education (CICORE) is a California State University project running the entire length of California's coastline with the mission of providing nearshore real time water quality information as well as habitat mapping products. The water quality sonde on the Trinidad Pier is directly relevant to CICORE's goals. CICORE products are meant to be used by educators, private groups, and agencies - it is a service oriented group similar to the National Weather Service and is also funded by National Oceanic and Atmospheric Administration (NOAA). Water quality data in Trinidad Bay and in Humboldt Bay are used in 6th and 7th grade curricula, by undergraduate and graduate students at HSU, by the watershed improvement effort going on now in Trinidad, by the oyster growers in Humboldt Bay, and others. The water quality variables indicate potentially how much primary productivity is occurring and what is affecting it, and the Trinidad location in particular helps to link freshwater to marine water quality monitoring efforts (Per email correspondence with Frank J. Shaughnessy, PhD, Vice Chair, Department of Biological Sciences, HSU, 2007).

CICORE have an Acrylonitrile-Butadiene-Styrene (ABS) pipe attached to a piling on the that contains the water quality sonde. The water quality sonde is currently located at the end of the length of a stainless steel chain that holds the sonde at 8.3 ft. (2.5m) MLLW. Above the dock there is a real time radio based communication system that has a line of sight with the Telonicher Marine Laboratory, and there is a solar panel to power the real time communication system.

The proposed water quality sonde system is similar to the existing system and will be composed of the YSI 6600 Extended Deployment System (EDS), 6200 Data Acquisition System (DAS) and two solar panels (approximately 2 ft. (0.6m) x 2 ft. x 10 inches (25.4cm) thick) to power the system (Figure 5). The YSI 6600 EDS measures over 10 water quality parameters including but not limited to Dissolved Oxygen (DO), turbidity, conductivity, salinity, Temperature, pH and chlorophyll. The data is transmitted to the base station through the 6200 DAS system which includes a radio antenna, radio base station and computer with Eco Watch DAS. There is no discharge associated with it.

US Coast and Geodetic Survey (USC&GS) Tidal Benchmarks: There are 10 tidal bench marks that were installed by the US Coast and Geodetic Survey (USC&GS) in the vicinity of the Trinidad Pier. None of the bench marks are expected to be removed or replaced during the reconstruction of the pier. A description and location of each tidal bench marks is provided below:

The primary bench mark stamped 'TIDAL 4 1972' was installed in 1972 and its position is 41º 03' 22" N and 124 º 08' 57" W to an accuracy of plus/minus six meters. This primary bench mark is a disk set in a large area of outcropping bedrock at the west base of Little Head, 20.09m (65.9 ft.) south of the north end of Hallmark pier, 17.40m (57.1 ft.) northwest of bench mark '2 1929', 9.39m (30.8 ft.) east of the center of the pier, and 3.0m (9.8 ft.) below the pier.

The second bench mark stamped '1 1929' was installed in 1929 and is a disk set in a 3m x 3m (10 ft. x 10 ft.) area of an outcropping bedrock, 30.39m (99.7 ft.) south of the north end of the Hallmark pier, 9.11m (29.9 ft.) west of the center of the pier and 3.5m (11.5 ft.) above the low water line.

The third bench mark stamped '2 1929' was installed in 1929 and is a disk set vertically in the west face of a large area of outcropping bedrock at the wet base of Little Head. The bench mark is located 36.60m

(120.1 ft.) south of the north end of Hallmark pier, 17.40m (57.1 ft.) southwest of bench mark ‘TIDAL 4 1972’, 14.60m (47.9 ft.) east of the center of the pier, and 1.0m (3.3 ft.) below the pier.

The fourth bench mark stamped ‘TIDAL 5 1972’ was installed in 1972 and is a disk set in a bedrock outcrop at the base of a cliff that runs along the east side of Trinidad Head. The bench mark is located 118.90m (390.1 ft.) west of the northwest corner of Hallmark pier, 13.68m (44.9 ft.) south of the base of a grass covered bluff and 1.5m (4.9 ft.) above the ground.

The fifth bench mark stamped ‘TIDAL 6 1972’ was installed in 1972 and is a disk set in a bedrock outcrop at the base of a cliff that runs along the east side of Trinidad Head. The bench mark is located 118.90m (390.1 ft.) west of the northwest end of Hallmark pier, 36.61m (120.1 ft.) south of the base of a grass covered bluff, and 1.5m (4.9 ft.) above the apparent low water line.

The sixth bench mark stamped ‘9059 H 1977’ was installed in 1977 and is a disk set 70m (230 ft.) northwest of the base of Trinidad Head, 60m (198 ft.) southwest of the centerline of Asphalt Road at a sharp curve in road where Van Wycke Street becomes Bay Street, 21m (69 ft.) southeast of storm high water line of College Beach Cove, 2m (6 ft.) northwest of a wooden "No Overnight Parking" sign, 0.46m (1.5 ft.) northwest of a metal witness post. The bench mark is crimped to the top of a copper-clad steel rod, driven 18.3m (60 ft.), and encased in a four inch PVC pipe.

The seventh bench mark stamped ‘9059 J 1977’ was installed in 1977 and is a disk set in a 3m x 5m (10 ft. x 15 ft.) area of outcropping bedrock, 10 meters (33 ft.) east of the apparent high water line, 2m (7 ft.) west of the base of a grass covered bank, and 1.49m (4.9 ft.) above the beach.

The eighth bench mark stamped ‘9059 K 1979’ was installed in 1979 and is a disk set on a rock outcropping, 57.70m (189.3 ft.) east of the northeast corner of Seascape Restaurant, 3.02m (9.9 ft.) south of the northernmost rail of the boat launch, and 2.71m (8.9 ft.) southeast of the most inshore 2m x 3m (5 ft. x 10 ft.) concrete support for the boat launch rails.

The ninth bench mark stamped ‘9059 L 1979’ was installed in 1979 and is a disk set in a 1m x 1m (3 ft. by 4 ft.) white and red quartz rock outcrop along the base of a bluff overlooking the beach. The bench mark is located 118.81m (389.8 ft.) northeast of the north end of Hallmark pier, 46.30m (151.9 ft.) east of the center of the street, 2.01m (6.6 ft.) northwest of the apparent high water line, and 0.2 m (0.06 ft.) above the beach.

Finally, bench mark stamped ‘9059 M 1981’ was installed in 1981 and is a disk set in the concrete base of a lift used to launch and haul out boats, 27.98m (91.8 ft.) north of the northwest corner of the Hallmark Pier, 18.26m (59.9 ft.) east of the southeast corner of the Seascape Restaurant, 2.19m (7.2 ft.) south of the southernmost of two metal tracks of a railway system used for launching, and 0.91m (3.0 ft.) west of the south leg of the lift.

B. Construction Overview. The proposed project is estimated to take a maximum of nine months to complete and is scheduled to commence on August 1st, 2008 and terminate on May 1st, 2009. Work within the ASBS shall be limited to this construction window in order to avoid peak migration periods of fish and mammals that may occupy the ASBS. There were no rare, threatened or endangered fish species identified in the biological surveys conducted for this project. Work within the ASBS includes the construction of the pier footings.

The last published report on the Biological Resources in the Trinidad ASBS, *Water Quality Monitoring Report Number 79-19: Kelp Beds at Trinidad Head: Areas of Special Biological Significance*

Reconnaissance Survey was submitted the Regional Water Quality Control Board in 1979. It is the only published report on the marine life of this particular area since 1979. Dr. Sean Craig of HSU conducted a survey in May, 2006 of the area adjacent to the Stormwater Outfall located on the east side of Little Head by the launch ramp.

In preparation of the Initial Study for this project, HSU Biological Resources Professors, Dr. Sean Craig and Megan Donahue, PhD surveyed the intertidal and subtidal project areas in May 2007 respectively. Dr. Dawn Goley provided information regarding sightings of Gray Whales and Harbour seals. Dr. Tim Mulligan, HSU Department of Fisheries Biologist, and Mr. Scott Shannon provided information regarding sightings of fish and River otters in Trinidad Bay respectively. The proposed construction season was selected to reduce the impacts to fish and mammals that may periodically occupy Trinidad Bay. The data provided in the surveys and reports, listed above, indicates that during the summer months (May 1st – August 1st) the most fish and mammal species were sighted.

The biological assessment prepared for this project will be submitted to the US Army Corps of Engineers (USACOE) as part of the application for the Nationwide Permit 3 - Maintenance, as well as a Section 10 - Letter of Permission (an "abbreviated" individual permit). In accordance with Section 7 of the Endangered Species Act (ESA) of 1973 and the Magnuson-Stevens Fishery Conservation and Management Act, the USACOE is required to consult the National Marine Fisheries Service and US Fish and Wildlife Service prior to issuing their permit in regards to endangered species and Essential Fish Habitat (EFH).

The biological assessments will assist NMFS and USFWS in assessing the existing biological resources condition at the project site and will also assist them in their analysis of the project as it relates to potential environmental impacts to these resources. NMFS and USFWS are expected to prepare consultations which include biological opinions or concurrence letters for the USACOE in regards to project impacts to Federally-listed species (Chinook salmon, coho salmon, steelhead and their critical habitat under the Endangered Species Act and a variety of marine /estuarine fish listed under Pelagic Fishery Management Councils and Pacific Ground Management Councils). NMFS will also consult in regards to potential impacts to marine mammals, which are protected under the Marine Mammal Protection Act of 1972. USFWS is expected to consult in regards to potential project impacts to shorebirds and other birds including but not limited to the Brown pelican, and Marbled murrelet. The consultations may include additional special conditions to insure that potential impacts to the biological resources as a result of the project are reduced to a less than significant level. These special conditions will become part of the USAOCE permit conditions. Both NMFS and the USFWS were informally consulted prior to preparation of this document and their initial comments are incorporated herein.

Work within the ASBS that will disturb the sediment, includes the removal of 215 creosote treated piles and installation of 115 Cast-in-steel-shell (CISS) concrete piles. Installation of the piles includes auguring 18-inch (45.7 cm) diameter holes to a depth of approximately 25 -35 ft. (47.6 – 10.7 m) below the mud line and installation of steel shells to approximately 3 ft. (0.9m) above the tip elevation to protect the integrity of the holes. The concrete shall be poured into the holes using a tremie. All other project construction shall occur above the water and will not disturb the ASBS.

1. Staging Areas/Access Roads. The staging area utilized for the project is approximately 0.53 acres and consists of the gravel parking lot located west of the pier. APNs 042-071-001, 042-71-009, and 042-071-008 encompass approximately 0.50, 01.5, and 0.15 acres each of the staging area respectively. (Figure 1A and Figure 2). All parcels are owned by the Trinidad Rancheria except for APN 042-071-009 which is owned by the US government. A letter will be sent to the US

Coast Guard requesting permission to use that portion of the parcel for the staging area for the duration of the project (Figure 2).

The contractor shall utilize the staging area to temporarily store construction equipment and materials. Removed sediment and pier components will also be temporarily stockpiled at the staging area until transported by the contractor to an approved upland disposal site (see Demolition Plan). The edge of the staging area will be at least 50 ft. (15m) from the beach to the west in order to prevent impacts to beach (Figure 2).

The proposed staging area can be accessed from the pier through Bay Street, a paved road leading to the parking lot, located approximately 400 ft. (122m) away from the pier. The staging area can also be accessed from U.S. Highway 101 by taking the Trinidad exit (Main Street) west, proceeding through Trinity Street and then Main Street before continuing onto Edwards Street which leads to the staging area. Edwards Street is a two-lane paved road leading to the staging area from the city of Trinidad and Highway 101(Figure 2).

All applicable temporary construction BMP's for staging area and site access will be implemented in accordance with CASQA Construction Handbook. BMPs WM-3 - Stockpile Management, WM-4 - Spill Prevention Control, NS-9 Vehicle Equipment and Fueling listed in the CASQA Construction Handbook shall be implemented at the staging area. Those BMP's may include but are not limited to: fiber rolls, silt fences, straw bales and sandbag barriers.

2. Surveys Test Borings. Accurate information for the proposed pier location is required prior to completing the pier design. A geotechnical investigation was conducted between June 24^{th} -28^{th}, 2007. The data generated during this investigation was used for a structural foundation study, which included the testing of the rock/soil material. Section VI- Affected Environment - Geology and Soils provides the findings listed in the Preliminary Site Investigation Report prepared by Taber Consultants Engineers and Geologist, dated August 17, 2007. The Final Site Investigation will be submitted to the City of Trinidad.

3. Pier Demolition Methodology
Methodology. Removal of the existing pier and construction of the new pier shall occur simultaneously. Construction shall begin from the south end of the pier. All pier utilities and structures located on the section of the pier being worked on (active construction area) shall first be removed. Utilities to be removed include water, electrical, power and phone lines, temporary bathroom, ladders and pier railing. Structures to be removed include four hoists, two wood sheds, HSU's 20hp (14.9kW) pump and saltwater intake pipes, CICOREs' water quality sonde, and a concrete bench. Then the existing pressure treated decking, joists, and bent beams shall be removed and transported on a truck to the upland staging area for temporary storage (Figure 2).

Existing piles located in the active construction area will then be removed by vibratory extraction. Vibratory extraction is a common method for removing both steel and timber piling. The vibratory hammer is a large mechanical device mostly constructed of steel (weighing 5 to 16 tons, (4.5t – 14.5t)) that is suspended from a crane by a cable. The vibratory hammer is deployed from the derrick and positioned on the top of the pile. The pile will be unseated from the sediment by engaging the hammer and slowly lifting up on the hammer with the aid of the crane. Once unseated, the crane will continue to raise the hammer and pull the pile from the sediment. When the bottom of the pile reaches the mudline, the vibratory hammer will be disengaged. A choker cable connected to the crane will be attached to the pile, and the pile will be lifted from the water and placed upland. This process will be repeated for the remaining piling. Extracted pilings will be stored upland, at the staging area, until the piles are transferred for upland disposal.

Douglas-fir pilings are particularly prone to breaking at the mudline due to damage from vessel impacts. In some cases, removal with a vibratory hammer is not possible because the pile will break apart due to the vibration. Broken or damaged piling can be removed by wrapping the individual pile with a cable and pulling it directly from the sediment with a crane. If the pile breaks between the waterline and the mudline it will be removed by jetting it out.

BMPs. A floating oil containment boom surrounding the work area will be used during creosote-treated timber pile removal. The boom will also collect any floating debris. Oil-absorbent materials will be employed if a visible sheen is observed. The boom will remain in place until all oily material and floating debris has been collected and sheens have dissipated. Used oil-absorbent materials will be disposed at an approved upland disposal site. The contractor shall also follow BMPs: NS-14 – Material Over Water, NS-15 – Demolition adjacent to Water, and WM-4 – Spill Prevention and Control listed in the CASQA Handbook.

The existing Douglas-fir (*Pseudotsuga menziesii*) piles are creosote treated. The depth of creosote penetration into the piles varies from 0.25 to 2 inches (6.4 to 51mm). Creosote is composed of a mixture of chemicals that are potentially toxic to fish, other marine organisms and humans. Polycyclic aromatic hydrocarbons (PAH), phenols and cresols are the major chemicals in creosote that can cause harmful health effects. In Puget Sound, for example, the use of creosote-treated wood in the water is prohibited. Since 2000, the Washington State Ferries (WSF) removed 831,000 board ft. (253,288m) of creosote-treated timber and pilings from Puget Sound and plan to remove an additional 14.0 million board ft. (4.27 million m) of creosote-treated timber over the next 10 years at 13 terminals (Washington State Department of Transportation, 2007). The replacement of the creosote treated piles with cast-in-steel-shell (CISS) concrete piles is expected to eliminate potential contamination of the water column by PAH, phenols and cresols from the existing treated wood piles.

Disposal. All removed piles shall be temporarily stored at the upland staging areas until all demolition activities are complete (approximately 6 months). It is estimated that the 12-inch (30.5cm) diameter piles to be removed extend to a maximum depth of 20 ft. (6.0m) below the mud and are approximately 40 ft. (12.2m) long. There are approximately 205 piles to be removed for a total of approximately 8,200 linear ft. (2500m) of piles. The estimated weight of each pile, assuming the pile is dry is approximately 4,056 lbs. (1,840kg). The total estimated weight of all removed piles is 415 tons (377.2t). Following the cessation of demolition activities, the creosote treated piles will be transported by the Contractor to Anderson Landfill located at 18703 Cambridge Road Anderson in Shasta County. The landfill is located a distance of 167 mi. (269km) from the Trinidad Pier. This landfill is approved to accept construction demolition, wood wastes, and nonhazardous/nondesignated sediment.

The pressure treated 2 inch. x 4 inch. Douglas-fir decking will also be stored on the staging area until demolition is complete. The partially pressure treated decking and railing may be reused and will be kept by the Trinidad Rancheria for further use.

4. Pile Composition. Two 18 inches (45.7cm) in diameter battered piles, which are designed to resist lateral load, will be located on both sides of the pier at a 12:1 slopes (Figure 4). Three vertical piles, which are designed to support 50 tons (45.4t) of vertical loads, will be located between the battered piles separated 5 ft. (1.5m) apart. The minimum concrete strength for the CIP piles is 4,000 psi (34,473 kPa).

5. Pile Installation Options

Pile Installation - Option 1 - Cast-In-Steel-Shell (CISS) Piles. Following the removal of the existing piles, steel casings will be vibrated to a depth of approximately 2.5 ft. (0.8 meters) above the tip elevation of the proposed pile. The steel shell of ¾ inch thickness shall extend from above the water surface to below the upper layer of sediment, which consists of sand, into the harder sediment, which consists mostly of weathered shale and sandstone. The steel shell will be coated with a polymer to protect the piles from deteriorating in the saltwater environment. The steel shell shall be used to augur the holes and then left permanently in the ground to support the integrity of the hole. The steel shell is then cleaned and concrete is poured underwater using a tremie to seal the area below the shell. Steel cages are installed prior to pouring concrete to fill the holes and form the piles. These steps are described in further detail below.

Pile Excavation. Following the installation of the steel casing, the holes will be augured to the required pile depth of 25-35 ft. (7.6-10.7m) below the mud line; minimum penetration of 25 ft. (7.6m) into the bedrock is required (Taber, August 2007). An augur drill shall be used to excavate the sediment and rock for the proposed CISS piles. "The materials encountered in the test borings are expected to be excavated with moderate difficulty using "typical" heavy duty foundation drilling equipment, though areas of difficult drilling should also be expected. It should be expected that CISS excavations will require core drilling, the use of downhole hammers, or other means to penetrate harder material (Taber, Preliminary Site Investigation, August 2007)."

Steel casing members of ¾ inch (1.9cm) thickness shall be used to form the CISS concrete foundation columns in underwater locations. In this technique, inner and outer casings are partially imbedded in the ground submerged in the water and in concentric relationship with one another. The annulus formed between the inner and outer casings is filled with water and cuttings, while the inner casing is drilled to the required depth, and the sediment is removed from the core of inner steel casing. Following removal of the core, the outer casing is left permanently in the boring.

The sediment and cuttings excavated shall be temporarily stockpiled in 50 gallon (189L) drums (or another authorized sealed waterproof container) at the staging area until all excavations are complete and then transferred for upland disposal at the Anderson Landfill or another approved upland sediment disposal site. The Trinidad Rancheria will employ an elder of the Yurok Tribe qualified by the State Historical Preservation Officer to monitor the construction site and inspect the excavated sediment and cuttings for cultural and archeological resources. The cultural monitor will also be able to look through the sediment with a hand tool as it is bored with the inner steel casing and brought up to the deck. The cultural monitor will also be able to scan the cuttings with a hand tool as it is pumped up to the pier deck and into an open top container before being transferred the staging area in 50 gallon drums. The monitor will be present during pile removal, drilling/auguring, and pile installation activities.

The existing piles extend to approximately 20 ft. (6.1m) below the mud line. Each one of the existing 12 inch. (30.5cm) diameter pile has displaced 15.7 ft^3 ($0.44m^3$) of sediment. There are approximately 205 wood piles to be removed. The total amount of sediment displaced by the exiting piles is approximately 120 yd^3 ($92m^3$). Each of the proposed CISS piles requires the displacement of approximately 53 ft^3 ($1.5m^3$) of sediment. There are 115 CISS piles to install. A total of approximately 225 yd^3 ($201m^3$) of sediment would have to be removed in order to augur 115 holes to a depth of 30 ft. (10.7m) below the mudline.

It is estimated that 10 -100 yd^3 would have to be removed during pile installation. Many new holes will be augured in the location of existing piles where they overlap. As result, less sediment will be required to be removed as would be required for the construction of a new pier, however, the exact location and penetration of the old piles is not recorded and will be determined during reconstruction activities. Therefore, a range of quantity of material to be removed is specified. Existing holes created by old wood piles removed and that do not overlap with the location of holes augured for the new piles will be naturally filled with sediment. The old holes are expected to collapse following the auguring of the adjacent new hole and then naturally filled with the surrounding sediment.

Most of the sediment excavated is expected to be in the form of cuttings if the hole is augured and/or drilled at a location of exiting piles. Sediment removed from the inner core during auguring shall be mostly dry due to the compression created in the core during auguring. Approximately 50 - 50 gallon drums will be used to store the cuttings and sediment sediment prior to disposal upland. The contractor shall implement BMPs WM-3 – Stockpile Management, WM-4 – Spill Prevention and Control, and WM-10 – Liquid Waste Management listed in the CASQA Handbook.

Concrete Seal Installation. A tremie will be used to seal the bottom 3 ft. (0.9m) of the hole below the bottom of the steel shell and above the ground. "Before the tremie seal is poured, the inside walls of the pile should be cleaned by brushing or similar method of any adhering soil or debris to improve the effectiveness of the seal. A "cleaning bucket" or similar apparatus should be used to clean the bottom of the excavation of loose or disrupted material (Taber, August 2007)."

The tremie is a steel pipe long enough to pass through the water to the required depth of placement. The pipe is initially plugged until placed at the bottom of the holes in order to exclude water and to retain the concrete, which will be poured. The plug is then forced out and concrete flows out of the pipe to its place in the form without passing through water. Concrete is supplied at the top of the pipe at a rate sufficient to keep the pipe continually filled. The flow of concrete in the pipe is controlled by adjusting the depth of embedment of the lower end of the pipe in the deposited concrete. The upper end may have a funnel shape or a hopper, which facilitates feeding concrete to the tremie (Huntington, 1975). Each concrete seal is expected to cure within 24-48 hours.

De-watering Methodology. The preferred alternative requires the installation of steel plates from above the water surface to below the soft sediment. Using this technique the water is pumped out of the holes following the drilling, installation of the steel shells, and the tremie seal. The steel plates and the tremie seal will essentially act as a cofferdam. Since there will not be any direct connection between the surrounding ocean waters, there is no possibility of entrapping fish within the excavation and no need to screen the pump intake to protect fish. Pumping within the excavation at the various footings may be required to maintain a dewatered work area.

"The tremie seal should be in-place and allowed to cure before de-watering of the pile is attempted. Although it might be possible to de-water the CISS piles without the use of a seal, the potential effects of seepage in the pile are so severe that it should not be attempted (Taber, August, 2007)."

The contractor shall test the pH of the water one day following pouring of the concrete seal to insure that the pH of the water did not change from the ambient pH. The water shall then be pumped into 50-gallon drums and transported to the staging area for discharge through percolation to eliminate solids. Should the pH of the water change from ambient pH, then the contractor shall haul the water to the Eureka Wastewater Treatment Plant for treatment prior to discharge. The contractor is expected to dewater a volume of approximately 450 gallons (1,720 L) each day during pile installation. For the installation of 115 piles, approximately 49,500 gallons (197,800 L) will be dewatered and discharged at the appropriate location at the staging area. Percolation rates will be verified prior to discharge of the ocean water at the designated location at the staging area, but are not expected to be prohibitive due to the sandy texture of the soil. The Contractor shall implement BMP WM-10 Liquid Waste Management as listed in the

CASQA Handbook. Liquid waste management procedures and practices are used to prevent discharge of pollutants to the storm drain system or to watercourses as a result of the creation, collection, and disposal of non-hazardous liquid wastes. WM-10 provides procedures for containing liquid waste, capturing liquid waste, disposing liquid waste, and inspection and maintenance.

Steel Cage Installation. Following dewatering of the holes the steel cages shall be inserted into the holes to support the piles. The contractor shall insure that the steel cages are level and are at least two inches (5.0 cm) from the surrounding steel shells.

Final Concrete Pouring. Ready-mix concrete placed into the drilled piers shall be conveyed in a manner to prevent separation or loss of materials. The cement-mixer truck containing the concrete shall be located on land adjacent to the north end of the pier. The concrete shall be pumped to the borings through a pipe (at least ¾ inch thick) that will span the length of the pier. When pouring concrete into the hole, in no case shall the concrete be allowed to freefall more than 5 ft. (1.5m). Poured concrete will be dry within at least 24 hours and completely cured within 30 days.

A concrete washout station shall be located in the staging area at the designated location. The contractor shall implement BMP, WM-8 – Concrete Waste Management, as listed in the CASQA Handbook to prevent discharge of liquid or solid waste.

Pile Installation - Option 2- Cast-In-Drilled-Hole (CIDH) Piles. Following the removal of the existing piles, five new holes, 18 inches (45.7cm) in diameter, will be augured at 5 ft. (1.5m) intervals by boring to a depth of 25 - 35 ft. (7.6 – 10.7m) along each bent. During boring, steel casings will be inserted to a depth of approximately 6 ft. (1.8m) below the mud. The casing will be penetrated to below the sand layer and into the fractured shale and bedrock layer. The purpose of the casing is to protect the integrity of the hole and will remain in the hole permanently. A NUMA super jaws drilling system shall be used to drill the holes and insert the steel casings. Steel casing members of ¾ inch (1.9cm) thickness shall be used to form the cast-in-drillied-hole concrete foundation columns in underwater locations. In this technique, inner and outer casings are partially imbedded in the ground submerged in the water and in concentric relationship with one another. The annulus formed between said inner and outer casing is filled with water and cuttings, while the inner casing is filled with reinforcing material composed of steel cages and concrete to form the column.

Pile Installation - Option 3 - Pile Driving.
Pre-cast concrete piles manufactured to the specification described above (15 inches in diameter and 15 ft. long) shall be driven into the sediment to the project depth using a down hole hammer. However, due to the hard sandstone that may be encountered in the project area, it is not possible to drive piles to the desired depth.

Option 1 was recommended by the project Geotechnical Engineer. Design criteria and preliminary pile specifications for CISS piles are referenced from Taber Consultants Preliminary Site Investigation Report which specifies that: "Geotechnical criteria for axial resistance of 18-inch diameter CISS piles were derived following methods in FHWA publication "Drilled Shafts: Construction Procedures and Design Methods" (FHWA-IF-99-025) and Caltrans Bridge Design Specifications. These piles are presumed to develop axial resistance for compression and tensile loading entirely in side-friction. Substantial end-bearing could be available at the specified tip elevations, but would require several inches of settlement to develop; therefore end-bearing has been neglected (Taber, August 2007)".

Option 1 is the preferred alternative for this project for several reasons: (1) to protect the surrounding sediment and to insure the integrity of the holes steel shells should be installed to 2.5 ft (0.8m) above the design tip elevation as recommended by the geotechnical Engineer and (2) the least amount of noise will be produced from this activity, resulting in the least impacts to the biological resources at the project site.

Bent caps. Following the installation of the concrete piles, pre-cast concrete bent caps measuring 25 ft. (7.6m) - long shall be installed on top of each row of pilings. The concrete bents act to distribute the load between the piles and support the pier.

Concrete Decking Installation. Pre-cast 20 ft. (6.1m) - long concrete sections shall be used for the decking. An additional layer of concrete shall be poured following installation of the precast sections. The layer of concrete will allow the decking of the pier to be sloped to the west for drainage purposes and to create an aesthetically pleasing decking. The surface of the decking will be colored and contain an earth tone pattern to match the surrounding environment.

To insure the stability of the structure during earthquake and/or tsunami events Taber Consultants recommend that “Pier superstructure and decking are subject to substantial horizontal and vertical loads directly from ground shaking or by secondary earthquake effects such as tsunami. Ground rupture associated with the possible thread of the Trinidad Fault could impose several feet of vertical or horizontal displacement of the decking. It is therefore recommended that connections between bents and the decking be designed to accommodate some amount of differential vertical and horizontal movement and to provide provisions to prevent lifting of the deck surface (Taber, August 2007).

The process of existing utility and structure removal, decking removal, auguring of the holes, CISS pile installation, pile bents installation, pre-cast decking installation, and final pour of concrete decking shall be repeated in the same manner as described above from the south to the north end of the pier. Between Stations 1+00 and 2+00 the total width of the pre-cast decking shall be 26 ft. (7.9 m) wide. From Station 2+00 to Station 6+40 the width of the pre-cast decking shall be 24 ft. (7.3 m) wide (see Figure 2 and Figure 3).

6. Construction Schedule. The pier reconstruction will begin in the summer and terminate in the spring (August 1st, 2008– May 1st, 2009). During the winter months (November – March) severe weather conditions are expected to occur periodically at the project site. The contractor may have to halt the work during pile installation due to strong gales winds, large swells, and/or heavy precipitation. Construction of the rest of the pier should not be interfered by large swell, but may be halted due to strong winds or precipitation. The contractor will work five or six days per week. Should severe weather conditions cause delays in the construction schedule the Contractor will work seven days per week as needed.

Noise associated with construction would be temporary, and would be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 9 a.m. and 7 p.m. on Saturdays (or Sundays if needed) except when continuous construction activities are required, such as periods when concrete pouring requires extended hours. Concrete pours and curing will occur over a total of approximately 115 nights (between the hours of 5 p.m. and 7 a.m.) over the nine-month construction period. See further analysis of potential project noise impacts in Section VII-Affected Environment.

Removal of the existing piles and decking and construction of the new pier will occur simultaneously. The existing decking and piles will be removed and new piles installed from the existing deck. Pile bents will be separated 25 ft. (7.6m) apart. Following the installation of two successive pile bents, a new precast concrete deck section shall be installed. The contractor shall continue in this manner from the south end to north end of the exiting pier.

The contractor is expected to spend approximately six months on pile removal and installation and the remaining three months on deck and utilities reconstruction. It is estimated that each boring can be lined with the steel plates and excavated within six to eight hours. Pouring of the concrete seals is expected to take approximately two hours for each hole. The contractor is expected to remove and install one new steel shell and pour a concrete seal each day (six - eight hours). The final pour of the concrete piles is expected to take approximately two hours to fill the steel shells and is expected to cure within one week. It is expected that reconstruction of one row of piles and bents will take one week. Pile and bents will be installed over a discontinuous period of approximately 22 weeks. A new pre-cast concrete section of decking will be installed following the installation of two successive rows of piles and associated bents. The last three months will be used for pouring of the top layer of the decking and utilities construction.

C. Other Alternatives Considered

1. Alternative 1, reconstruction of the pier and a temporary west side walk to provide public access to the pier during construction.
The pier design would be virtually the same as described in Alternative 2, the proposed preferred alternative. The project cost for this alternative would increase due to the construction of the temporary sidewalk. The expenditure of funds to construct structures that would be removed nine months later also was a significant consideration. In addition, construction of a temporary sidewalk would require construction outside of the exiting pier footprint, which will require additional permits for new construction.

Many considerations in addition to costs were considered in evaluating this alternative. In addition to the impacts discussed above, construction of a temporary sidewalk would result in greater impacts to the natural environment. Impacts to the biological resources and water quality in the ASBS would be greater than the proposed alternative with the construction and removal of temporary structures. The benefit of this alternative is that public access to the pier and mooring areas will be fully maintained during construction of the pier.

2. Alternative 3, No Build. The No Build Alternative would result in continued deterioration of the pier structure. A No Build Alternative would not improve operational conditions for existing or projected future commercial and recreational fishermen in Trinidad Bay and would not promote recreational activities at the Trinidad Pier. Furthermore, the toxic creosote that is used to treat the Douglas-fir piles, which support the existing pier, will continue to leach into Trinidad Bay.

VII. AFFECTED ENVIRONMENT/ENVIRONMENTAL EVALUATION

This chapter describes the existing environmental setting in relation to the Trinidad Pier that could potentially directly, indirectly, or cumulatively affect the proposed project. Included in the chapter are a listing and description of important resources and characteristics found within the project area.

A multi-disciplinary procedure was used to identify, assess, and document the effects of Alternative 1, which includes installation of a temporary sidewalk, the No-Build Alternative, and the preferred proposed pier reconstruction project (Alternative 2) on physical, biological, and socio-economic environments. This chapter also discusses measures to avoid, offset, or minimize project effects.

The No-Build Alternative would not result in any environmental impacts. The proposed action that would result from the selection of this alternative was analyzed. Since the proposed action entails leaving the pier in its current state, this alternative would not create environmental impacts. However, if the No-

Build Alternative would be implemented, periodic pier inspections, routine repair, and maintenance work would have to be conducted on the pier in order to insure the structural integrity of the pier. In a seismic event, the condition of the pier footings could lead to failure.

The following evaluation discusses the physical, biological, social and economic factors that might be affected by the proposed project based upon the CEQA Environmental Significance Checklist presented below. Background studies performed in conjunction with the project support the findings discussed below. With recommended mitigation measures, no significant adverse effects are expected from any of the proposed activities.

NOTE ABOUT CHECKLIST: This checklist is essentially the checklist portion of Appendix G of the State CEQA Guidelines, final text approved on October 26, 1998. This checklist is modified somewhat by Pacific Affiliates, Inc. for clarity. Explanations of the findings noted in each of the seventeen issue categories (I through XVII) follow each tabular issue section. Where appropriate and where noted, an explanation addresses more than one specific issue question.

The environmental factors checked below would be potentially affected by this project. The significance level is indicated using the following notation: 0=No Impact, 1=Less than Significant; 2=Less than Significant with Mitigation; 3=Potentially Significant. This notation varies from Appendix G for clarity and information.

Section	Environmental Factor	Sig. Level	Section	Environmental Factor	Sig. Level	Section	Environmental Factor	Sig. Level
I.	Aesthetics	1	II.	Agricultural Resources	0	III.	Air Quality	1
IV.	Biological Resources	2	V.	Cultural Resources	2	VI.	Geology and Soils	1
VII.	Hazards and Hazardous Materials	2	VIII.	Hydrology and Water Quality	2	IX.	Land Use and Planning	2
X.	Mineral and Energy Resources	0	XI.	Noise	2	XII.	Population and Housing	0
XIII.	Public Services	1	XIV.	Recreation	1	XV.	Transportation	1
XVI.	Utilities and Service Systems	1	XVII.	Mandatory Findings of Significance	1			

I. AESTHETICS – Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Have an adverse effect on a scenic vista?			**X**	
b) Damage scenic resources, such as trees, rock outcroppings, and historic buildings, within a scenic highway?			**X**	
c) Degrade the existing visual character or quality of the site and its surroundings?			**X**	
d) Create a new source of light or glare that would adversely affect day or nighttime views in the area?			**X**	

The City of Trinidad's Trinidad Local Coastal Program (LCP) and Section 30251 of the Coastal Act require that "the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding area, and, where feasible, to restore and enhance visual quality in visually degraded areas."

I. a, c, d) Proposed Pier. The proposed pier design will improve views to Trinidad Bay and to surrounding lands from adjacent areas. The Trinidad Pier is visible from the public vintage points along the hiking trails of Trinidad Head in the vicinity of the pier, and from the adjacent beaches and harbor area. The pier is also visible to traffic from the City of Trinidad and Scenic Drive which is not designated as a scenic route, but provides a scenic route.

The Trinidad Pier Reconstruction Project will improve the scenic views to Trinidad Bay and to surrounding lands from the locations listed above. The existing pier, constructed in 1946 is supported by deteriorating creosote treated Douglas-fir piles and partially pressure treated Douglas-fir decking. The existing hoists on the pier are more than 30 years old. The proposed pier and existing pier are of the same footprint and height above the water (approximately -21 ft. (6.4m) MLLW). The old creosote treated piles, are unevenly distributed along the pier and 2 x4 wood supports are miscellaneously distributed between the piles.

Major visual differences between the existing and proposed pier consist of installation of concrete piles and decking instead of creosote treated piles and pressure treated wood decking. The new pier will contain fewer piles (115 supporting piles rather than 205 existing piles), which will be distributed evenly. The top layer of the decking shall be concrete poured and will match the surrounding environment by including a pattern and color to the concrete decking, for example a rocky looking decking pattern may be used. The concrete piles shall be enclosed in steel shells to protect the integrity of the piles. The steel shells will be coated with a polymer to protect the shell from deteriorating in the salt water. The outside of the shells shall have the same color as the decking of the pier. The non-toxic polymer coated steel shells are expected to provide additional substrate for invertebrates and algae that is not provided by the existing creosote treated wood piles.

In addition, all existing structures on the pier including four hoists, three sheds, railing, and lighting will be replaced. The existing hoists will be replaced with four new hoists on the pier. Three of the hoists will be used to load and unload crab pots from the pier and the fourth, suited to load and unload skiffs, shall be located at the end of the pier. The hoists used to load and unload crab pots from the pier will be used to lift up to 2,000 lbs. (907 kg). The fourth hoist will be used to lift approximately 800 - 1000 lbs. (362.9 - 453.6 kg).

Design and color, of the guardrail will be consistent throughout the length of the pier. An open guardrail, 42 inches (106.7cm) in height shall be constructed of tubular galvanized steel rail bars (approximately 3/4 inch ((m)) - diameter)) uniform in shape throughout the length of pier (similar to Caltrans ST-30 Bridge Rail). Guardrail specifications shall be in accordance to the Uniform Building Code (UBC). The top of the guardrail shall be not less than 42 inches (106.7cm) in height and shall have intermediate rails such that a sphere 4 inches (102mm) in diameter cannot pass through (UBC, Section 509.3). The galvanized color of the railing shall match the surrounding environment. Pier railing has been designed to maximize views of Trinidad Bay and surrounding areas for users of the pier. Users of the pier include motorists unloading and loading equipment or landings, cyclists and pedestrians.

Lighting installed along the pier shall be designed to improve visibility and safety. The proposed lighting will be embedded in the decking and railing of the pier to minimize light pollution from the pier and reduce impacts to scenic views. Lighting shall be designed to minimize light pollution by preventing the light from going beyond the horizontal plain at which the fixture is directed so the light is directed upwards. Currently, there are lighting poles on the pier. The proposed lighting on the pier will be embedded on the west and east side of the decking separated approximately 25 ft. (7.6m) throughout the length of the pier. The lighting fixtures will have cages for protection matching the color of the railing. In addition, on the south side of the pier, lighting will be installed in the railing to provide lighting for the working area on the deck of the pier.

Construction Impacts. Temporary impacts to the visual values of the area will occur during construction activities. Visual changes will result from the use of construction equipment on the pier and the storage of equipment and construction materials at staging area. A crane and drill rig will be both located on the pier during pile installation activities. Temporary lighting posts shall be installed on the pier and the staging area during construction. Orange barrier fencing will be used on the pier to separate the "active" construction area from areas that will remain open to the public and around the staging area. The staging area will also be utilized to temporarily store removed sediment and cuttings from pile drilling and removed wood piles. These impacts are considered temporary in nature or confined to relatively small area and are not considered significant.

I. b) Rock outcroppings are present in the intertidal area directly under and adjacent to the pier. An intertidal biological resources survey was conducted by Dr. Sean Craig during very low tides of May 17th -19th, 2007 (which ranged from 2.2 ft.(0.67m) MLLW to 1.9 ft. (0.58m) MLLW - both extreme low tides). Five vertical transect lines were laid along the intertidal zone parallel to the Trinidad Pier (See Figure 2). The first transect started at Little Head Rock, the third was laid directly underneath the pier, and the last (fifth transect) near the edge of the boulder field closest to the sandy beach, directly in front of the SeaScape Restaurant.

> According to this survey, "large boulders consisted of different vertical zones, where each zone contained a unique set of species created by a unique combination of physical and biological factors at a particular highest on the boulder sampled. In contrast, small boulders, depending on it's location on the shore, often contained only one particular community (defined as a set of species), characteristic of the given tidal zone where it was located (Dr. Craig, 2007)."

Dr. Craig continuous to describe the rock outcroppings in the intertidal area as follows:

> "Bare Rock was measured for each quadrat (Figure 16) and in most cases can be a good metric to assess the physical and biological factors that build community structure. In all transects the amount of bare rock was variable; however Transect 3 (under the current pier) tended to have the highest percentages. For example, in the 0-5 meter division, boulders on average contained 62% available bare space. Transect 2 and 4 also had comparable values in this same 0-5 meter (high shore) zone. This is not too surprising considering that this is the highest point on the shore, where physical stresses are strong. Bare rock was the lowest in percent cover in all transects from 30-35 meters down the shore, where it ranged from 10-25% cover."

> Transect 3 consisted of boulders, with larger ones towards the end of the transect by the waterline. Transect 1 located on the eastern most edge of the intertidal zone against Little Head rock, contained a characteristic bench-like habitat with no boulders. This transect had very little vertical relief and is comprised of a single, flat slab or rock that pushed out into the ocean. Transect 2 east of the pier and west of Little Head consisted primarily of boulders with bench occupying the 15 -20 meter region. Transect 4 was composed entirely of small boulders and a single large sand-bottomed

pool that dominated the 10 -20 meter area of the transect. Transect 5 consisted entirely of small to mid sized boulders subject to high amounts of wave action (Dr. Craig, 2007)".

The removal of the creosote treated piles and the installation of the new piles will temporarily disturb the rock outcroppings located in the intertidal and subtidal zones. The removal of the old piles by vibration may cause some of the rocks to be moved. During pile installation, some rocks may be encountered during drilling. If a pile needs to be augured at a location where rock outcropping exists, the Contractor will first try to move the rock a short distance out of the drilling area. The proposed holes that will be drilled are 18 inches (45.7cm) in diameter. An underwater movie photographed by Charlie Notthoff, professional diver, in May 2007 will be presented to the Contractor to alert him of any large boulders in the project site. No further visual studies are recommended.

II. AGRICULTURAL RESOURCES – in determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Convert Prime Farmland Unique Farmland, or Farmland of statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program in the California Resources Agency, to non-agricultural use?				**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				**X**
c) Involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural use?				**X**

II. a-c) There is no farmland in the project area and the project has no bearing on agriculture. The project area does not have a zoning designation and the upland staging area is zoned Open Space (OS). The upland staging area is located on a gravel parking lot that is not used for agricultural purposes. No mitigation is proposed. There are no agricultural lands within Trinidad.

III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?				**X**
b) Violate any air quality standard or contribute to an existing or projected air quality violation, including in relation to asbestos in construction materials or earth?			**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?			**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e) Create objectionable odors affecting a substantial number of people?			**X**	
f) Otherwise degrade the atmospheric environment?				**X**
g) Substantially degrade alter air movement, moisture, temperature or other aspects of climate?				**X**

Settings. Several factors affect air quality, including local climate, topography, and land use. The Federal Clean Air Act includes National Air Quality Standards for six air pollutants, which must not be exceeded more than once per year. In California, the California Air Resources Board and the regional Air Quality Management District (AQMD) and Air Pollution Control Districts implements both Federal and State air quality regulations. The Trinidad Pier is located within the North Coastal Unified Air Quality Management District, which includes Del Norte, Humboldt, Trinity, Mendocino and northern Sonoma Counties.

Air Quality Standards. Air quality standards are specific concentrations of pollutants that are used as thresholds to protect public health and the public welfare. The USEPA has developed two sets of standards; one to provide an adequate margin of safety to protect human health, and the second to protect the public welfare from any known anticipated adverse affects. At this time, sulfur dioxide is the only pollutant for which the two standards differ.

The California Air Resources Board (ARB) has developed air quality standards for California, which are generally lower in concentration than the federal standards. California standards exist for O_3, Carbon monoxide (CO), PM_{10}, visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride (see Table 1).

This AQMD is in attainment for all Federal and State pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfate, hydrogen sulfide, and vinyl chloride, except for particulate matter less than ten micrometers in diameter (PM_{10}). No asbestos has been identified at the site.

Health Risk Issues. The combustion of diesel fuel in internal combustion engines produces exhaust containing a number of compounds that have been identified as hazardous air pollutants by the EPA and toxic air contaminates by ARB. Particulate matter from diesel exhaust has recently been identified as a toxic air contaminant, which has prompted ARB to develop a Final Risk Reduction Plan (released October 2000) for exposure to diesel PM. Based on ARB Resolution 00-30, full implementation of emission reduction measures recommended in the Final Risk Reduction Plan would result in a 75 percent reduction in the diesel PM statewide inventory and the associated cancer risk by 2010, and an 85 percent reduction by 2020 in the diesel PM inventory and potential cancer risk.

Existing Project Area Emissions. Air quality is influenced by a variety of factors and sources in the vicinity of the project site. Sources of air pollutants affecting Trinidad Bay include the harbor operations. Other sources outside of the harbor within the City of Trinidad include a gas station and Highway 101 traffic. Sources outside of the city include industrial facilities located along the Samoa Peninsula including the Samoa pulp mill and Fairhaven power plant located approximately 23 miles south.

III. a, b) The combustion of diesel fuel in internal combustion engines produces exhaust containing a number of compounds that have been identified as hazardous air pollutants by the EPA. Emissions from implementation of the project will be limited to the short-term construction phase of the project. The primary sources of criteria pollutants emission would be from the operation of heavy equipment including vibratory extractor, tremie, and crane which will be used in reconstruction of the pier. Emissions include PM_{10}, NOX, and ROC and possibly other hazardous air pollutant emissions. Emissions are not expected to exceed the thresholds for daily emissions, of new or modified sources. Temporary impacts from dust during transportation of the demolished materials to the staging area may occur. However, the roads leading to and in the project area are paved except for the staging area which is covered with coarse gravel. The construction and demolished material will have to be transported a distance of approximately 400 ft. (121.9m) to the staging area.

III. c, d) The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal and state ambient air quality standards due to it temporary nature.

III. e) The project may generate substantial objectionable odors from bay mud during removal and auguring/drilling activities that could adversely affect sensitive receptors, including visitors and users of the Trinidad Harbor. However, these impacts would only occur on a short-term basis during construction and are not anticipated to be significant.

III. f, g) The project will not degrade the atmospheric environment or substantially degrade air movement, moisture, temperature or other aspects of climate. There has been an increase in temperature observed by scientist due to global climate change. Sea levels may rise due to these climate effects. Due to the height of the reconstructed pier, 21 ft. (6.4m) above MLLW, these global climate changes will not affect the pier. The project will not contribute to the climate changes discussed above.

The contractor will be required to comply with all Unified Air Pollution Control District and other local jurisdictions, rules, ordinance and statutes. Since the applicable and National Air Quality Standards would not be exceeded under worst case conditions, there would be no substantial adverse air quality impacts from the proposed project and no mitigation measures are proposed. The contractor shall also implement BMP, WE-1 Wind Erosion Control as listed in the CASQA Handbook. Wind erosion or dust control consists of applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance generated by construction equipment at the staging area. Covering small stockpiles or areas is an alternate to applying water or other dust palliatives.

IV. BIOLOGICAL RESOURCES – Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Have an adverse affect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations; or by the California Department of Fish and Game, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?		**X**		
b) Have an adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations; or by the California Department of Fish and Game, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?			**X**	
c) Have an adverse effect on wetlands, either individually or in combination. With the known or probable effects of other activities through direct removal, filling. Hydrological interruption, or other means?				**X**
d) Interfere with the movement of any resident or migratory fish and wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?			**X**	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				**X**
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan. Or other approved local, regional, or State Habitat Conservation plan?				**X**
g) Otherwise degrade the biotic environment?			**X**	

Setting. The Trinidad Bay includes the kelp beds that were designated as an Area of Special Biological Significance (ASBS) under provisions of the California Marine Life Protection Act. The California State Water Resources Control Board (SWRCB) designated the kelp beds at Trinidad Head as an ASBS in 1974; now redesignated as a State Water Quality Protection Area. The designation came under several plans within the Porter-Cologne Water Quality Control Act. The ASBS is also designated by the California Coastal Commission as a Critical Coastal Areas (CCA) and was chosen as one of five pilot programs to address nonpoint source pollution. The State Water Resources Control Board is the primary agency responsible for the kelp beds. The secondary agencies responsible are the Regional Water Quality Control Board and the California Department of Fish and Game.

Within the Trinidad Hydrological Unit, NMFS designates Maple Greek (Lat. 41.1555, Long. 124.1380 located north of the pier) and Little River Creek (Lat. 41.0277, Long. 124.1112 located three miles south of the pier) as critical habitat for the Chinook Salmon Evolutionary Significant Unit (ESU) and for Northern California Steelhead, *O. mykiss* ESU). McDonald Creek, Tom Creek, Pitcher Creek, M-Line

Creek, Beach Creek and Clear Creek are also located in the Trinidad Hydrological Unit and provide additional critical habitat for Chinook Salmon Ecological Significant Unit (ESU), (NMFS, 2006). "The ESU is the minimal unit of conservation managements and is applied to a set of populations that is morphologically distinct from other similar populations or to a set of populations with a distinct evolutionary history (Humboldt County, 2002)". This concept is applied by NMFS to salmonids ESU listings in the Trinidad Hydrological Unit as described above. All the creeks adjacent to Trinidad Bay have existing barriers to migration.

No published biological resources surveys were conducted in Trinidad Bay Since 1979. The last report submitted to the State Water Board is titled: *California Marine Waters, Areas of Special Biological Significance Reconnaissance Report, Kelp Beds at Trinidad Head, Humboldt County. State Water Resources Control Board, Division of Planning and Research. Surveillance and Monitoring Section. June 1979, Water Quality Monitoring Report 79-19*. The California Natural Diversity Data Base (CNDDB) and the California Native Plant Society's (CNPS) On-line Inventory of Rare, Threatened and Endangered Plants do not list rare, threatened, or endangered species specifically for the project site.

Trinidad is the nearest area listed in the CNDBB on a 5 minute U.S. Geological Survey (USGS) quadrangle. The elements included in this listing are the federally threatened western snowy plover *Charadrius alexandrinus nivosus*, and the federally endangered tidewater goby *Eucyclogobius newberrii* (both are not listed as a species of concern by the CDFG). Both species have not been observed or recorded in the project area.

The following surveys and reports were conducted in preparation of the environmental document for the project:

- *Gray Whale and Harbour Seal Distribution and Abundance in Northern California. A report to supplement the Trinidad Pier Reconstruction Project.* Prepared by Dawn Goley, Ph.D. Associate Professor of Zoology, Director of the Marine Mammal and Education Program, Humboldt State University, Aicha Ougzin and Charlie Hudson, dated June 15, 2007.
- *Trinidad Pier Reconstruction Project Fish Species.* Prepared by Dr. Tim Mulligan, Department of Fisheries Biology, Humboldt State University, dated July 9, 2007.
- *Trinidad Pier Intertidal Assessment*. Dean Janiak, Courtney Hermann, and Dr. Sean F. Craig, Department of Biological Resources, Humboldt State University, dated May 2007.
- *Subtidal Resources Assessment around Trinidad Pier.* A Report to Pacific Affiliates, Inc. for the Trinidad Pier Reconstruction Project. Prepared by Megan Donahue, PhD, Department of Biological Sciences, Humboldt State University, dated June 25, 2007.
- *River otters and the proposed pier replacement at Trinidad Bay, California.* Prepared by J. Scott Shannon, dated July 9, 2007.

Other relevant information was compiled from review of pertinent literature, and informal consultation with public regulatory and resource agencies including the US Army Corps of Engineers (USACOE), National Marine Fisheries Service (NMFS), California Coastal Commission (CCC), and the California Department of Fish and Game (CDFG), and other knowledgeable individuals including Mr. Craig Richardson, Trinidad Pier Harbor Master.

This section provides background information and then evaluates the project's potential to affect biological resources, and is divided into three subsections: subtidal zone, intertidal zone, and mammals. Fish are discussed in answer to question A of this section. The California Department of Fish and Game (CDFG) approved protocol surveys for the intertidal and subtidal surveys on May 11th, 2007 and they were conducted on May 16th - 20th, 2007. The survey reports and the literature review prepared for the project did not identify rare, threatened, or endangered species within the project limit.

The following pages provide excerpts from the biological assessment prepared for this project. This summary provides a detailed account of the existing biological resources in the intertidal and subtidal zone under and around the pier. Also provided are detailed summaries of mammals observed at and in the vicinity of the project site. These reports in conjunction with literature sources were used to: (1) establish that no rare, threatened, or endangered species are present at the project site; (2) determine the construction window, which will minimize by avoidance impacts to species that occupy the project area during certain periods; and (3) provide the regulatory/resource agencies and the contractor information on the exiting biological resources at the project site. If you are not interested in the detailed summary of the biological resources provided below, please turn to Page 41 for discussion of potential impacts.

Subtidal Area

Two areas were sampled in the subtidal zone: the area immediately around the pier and an adjacent area in the mooring zone (Figures 2 and Figure 6). Each area was sampled by divers for relief, cover, algae, invertebrates, and fish. The surveys were completed between 8am and 6pm on May 16th - 17th, 2007. Visibility was good during the surveys (2.27 ± 0.054 ntu), (Donahue, 2007). The assemblage on the Trinidad Pier piling was surveyed on March 17th, 2007 and surveyed in more detail on March 30th, and May 27th, 2007. Below are excerpts from the report prepared by Megan Donahue, Ph.D. of the Department of Biological Sciences at HSU, the accompanying Figures and Tables are attached:

Dr, Donahue describes the substrate and relief in the project area:

> "The substrate around the pier was almost entirely sand along the shallow west and mid-depth east transects and both transects had low relief (Figure 7 b, c). The shallow east transect was predominantly sand and low relief near the pier and bedrock and moderate relief further away from the pier, near Little Head (Figure 7 a). The mid-depth west transect was also sandy near the pier, cobble/boulder 10-30m from the pier, and low relief throughout (Figure 7 d). Both deep transects were<1m in relief throughout and comprised of cobble and boulder (Figure 7 e,f)."

Dr. Donahue continues to describe the cover:

> "The distribution of sessile and encrusting organisms around the pier reflects the distribution of available substrate (Figure 7, Figure 8). The shallow west transect (Figure 8b) and mid-depth east transect (Figure 8c) are predominantly bare sand and had little cover by organisms. The red algal turf and cup coral on the mid-depth east transect were on the 5% of hard substrate. Encrusting coralline algae was primary space holder where hard substrate was available (Figure 8 a, b, e, f); *Ballanophyllia* (cup coral), bryozoans, and tunicates were also present."

Algal abundance in the subtidal area are described by Dr. Donahue in her report and listed below:

> "Of those species listed in Table 3, only *Cystoseira osmundacea*, *Laminaria setchellii*, and *Pterogophora californica* were observed on our transects. *Nereocystis luetkeana* is present at this site, particularly in the mooring area, but was not captured on our transects. *N. luetkeana* has an annual life history and densities are typically low in the spring and increase through the summer and fall until the storm season."

> "*Pterogophora californica* was the most abundant brown alga around the pier and mooring areas. Where there was hard substrate available on the shallow east transect of the pier area (near Little Head, Figure 9a) and along both shallow transects in the mooring area (Figure 10 a,b), *Pterogophora* reached densities of 2 – 2.5 m^{-2}. *Cystoseira osmundacea* and *Laminaria setchelli* were also present on those transects at densities of 0.5 – 1 m^{-2} and 0.25 m^{-2}, respectively. All three species were present at low density in the pier area on the deep western transect. No large brown algae were present on the mid-depth or deep transects in the mooring area."

Invertebrate abundance in the subtidal area is described by Dr. Donahue in her report and listed below:

"Throughout the study area, *Pisaster brevispinus* was the most common mobile invertebrate: it was present on all transects and sometimes occurred in large aggregations, reaching densities of 2.8 m^{-2} on the western mid-depth transect in the mooring area. *Dermasterias imbricata* was also common throughout the study area. Other seastars were also present, including *Solaster dawsoni* (on five transects at densities up to 0.03 m^{-2}), *Henricia leviscula* (throughout mooring area at densities up to 0.18 m^{-2}), *Pycnopodia helianthoides* (on all transects at densities up to 0.1 m^{-2}), *Pisaster giganteus* (singleton, shallow transect), and *Pisaster ochraceus (*singleton, shallow transect)."

"Pista pacifica is particle-feeding polychaete worm (Family Terebellidae) associated with sandy and muddy areas. This species was common on the shallow western pier transect and the mid-depth eastern pier transect (Figure 11 b,c), which had 95-100% sandy substrate."

Other species observed are described by Dr. Donahue:

"Several important fishery species were also present in the study area. *Cancer* crabs were present on the deep pier transects (*Cancer magister,* Figure 11 e,f) and on the shallow transects of both the pier and mooring areas (*Cancer* spp. in Figure 11a and Other in Figure 12 a,b). A single red abalone (*Haliotis rufescens*) was observed on the western shallow transect in the mooring area (included in "Other", Figure 12b). Red (*Strongylocentrotus franciscanus*) and purple (*S. purpuratus*) urchins were present on the mid-depth and shallow transects in the mooring area (Figure 12 b-d)."

"Other invertebrates occurred in low abundance on transects in the pier and mooring areas. *Cryptochiton stelleri*, the gumboot chiton, occurred on two shallow transects with abundant algae ("Other" in Figures 11a and 12b). *Pugettia producta*, the kelp crab, was present on rocky, shallow transects in the pier and mooring areas (*Pugettia producta* in Figure 11a; "Other" in Figure 12b). *Balanus nubilus*, the giant acorn barnacle, was present only on the shallow western transect in the mooring area ("Other" in Figure 12b). *Styela montereyensis*, a stalked solitary tunicate, was present on several transects in the mooring area ("Other" in Figures 12 b,d,e). Finally, several anemones were present in the mooring area: *Urticina piscivora* occurred at all depths ("Other" in Figures 12 b,d,f), *Urticina crassicornis* was present in the shallow zone ("Other" in Figure 12b), and *Metrideum giganteum* was present in the deep zone ("Other" in Figure 12e)."

Biological resources on pier pilings are described below:

"<u>Pier Pilings.</u> The March 24th survey used small photo-quadrats to characterize assemblage composition in the four subtidal depth zones (Figure 13). The algae zone is centered around -1.6m MLLW: red, green and brown algae are present in the overstory, including *Ulva* sp., *Polyneura latissima*, and *Polysiphonia* sp. The understory is composed of barnacles (*Chthamalus dalli* and *Balanus glandula*), bryozoans (*Watersipora subtorquata* and *Membranipora sp*) and hydroids (*Tubularia marina* and *T. crocea*). Barnacle scars (evidence of previous occupation by barnacles) and detritus (accumulated organic matter) were also present in this zone at low levels (Figure 13a). The bryozoan zone is centered around -2.8m MLLW: algal cover declines and bryozoan (*Watersipora subtorquata* and *Membranipora sp*) cover increases. Cover of amphipod tubes and detritus also increases (Figure 13b). In quadrats centered around -3.8m MLLW (the amphipod zone), amphipod tubes and associated detritus were more than 70% of the cover (Figure 13c). Below this, few organisms survive the lack of light and persistent sand scour.

Barnacles settle and grow in this zone only in the summer months when sand scour is minimal; this is evident by 20% cover of barnacle scars and the predominance of bare space (Figure 13d).”

“In May of 2007, an additional survey was performed to get more specific information on the pier piling assemblages that could not be gathered from photo-quadrats; the results of this survey are in Figure 14. The barnacle zone assemblage (Figure 14a) includes *Chthamalus dalli* and *Balanus glandula* at 50-100% cover. *Porphyra*, *Ulva,* and a cyanobacterial film were also common at 5-25% cover. *Colisella pelta* was the most common of the gastropod assemblage in the barnacle zone. The algae zone assemblage (Figure 14b) was much more developed in the May survey than in the March survey (Figure 14a) and included the red algae *Polyneura lastissima* at 50-75% cover; *Polysiphonia* and *Mazzaella splendens* were also present. *Desmarestia* and several kelps (*Alaria marginata*, *Nereocystis luetkeana*, *Pterogophora californica,* and *Laminaria spp.*) were present up to 25% cover. The bryozoans *Membranipora* and *Watersipora subtorquata* were also present in the understory. In the bryozoan zone (Figure 14c), *Membranipora* and *Watersipora subtorquata* were present up to 25% cover. The hydroids, *Plumularia* sp. and *Bugula californica,* were present in the both the algae and bryozoan zones, joined by *Sarsia* sp in the amphipod zone. *Hermissenda crassicornis,* a nudibranch predator of hydroids, was present in the bryozoan and amphipod zones. While tubicolous amphipods are present in all subtidal zones, they comprise 50-75% of the cover in the amphipod zone (Figure 14d). Caprellid amphipods were also present (<5% cover) in all four subtidal zones. In the bare zone, where sand scour is the likely limiting factor, mobile organisms, like seastars, are most abundant. The pier pilings also provide habitat for some important fishery species. Juveniles of *Cancer magister* were common in the bryozoan and amphipod zones (Figure 14c,d). Fourteen rockfish YOY were present in the kelp attached to two of the four pier pilings sampled (Donahue, 2007).”

<u>Summary of Biological Resources in the Subtidal Zone</u>

“In the pier area, there is sandy substrate with low relief close to the pier in the shallow and mid-depth areas. In the sandy areas, *Pista pacifica* and *Dermasterias imbircata* are the most common invertebrates and the speckled sanddab is the most common fish. Further from the pier in shallow and mid-depth water, there is more hard substrate and there is a greater diversity of invertebrates, algae, and fishes. Particularly near Little Head, *Pterogophora californica* and *Desmerestia osmundacea* and understory red algae are abundant and a wide diversity of seastars is present. In the deep area past the end of the pier, there is more hard substrate (cobble and boulder), which is covered by encrusting coralline algae and fleshy red algae, bryozoans, and cup corals at low density. Kelps are present at low density on large, subsurface rocks and *Cucumaria miniata* and several species of seastar are present. *Pisaster brevispinus* is the most common invertebrate throughout the pier area. Ling cod is present in all areas around the pier.”

“In the mooring area, there is a greater diversity of substrate and relief and the greater diversity of invertebrates and algae reflects this. Brown algae, particularly *Pterogophora californica* and *Cystoseira osmundacea,* are abundant in the shallow areas. Leafy, fleshy encrusting, and calcified encrusting red algae are present in shallow zone, but only fleshy encrusting red algae is present on the deep transects. Invertebrate diversity is also highest in the shallow areas, where sponges, cup corals, and solitary tunicates are all present, and colonial tunicates are abundant. The amount of sandy substrate and sediment covering hard substrate increases with depth and likely prevents establishment of a wider diversity of invertebrates. Pisaster brevispinus is the most abundant large invertebrate throughout the mooring area. Ling cod are present throughout the mooring area, and rockfish, kelp greenlings, and striped surfperch are present in the shallow depths.”

"The assemblage on the pier pilings change with depth. The intertidal area can be characterized as a barnacle zone, with *Porphyra* and *Ulva* in a short overstory and gastropod grazers (particularly *Colisella spp*) below. In shallow subtidal, the pier piling assemblage has *Desmarestia* and kelp species in the overstory, leafy and filamentous reds in the understory, and bryozoans on the substrate. Rockfish YOY use the kelp overstory for cover. Deeper on the pilings, there is a bryozoan zone (*Watersipora* and *Membranipora* are the dominant species), which gives way to the amphipod zone, where tubiculous amphipods are in very high abundance, intermixed with barnacles. Close to the bottom, the pilings are bare and seastars are common (Donahue, 2007)."

Intertidal Zone

The intertidal area adjacent to the pier and the piles was surveyed by Dr. Sean Craig of the Department of Biological Sciences at HSU. The report *Trinidad Pier Intertidal Assessment* dated May 2007, prepared by Dr. Sean Craig, was prepared for the project. Excerpts of the report describing the species identified in the project are provided below and the accompanying figures and tables are attached:

Survey Area "Five transect lines were laid out spanning from east to west along the intertidal zone parallel to the Trinidad Pier. The first transect started at Little Head rock, the third was laid directly underneath the pier, and the last (5th) near the edge of the boulder field closest to the sandy beach, directly in front of the SeaScape restaurant" (Figure 2).

Algae Species Sampled "The diversity of algae on the Pacific Coast is large, and our samples included over 53 species of algae. To describe the pattern of abundance of these algae without producing 53 separate graphs/plots, we placed each algal species into a functional group depending on their algal division and growth morphology. This grouping of different species is commonly used in intertidal studies. Algae were separated first by division and then by distinctive morphological characters. Within the Rhodophyta (red algae), 6 different morphological groups were used: (1) Filamentous, (2) Crust, (3) Bushy, (4) Undivided Blade, (5) Divided Blade, and (6) Branching. Within the Ochrophyta (brown algae), 4 functional groups were used: (1) Small Branching, (2) Large Blade-like, (3) Sac-like, and (4) Ribbon-like. Within the Chlorophyta (green algae), only 2 different groups were formed: (1) Blade and (2) Filamentous." See Table 7 for specific taxonomic groupings (Dr. Craig, 2007).

Species Richness "In all five transects, a total of 197 quadrats were sampled, containing a total of 54 reported species. Outside of quadrats, a total of 104 species were identified and reported in the attached species list." (See Table 8) "Sampling was extensive-yielding, for example, a total number of barnacles counted of 39,348. Of this number, Balanus glandula made up 18% (7,277) and was found in 66 quadrats and *Chthamalus dalli* made up 81% (32,071) and was present in 100 quadrats."

"For each division on each transect, species richness was calculated. On average all transects contained between 3-8 species with an overall mean of 6." (Fig 15) "In Transects 2 and 5, species richness peaked in the mid tide region. In contrast, in transects 1, 3, and 4, richness was skewed to one or both ends of the shore. Transect 2 (adjacent to the pier on the side nearest Little Head Rock) tended to have the highest average richness of the area sampled. This is probably due to the diversity of substrate types along that transect line, including rocky bench, boulders, and large man-made concrete slabs. Common low areas of richness were the 0-5 meter divisions (highest zones on the shoreline) in which physical stress is usually the highest. Low species richness was also observed in Transects 4 and 5, 30-35 meters down the shore, due to the dominance of large brown kelps there, including *Egregia menziesii*, *Laminaria sinclairii*, and *Alaria marginata* (Dr. Craig, 2007)."

Figure 17 shows a "descriptive functional group analysis of the major space occupiers within the study site. All groups or species shown occupied, on average, at least 5% space. Due to the high variability in the data, it is difficult to assess differences among individual species. In most cases, species relationships are better understood when related groups are clumped together."

"Transect 1, due to its bench-like habitat and low amount of vertical relief, shows a similar functional group structure in all divisions along the transect. This is evident in the Red Bushy group, which includes *Endocladia muricata* and *Cryptosiphonia woodii*, and barnacles. There is also a steady abundance of bare rock that continues throughout each division, all the way down the shore."

"The Brown, Large Blade group contains the algae *Alaria marginata* and *laminarians* which are characteristic of low and subtidal zones. This group is present in all transects except Transect 1. In Transect 2, this group begins at 20 meters down the shore and continues all the way to the 35 meter mark. In both Transects 3 and 4, large bladed brown kelps are not present until the lowest division (30-35 meters down the shore). In Transect 5, this group is present intermittently from 15-20 meters on down to the 35 meter mark. Large blade kelps are most dominant in Transect 5 at 30-35 meters, due to the fact that this is perhaps the deepest part of the study site, thus being the most suitable habitat."

"The red algal group "Undivided Blade" was found in many of the divisions in Transects 2-5 at different heights along the shore. In Transect 2, this group begins to be seen at 15-20 meters down the shore, and becomes most dominant at the 30-35 meter segment of the transect. In Transect 3, red algae with undivided blades were present throughout the transect in large amounts, except between 0-5 meters. In contrast, this algal group is actually dominant at 0-5 meters in Transect 5, and continues to be present down to 35 meters, where it becomes less abundant. Many of the species in this group are generally fast growing, ephemeral and generally quite common throughout the intertidal."

"The Brown "Small Branching" group, containing the fucoid algae, tended to be found in the mid to high regions on the shore. This was best illustrated by its presence in Transects 2, 3, and 5. In both Transects 1 and 4, it is ubiquitous in all divisions and most dominant between 5 and 20 meters. This is the most dominant group in Transect 4 between 20 and 30 meters, with coverage ranging from 38 to 45% on boulders."

"Within the study site there is a gradient of boulder exposure in which the western most portions of rocks are more exposed to wave action than the eastern portion (against Little Head rock). This is perhaps due to the structure of Little Head rock, which provides some protection against strong waves as the tides change. The aforementioned patterns support this feature of the shore. Another interesting pattern emerges within the Green Blade algal group. Transect 5 contains boulders which are small and much less exposed during average low tide events. Between 0-10 meters, the Green Blade group is dominant and when moving east into Transect 4, it is present between 15-25 meters and in Transect 2 from 20-30 meters. In Transect 3, this group is not present at all, yet is expected to be somewhere between 15-25 meters to follow the general pattern seen in other transects."

<u>Dominant Species within each Transect:</u>

"Transect 1, located on the eastern most edge of the intertidal zone against Little Head rock, contained a characteristic bench-like habitat with no boulders. This transect had very little vertical relief and is comprised of a single, flat slab of rock that pushed out into the ocean. Due to the limited decline in height, the 35 meters of bench had similar species composition throughout the length of the transect, consisting mostly of the anemone *Anthopleura elegantissima*, brown algae *Pelvetiopsis limitata* and *Fucus gardnerii*, barnacles, littorines, and small patches of red algae including *Cryptosiphonia woodii*, *Endocladia muricata*, *Mastocarpus papillatus*, *Mastocarpus gametophyte* crust, *Mastocarpus jardinii*, and *Neorhodomela larix*. This transect also contained pools that keep species continuously immersed in water during low tide events. Species common to these pools were the anemone Anthopleura elegantissima, the *anthophyte Phyllospadix scouleri*, and the red algae *Odonthalia floccosa*, *Dilsea californica*, *Farlowia mollis*, and *Neorhodomela larix.*"

"Transect 2 was placed just to the east of Trinidad Pier, and consisted primarily of boulders with bench occupying the 15-20 meter region. The highest 15 meters of boulders consisted mainly of barnacles, the brown algae *Pelvetiopsis limitata* and *Fucus gardnerii*, and the red algae *Endocladia muricata*, *Mastocarpus papillatus*, *Mastocarpus gametophyte* crust, and *Mastocarpus jardinii*. From 15-20 meters, where the bench protruded into the transect, species composition was similar to that along the first transect. These species were *Anthopleura elegantissima* and the red algae *Cryptosiphonia woodii* and *Neorhodomela larix*. Within the 20-25 meter division, a large slab of man-made concrete was found, which dwarfs any of the natural boulders within that region of the transect. This large slab was sampled vertically in 3 locations: (1) High on the slab, (2) Mid-way up the slab, and (3) low down on the slab. The high vertical zone of this slab contained mostly barnacles, littorines, juvenile *Mytilus californianus*, and *Fucus gardnerii*. The mid vertical zone consisted of barnacles, little black limpets (which were too small to identify species), the red algae *Porphyra* sp., *Endocladia muricata*, *Mastocarpus papillatus*, and *Mastocarpus jardinii* and the green alga *Ulva* sp. The low vertical zone consisted of *Anthopleura elegantissima*, coralline crust and *Mastocarpus gametophyte* crust. Some boulders were also present in this section of the transect, and these consisted of the brown alga *Alaria marginata* and the red algae *Polysiphonia* sp. and *Mazzaella splendens*. The lowest 10 meters of the transect contained all boulders with common low intertidal species. Abundant species in this last 10 meters included the brown algae *Alaria marginata* and *Egregia menziesii* as well as the red algae *Mazzaella oregona* and *Mazzaella splendens*."

"Transect 3 ran directly underneath the Trinidad Pier. This transect was entirely composed of boulders, with larger ones toward the lower end of the transect, by the waterline. The highest 5 meters consisted of boulders with very little life on them, which was particularly striking when compared to other transects at this height on the shore. Only few barnacles and some *Mastocarpus gametophyte* crust were present. An average of 67 % bare rock was seen here, which was the highest amount of bare space recorded within the study area. Lower on the shore, between 5 and 10 meters down the transect line, bare rock decreased, and an increase was seen in barnacle abundance along with presence of the red alga *Mazzaella oregona*. In the 10-15 meter segment of this transect, barnacle abundance was again uncharacteristically low. Common species found here were *Anthopleura elegantissima*, *Fucus gardnerii* and the red algae *Endocladia muricata*, *Mastocarpus papillatus*, and *Mazzaella oregona*. In the 15-20 meter segment only two species tended to be abundant; *Fucus gardnerii* and *Mazzaella oregona*. Within the 20-25 meter segment, the barnacle *Chthamalus dalli*, the large anemone *Anthopleura xanthogrammica*, and the algae *Fucus gardnerii* and *Mazzaella oregona* were found, but only in low amounts. The average amount of bare rock found within this division was about 50%, which was the highest average amount found across all transects at this height on the shore. At 25-30 meters, once again this transect contained the highest average amount of bare rock (45% cover), which was higher than any of the other transects at this same tidal height. These two averages were also the highest among all transects below 5 meters. Possible reasons for these observations of high percent bare rock within this transect could range from sand scour under the pier removing or preventing settlement of these organisms to physical features of the pier, including the possibility that the pier blocks out the light necessary for these algal species to grow. It is not possible, within the scope of this study, to make conclusions regarding the reasons for this pattern."

"Within transect 3, large boulders were found where vertical zonation could be measured. On large boulders, the highest vertical zones were comprised of barnacles, littorines and little black limpets. In the mid zone, the barnacle *Chthamalus dalli*, the alga *Fucus gardnerii*, littorine snails, *Mastocarpus papillatus*, and *Mazzaella oregona* were abundant. In the low vertical zone of these large boulders and on other smaller boulders at a similar height, the species that were present were *Anthopleura xanthogrammica*, a few barnacles (*Chthamalus dalli*), and the red algae *Mastocarpus jardinii* and *Mazzaella oregona*. Within the lowest 5 meters of the transect, barnacles, littorines, and *Mazzaella oregona* were present in the mid and high vertical zones of the large boulders present, while the red algae *Hymenena flabelligera*, *Mazzaella oregona*, and *Mazzaella splendens* and the brown alga *Laminaria sinclairii* were abundant in the low zone. Also present in the low zone were large amounts of diatom mats and entrapped sand which covered the rocks."

"Transect 4 was composed almost entirely of small boulders and a single large sand-bottomed pool that dominated the 10-20 meter area of the transect. In the highest 5 meters, the barnacle *Chthamalus dalli*, littorines, *Mastocarpus gametophyte* crust, and *Pelvetiopsis limitata* were abundant. Smaller patches of *Fucus gardnerii* and *Endocladia muricata* were also present. Between the 5 and 10 meter mark down the transect, *Anthopleura elegantissima* and the red algae *Endocladia muricata*, *Mastocarpus jardinii*, *Mastocarpus papillatus*, *Mastocarpus gametophyte* crust, and *Mazzaella affinis* were abundant. On boulders from 10-20 meters down the shore, *Anthopleura elegantissima*, *Chthamalus dalli*, and *Fucus gardnerii* were abundant. Within the large pool that stretched between the 10-20 meter divisions, *Polysiphonia* sp., diatom mat, and entrapped sand were common. There were also patches of *Delesseria decipiens*, *Neorhodomela larix*, *Ptilota filicina*, and *Phyllospadix scouleri*. On boulders in and around the pool were found primarily *Anthopleura elegantissima*, *Chthamalus dalli*, entrapped sand, and diatom mat. From 20-30 meters down the shore, *Fucus gardnerii* and *Mastocarpus gametophyte* crust dominated, with some scattered patches of *Porphyra sp*. In the lowest 5 meters (between 30 and 35 meters down the transect), the most abundant species were *Alaria marginata*, *Fucus gardnerii*, *Laminaria sinclairii*, *Mazzaella oregona*, and *Neorhodomela larix*."

"Transect 5 consisted entirely of small to mid sized boulders subject to high amounts of wave action. Dominant species in the highest 15 meters were patches of the clonal sea anemone *Anthopleura elegantissima* along with the fast growing ephemeral algae *Ulva* sp., *Porphyra* sp., and *Fucus gardnerii*. *Chthamalus dalli*, *Fucus gardnerii* and *Mastocarpus gametophyte* crust were the dominant species between 15-25 meters. Between 20-25 meters on the shore, more of the low intertidal species began to be present, including the kelp *Alaria marginata*. From 25-30 meters, algae become more diverse and include *Alaria marginata*, *Laminaria sinclairii*, *Mazzaella splendens*, *Neoptilota densa*, *Neorhodomela larix*, *Polysiphonia* sp., and *Palmaria hecatensis*. In the lowest 5 meters, most of the space was occupied by *Laminaria sinclairii*, with scattered patches of *Hymenena flabelligera*, *Mazzaella splendens*, and *Palmaria hecatensis*."

"Overall, the quadrats sampled were quite variable, as were the transects. For example, in Transect 4 at the 15-20m division, the barnacle *Chthamalus dalli* was found in a high abundance in only 1 of 6 quadrats. Because of this, the error in sampling was quite large, and might suggest that quantitative descriptions would be difficult to evaluate. The reasons for this variability could range from physical and biological factors to the presence of different micro-habitats. We also witnessed a disturbingly high abundance of man-made garbage throughout the study area—including old fishing gear, rubber piping, wires, and car batteries—that may have other detrimental affects on the intertidal species in this region surrounding Trinidad Pier."

Mammals

Gray Whale (*Eschrichtius robustus*) Description - Average length for males 11m (36 ft.), maximum 15m (50 ft.); for females 12m (39 ft.), maximum 15m (50 ft.). The average weight for males 26t (28.7 Tons), for females 31t (34.2 Tons), with a maximum for the species of 34t (37.5 Ton). Gray whales summer in the Bearing and Chkchi seas. In early autumn they begin moving south along the eastern Pacific coastline towards favored breeding grounds in coastal Baja California. Whales will usually travel in groups of two (2) and will generally stay within 10 km (6mi) of the coastline.

The gray whales may utilize the Trinidad Bay during the spring northerly migration. In February when the northerly migration begins whales travel closer to shore in smaller and more widely spaced groups. Periodically gray whales may enter the Trinidad Bay (per conversation April 4, 2007 with Monica L. DeAngelis, NMFS). The females travel first, followed by the males which are followed by the younger whales. The migration is the longest of any mammal and covers a distance of approximately 20,000 km (13,000 mi). Few gray whales remain all summer long in coastal water between California and British Columbia. In the summer time Gray Whales get most of there food in the arctic, which consists of amphipods and other crustaceans and some mollusks and other invertebrates. Gray whales probably have good eye sight and when they hear the noises from the shore or boats going by they rise vertically to the surface to examine the surrounding areas. This behavior is known as "spyhopping". Humpback whales do not utilize the Trinidad Bay.

Gray whales were protected in the eastern Pacific since 1946. Since then the Gray whale population has made a great recovery and today their numbers are estimated between 15,000 and 20,000 (Orr.).

Dawn Goley, Ph. D. Associate Professor of Zoology, Director of the Marine Mammal and Education Program at Humboldt State University provided the report *Gray Whale and Harbour Seal Distribution and Abundance in Northern California. A Report to Supplement the Trinidad Pier Reconstruction Project.* Excerpts of Dr. Goley's report are provided below and accompanying figures and tables are attached.

> "Gray whales (*Eschrichtius robustus*), and Pacific harbour seals (*Phoca vitulina*) are locally common and year round residents of northern California waters. These species have been monitored in northern California as part of the Marine Mammal Education and Research Program at Humboldt State University. We report here on the unpublished results of marine mammal surveys that have been conducted over the past 10 years to lend insight into the local abundance and seasonality of animals that may intersect the Trinidad Pier Reconstruction area (Figure 18). These data are not to be used or reproduced beyond the scope of this report."

> "Gray Whales. The abundance and distribution of gray whales in northern California has been monitored systematically since 1999 as part of a long-term study of their seasonality and ecology. Gray whales migrate past the northern California coast on their northward migrations to the summer feeding grounds in the late spring and then again during their southward migrations to the breeding grounds in the wintertime. Gray whales are also found in the area during the summer months. The Trinidad area is at the southern edge of the Pacific Coast Feeding Aggregation (PCFA) and hosts gray whales that forgo the northward migrations and remain along the coast to forage (Sullivan et al. 1983, Cacchione et al. 1987, Mallonee 1991, Jenkinson 2001, Toropova 2003)."

> "We have been documenting abundance and location of gray whales for the past 9 years from the Oregon border to Trinidad Bay as part of a larger study in the southern edge of the PCFA. We present here the survey data from two of those sites, the Trinidad Bay observation site (41° 03' 29'' / 124° 08' 35'') and the Wedding Rock observation site in Patrick's Point State Park (41° 08' 27'' / 124° 09' 40''). These are the closest sites to the Trinidad Pier Reconstruction area and whales initially sited in these locations could easily move through the pier area and potentially be

affected by activity at that area (Figure 18). Although these sites do not directly monitor the Trinidad Pier and pilings, we have followed whales at sea that have traveled over 15 km in one day, and have tracked whales from shore that have traveled over 5 km in a one hour observation."

"Methods Observers visited 5 prominent observation points on shore between Trinidad Bay and the Oregon border every week to document the abundance and location of gray whales in northern California. The two sites pertinent to this study were Trinidad Bay observation site and the Wedding Rock observation site in Humboldt County, California as they are within a 10 km radius of the pier. These weekly surveys began in 1999 and continue to present."

"One to two surveys were typically conducted each week (weather permitting) at each site. Observers were equipped with 7x 50 Fujinon binoculars with an internal compass. Observers scanned the area for 60 minutes noting the exact location and behaviors of whales during that time. The initial location of each whale was transferred to a digital map. At the Trinidad Bay observation point, there was an area that was visually blocked by the landscape and that is shown in Figure19.

To account for unequal sampling effort, sighting rates were calculated (# whales/hour) and are used for comparison between sites and seasons instead of total number of whales."

"Abundance: Whales can be found in the waters off Trinidad Bay (Table 10) and Wedding Rock (Table 11) during any time of the year. The sighting rate of gray whales was higher at Wedding Rock than at Trinidad Bay (Table 10 and 11), but given that Gray whales can travel over 5 km in an hour it is possible that the whales seen at Wedding Rock may have recently been in the vicinity of Trinidad Bay. Sightings are most concentrated between January and June (Table 12). These times are associated with the southern and northern migrations of whales past the coast line. Sightings are the least common in November and December (Table 12)."

"The distribution and abundance of whales in the area during the summer months is less predictable, but more biologically significant. The animals that visit the waters during the summer months are not simply passing through, but are in the area to feed. These animals can stay in the area for periods of weeks to months and travel locally between sites during this time (Jenkinson 2001, Toropova 2003,)."

"During each year, particularly during the summer, there are periods of time when whales are absent during our surveys (Tables 10, 11), but these periods are not predictable and vary between years. There are also periods when whales are particularly abundant at a given area. For example, whales have been very abundant in the Trinidad area this year during May (sighting rate of 5.49), yet there are some years when there are no sightings of whales during the month. It is likely that, during the summertime, this to be linked to prey availability (Jenkinson 2002), but we cannot predict where and when prey will be abundant in a given year."

"Distribution Gray whales sighted from the Trinidad Bay lookout were sighted throughout the region and throughout the year (Figure 19). Sightings were concentrated more nearshore during the spring and summer and more offshore during the winter and fall (Figure 20)."

"Gray whales sighted from the Wedding Rock lookout were sighted throughout the region and throughout the year (Figure 21). The majority of the sightings around Wedding Rock occurred during the fall, spring and summer and tended to be closer to shore than sightings during the winter (Figure 22)."

"Harbour Seal Abundance and Distribution

Harbour seals are abundant and year-round residents of Northern California (Hanan 1996, Gemmer 2002) and are typically considered a non-migratory species (Bigg 1969), dispersing from a centralized location to forage (Pitcher et al. 1981, Stewart et al. 1994). Harbor seals exhibit high site fidelity, utilizing one to two haul out sites within their range (Sullivan 1980, Pitcher et al. 1981, Stewart et al. 1994), rarely traveling more than 25-50km from these haul outs (Brown and Mate 1983, Suryan and Harvey 1998). Movements between and the use of alternate haul out sites has been attributed to the use of alternative foraging areas near their new haul out site (Thompson et al. 1996b, Lowry et al. 2001) and the seasonal use of certain haul out sites for pupping and molting (Herder 1986, Thompson et al. 1989)."

"We have conducted surveys of local populations of harbour seals over the past 9 years on sandy and rocky haul out sites to describe the patterns of abundance and various aspects of their behavioural ecology. The distribution and abundance of harbour seals on sandy haulouts was studied systematically between 1998 and 2006. During this time, we conducted weekly aerial surveys of the coastline from the Eel River mouth in Humboldt County (40 ° 38' 28'' / 124°18' 43'') to the Smith River in Del Norte County (41° 55' 59'' / 124° 11' 57'') focusing on the animals hauled out at river mouths in northern California. We also conducted surveys of the rocky shore sites in the Trinidad area intermittently in conjunction with student projects and radio-telemetry studies."

"Given the movement patterns of seals, we will report here on the abundance patterns of seals hauling out within 25 km of the Trinidad Pier Reconstruction Project. We provide the maximum number of seals counted on any survey during each month that surveys were conducted at Palmer's Point (41° 07' 15''/124° 09' 25'') (Table 13), Elks Head (41 ° 04' 10'' / 124 ° 09' 30'') (Table 14, Marine Shoals (41° 03' 32''/124° 09' 25'') (Table 15, Indian Beach (41° 03' 23''/124° 08' 35'') (Table 16), Lufenholtz Beach (41° 02' 22'' / 124° 07' 15'') (Table 17), and Mad River (40° 57' 09'' / 124° 07' 38'') (Table 18). Please note that the haulout at Indian Beach is within 200 m of the pier." A summary of these data are presented in Figure 23.

"Methods During aerial surveys – We flew with the local Coast Guard Air Station during their normal coastal surveys and photographed seal haulouts from the helicopter. We flew during the lowest tide of the day. These photos were later analyzed and the number of seals was calculated from the photos."

"Rocky shore surveys – During the survey period, we surveyed the rocky sites in and around Trinidad every week during the lowest tide of the week. Our survey sites offered the best viewing of the haulouts with the least disturbance." (Figure 18). "The maximum number of seals hauled out was estimated using a spotting scope. Two counts were taken at each observation site and their average was used as the best estimate for the abundance on that haulout."

"Radiotelemetry surveys - All surveys began two hours prior to low tide and ended two hours after low tide. When ever possible, surveys were conducted during the lowest tides of each week, regardless of time of day. During all daylight surveys, the maximum number of seals hauled out was recorded using a spotting scope. Two counts were taken at each observation site and their average was used as the best estimate for the abundance of seals on that haulout."

"Findings Harbour seals are present year round at haulouts in the area of the Trinidad Pier Reconstruction project (Figure 24). They are typically less abundant during the winter months as seals tend to spend more time foraging at sea during this time. Seals are more abundant in the area in spring and summer. During this time both male and females increase their use of near shore habitat for hauling out and feeding (Thompson et al. 1994, Coltman et al. 1997, Van Parijs et al. 1997, Baechler et al. 2002). This is also the time when harbour seals pup and molt – tying them more closely to land. Prior to parturition and during lactation female harbor seal foraging behavior and range greatly decreases (Thompson et al. 1994). This is a particularly sensitive time in the life history of harbour seals."

"Seals consistently haul out at Indian Beach – the haulout closest to the Trinidad Pier Reconstruction Project site - with an average maximum abundance of between 24 and 65 animals per month (Table 16, Figure 23). Seals are more abundant during the summer months and this is likely associated with pupping and molting."

<u>River Otters</u>
Mr. Scott Shannon has been following the river otters in Trinidad Bay for more than 20 years and has provided the following summary <u>*River otters and the proposed pier replacement at Trinidad Bay, California*</u> presented below with the figure attached.

"Over the vast majority of its range, the river otter (*Lontra canadensis*) is typically among Nature's most difficult animals to observe. The harbor at Trinidad Bay, California, is one of only a handful of places in the continental U.S. where free-ranging river otters can be seen routinely during daylight hours. Thousands of people come to Trinidad Pier to enjoy the ocean views and sea life, and for the past 20-plus years, the otters have been the location's top wildlife attraction."

"Contrary to the perception implied by the common names "river otter" and "freshwater otter," it is not at all unusual for this species to dwell on seacoasts (Kenyon, 1969). As long as their basic terrestrial needs are met (i.e. adequate shelter and access to fresh water), river otters are as physically and physiologically preadapted to thrive in saline aquatic habitats as they are in non-saline ones (Home, 1982; Shannon, 1993). In western North America, the species is known to inhabit marine coastal ecosystems in a largely discontinuous range from above the Arctic Circle (Manville and Young, 1965) south to Point Reyes, California (Evens, 1988)."

"Both river otters and sea otters (*Enhydra lutris*) were widely distributed along the North Coast in prehistoric times (Shannon, 1993). Yurok settlement at Tsurai circa A.D. 1620 likely spelled the doom of any local population of river otters, however, as the Yurok prized otter pelts for ceremonial regalia and arrow quivers (Löffelholz, 1893). A Yurok patriarch and life-long Trinidad resident, Axel Lindgren, Jr. (1918-1999), was highly knowledgeable about all local fauna, and he reported to me that he never saw otters nor heard talk about there being otters in the bay in his younger days."

"Based on available accounts, the local population of coastal otters appears to have re-established itself about 40 years ago. The first published article that made a specific reference to river otters near Trinidad Bay was Eley (1977), who reported taking "an adult male river otter on a rocky beach 1.5 km. south [sic] of Trinidad" in May, 1970. I have visually tracked the otters from the pier across the bay past Kennedy Rock (>1.0 km.), and on foot via the shoreline to Double Rock (1.3 km.), so the location described by Eley is easily within the traveling/foraging range of the present-day population. Despite this, Mr. Bob Hallmark, who grew up at Trinidad Pier, did not notice otters residing at the harbor proper until the late 1970s."

"When my observations began in 1983, there were 6 otters living at Trinidad Bay. The population peaked during the summer of 1991 when there were 11 adults and 7 juveniles here. In

July, 1992, however, all 3 adult females died, and subsequently, the population crashed. It has never fully recovered. From 1986-1992, the typical number of otters in residence at any given time had been around 12, but from 1993-2006, the typical number was only half that."

"The otters are habituated to the presence and activity of people, but they are not "tame," as I've heard many describe them. A much more precise word is "casual." Humans are big and make lots of noise, but the otters know we are basically harmless, so people are simply a neutral presence to them. If you seriously watch the otters for any length of time, you'll see – they really do live in their own separate little world".

"The otters are year-round residents. They dwell in dens up the seacliffs on Trinidad Head, in the dense, scrubby vegetation between the wave line and the lighthouse road. It used to be local "common knowledge" that the otters were only here during the summer; that when fishing season ended, the otters "go back up the rivers," but one of my earliest findings was that this anecdote was a myth."

Figure 25 summarizes Mr. Shannon's sightings during 1986-1992 "when the population was thriving and the otters' high visibility provided optimal opportunities for behavior sampling. These data are still valid today."

"From 1986-1992, I saw at least 1 otter during 89.1% of my sessions (top line). The males were present to some extent year-round, however they had a tendency to wander, so consequently, during most months of the year, I saw females with greater regularity. From February through May, though, the adult females were generally away from the harbor, giving birth and nursing their pups elsewhere."

"Some people say the otters are only in Trinidad Bay for the fish scraps, but that is another myth I debunked long ago. When the scraps stop, the otters barely take notice; they simply start ranging farther for food. In fact, they like long fishing trips – group foraging is an important social activity. In any case, be assured, no otter here ever returns to its den hungry. This is an abundant habitat for them; a veritable otter's paradise."

<u>The otters and the pier</u>

"At all times of the year, the otters forage in the underwater forest of pier pilings, where large numbers of fish fry school. During the summer season, the floating dock provides additional opportunities to catch schooling fry and a land-like substrate where the otters can dry and groom themselves and engage in social interactions."

"The pier can also be deadly, however. Over the years, many juvenile otters have been killed by accidents involving the floating dock and its associated metal ramp. I've witnessed several instances where an otter pup received a mortal injury from being caught between two dock floats or crushed under the ramp. Since Trinidad Rancheria acquired the property, though, the pier crew has done a far better job of securing the floats to one another, to the extent that I no longer believe the floats themselves are dangerous, but the ramp continues to be a very real threat to the survival of baby otters."

"Another significant conflict is that there is over 60 years'-worth of discarded fishing line and tackle associated with the pier and its pilings underwater. Dozens of times over the years I have seen adult otters incidentally "snagged" with fishing line, ensnaring some part of their body (typically the neck). Otters are also sometimes killed by intentional "hooking" by persons fishing off the pier. Overall, cumulative lethal interactions with fishing tackle – both incidental and intentional – comprise the the #1 mortality factor among adult otters in this population."

"Cage-style crab traps can also be lethal. In May, 2006, the last female of the otter family I watched for 5 generations drowned in a cage-style crab trap that someone left at the pier."

"Conclusions and recommendations It is my opinion that neither the razing of the Hallmark Pier nor the construction of a new pier will necessarily pose a threat to the otters. I have personally witnessed hundreds of man-hours of maintenance activity at the pier in the last 25 years, and I've never seen it have a negative effect on the otters. As long as falling debris is kept to a minimum, I can't see the replacement process causing them meaningful harm or hardship."

"I would hope that some design change could be devised that would diminish the danger of the dock ramp. As it's presently configured, it really is a pup killer."

"The sole potential negative impact that I can envision resulting from the proposed pier would be a likely reduction in the number of pilings on the new structure. This would reduce the area of underwater vertical canopy for fish fry to school, correspondingly reducing the otters' foraging opportunities. In the context of their overall energetics, I doubt such a reduction would be deleterious in itself, but fewer fish to chase would give the otters one less reason for them to spend time around the pier delighting visitors."

"I can't stress enough the importance of the otters as a scenic resource. I've easily crossed paths with over 50,000 people on the pier over the years, and a significant number come because they've seen otters here in the past and hope to see them again. Those that have never seen the otters are often completely amazed by their unexpected discovery. The otters make a visit to the pier unique and memorable. They truly are the treasure of Trinidad Bay."

Sea otter (*Enhydra lutris*) - was first protected with the Fur Seal Act of 1912. The southern, or California, sea otter (*Enhydra lutris Nereis*) is listed as "depleted" under the federal marine Mammal Protection Act. Sea otters are found along rocky, sandy and mixed shores and prefer habitat with kelp. They remain close to shore at depth of 20m (65 ft.) or less. Sea otters eat marine invertebrates including crabs, mussels, clams, abalones and sea stars. Sea otters influence the marine environment by reducing prey population that feed on kelp. Sea otters do not inhabit the Trinidad Head ASBS. No Sea otters have been reported in Trinidad Bay.

Steller sea lion (*Eumetopias jubatus*) - is the largest member of the Otariid (eared seal) family. Males may be up to 325 cm (10-11 ft) in length and can weigh up to 1,100 kg (2,400 lb). Females are smaller than males, 240-290 cm (7.5-9.5 ft) in length and up to 350 kg (770 lb) in mass. Males and females are light buff to reddish brown and slightly darker on the chest and abdomen; naked parts of the skin are black Wet animals usually appear darker than dry ones. Pups are about 1 m (3.3 ft) in length and 16-23 kg (35-50 lb) at birth and grow to about 30-40 kg (65-90 lb) after 6-10 weeks. Pups are dark brown to black until 4 to 6 months old when they molt to a lighter brown. By the end of their second year, pups have taken on the same pelage color as adults.

Bulls become mature between 3 and 8 years of age, but typically are not massive enough to hold territory successfully until 9 or 10 years old. Females reproduce for the first time at 4 to 6 years of age, bearing at most a single pup each year. Pups are born from late May through early July, with peak numbers of births during the second or third week of June. Females stay with their pups for about 9 days before beginning a regular routine of foraging trips to sea. Females mate 11 to 14 days after giving birth. Implantation takes place in late September or early October, after a 3-4 month delay.

Steller sea lion are distributed across the North Pacific Ocean rim from northern Hokkaido, Japan, through the Kuril Islands, Okhotsk Sea, and Commander Islands in Russia, the Aleutian Islands, central Bering Sea, and southern coast of Alaska, and south to the Channel Islands off California. Figure 18 provides a map prepared by Dr. Goley of HSU which shows the Steller sea lion haul out location located by Blank Rock, south of the project site, and by Otter Rock and Lost Whale Rock north of the project site. During the May-to-July breeding season, Steller sea lions congregate where adult males defend territories, pups are born, and mating takes place. Sea lions continue to gather at both rookeries and haul-out sites outside of the breeding season.

California Sea Lion (*Zalophus californianus*) – Average length of mature males 2.25 m (7.5 ft), females 1.8 m (6 ft) and pups 72 cm (2.3 ft.) average weight for males 325 kg (716 lbs), females 110 kg (242 lbs), pups 8 kg (18 lbs). General color of the males is dark brown and almost black when wet while females are lighter in color.

Sea lions are from the family of the Pinnipedia. The skin of the mammal is thick and well haired. Beneath the skin lies a layer of fat, which help regulate the body temperature. This species can stay underwater for longs periods of time and make extreme deep dives. Some pinnipeds are capable of producing underwater sounds. These may serve for echo ranging, which may aid in orientation and locating food at night or at great depth where visibility is limited.

The California Sea Lion breeding grounds extend from the Channel Islands off southern California to Tres Marias Islands along the Mexico coast. Most Sea Lions breed on the San Miguel and San Nicolas Islands in the Channel Islands chain. During the summer time the California Sea Lions are breeding in the Channel Islands (per conversation April 4, 2007 with Monica L. DeAngelis, NMFS).

After the end of the breeding season the adults and immature males start migrating north towards central and northern California. The peak migration along the central and northern California coast occurs in September. The California Sea Lion reaches as far north as British Columbia during the winter months.

The migration south begins in early spring, and by late March or early April the population increases along the coast of central California and immature adults move further south to breeding areas. By June most of the adult males are gone from northern and central California. The population of Sea Lions has increased dramatically since the 1970's, however, no sea lions were reported or surveyed in Trinidad Bay.

IV. a) No rare, threatened or endangered fish, mammal, or bird species were identified within the project site. The literature review, personnel communications and the biological survey reports prepared for this project support this conclusion.

Fish. Dr. Donahue describes several fish species observed:

> "Two species were present throughout the study area: ling cod and kelp greenling. Ling cod (*Ophiodon elongates*) was present throughout the study area" (Figures 26 and 27), "and was the only species found in deeper depths in the mooring area. All individual ling cod were at or below the sport fishing size limit of 24 inches (≤ 62cm). Kelp greenlings (*Hexagrammos decagrammus*) were present in the pier mid-depth zone and both shallow zones of the mooring area and individuals ranged from 20 – 53cm total length. Both males and females were present."
>
> "In the sandy area around the pier, speckled sanddabs (*Citharichthys stigmaeus*) were particularly common. (Figure 26 b,c). "A single cabezon (*Scorpaenichthys marmoratus*) was

> observed in the deep zone around the pier. A pen-point gunnel (*Apodichthyes flavidus*) and two kelpfish (*Gibbonsia sp.*) were also observed in the pier area."
>
> "Black & Yellow Rockfish (*Sebastes chrysomelas*), Yellowtail Rockfish (*Sebastes flavidus*), and Blue Rockfish (*Sebastes mystinus*) were all observed in the mooring area, as well as a single rockfish young-of-year (not identified to species). Rockfish YOY were also present around the pier pilings (see below). Striped surfperch (*Embiotica lateralis*) were also observed in the shallow zone of the mooring area." (Donahue, 2007)

Dr. Tim Mulligan of the Department of Fishery Biology at Humboldt State University has sampled the surfzone fishes in the vicinity of the Trinidad Pier over the past 18 years (1989 – 2006) and provided the following summary for the preparation of the environmental document for the proposed project:

> "Sampling was typically done two times per year, once in September and once in December. Two beach sites were sampled, one just south of the boat ramp and one just north of the pier, adjacent to Trinidad Head. Fishes were identified to species, assigned to life history stage and released. A total of 52 species representing 18 families have been observed."
>
> "Chinook salmon were the only Salmonid collected in the surf zone. A total of four were taken, three adults and one juvenile. Their rare occurrence is not surprising due to the shallow water and lack of estuarine/freshwater habitat in the immediate area."
>
> "Pacific herring were also rarely taken in the vicinity of Trinidad Pier although winter spawning is evident in the subtidal kelp beds adjacent to our sampling site, south of the boat ramp."
>
> "Northern anchovy are sporadically taken, usually in mixed schools with melt species. Juvanille black rock fish were the dominant rockfish taken, other rockfish species were rare. The most common flatfish encountered were sand sole and English sole."

Table 19 provides a list of surfzone fishes found in the vicinity of Trinidad Pier, Trinidad, California (1989 – 2006) provided by Dr. Tim Mulligan.

A biological resources inquiry was conducted in 2006 for The Tsurai Management Area (TSA), specifically for the Tsurai Village. The village is located on the bluff northeast of the project site. The fish species in the tributaries to Trinidad Bay, which are part of the Tsurai Management Area (TSA) study, are described as follows:

> "In regards to migratory and native fish habitat, the assessment determined by California Department of Fish and Game, California Cooperative Fish and Habitat Data Program (CalFish), finds that Coho, Chinook, and Steelhead fishes are only *historically* or *possibly* located within the streams of TSA. Cutthroat was determined as *probable* within the TSA. Therefore the streams within the TSA are not considered critical habitat to the survival of these fish species in accordance with federal and state Endangered Species Act (TSA Management Plan, 2006)."

It is not conclusive whether there are any endangered or threatened fish species within the project site. No endangered or threatened species were found during all biological surveys or literature review conducted for the Trinidad Pier Reconstruction Project.

<u>Birds.</u> No rare, threatened or endangered birds are found within the project site. As requested by the US Fish and Wildlife Service, personnel communications were conducted with residents of Trinidad, workers at the Bait Shop and SeaScape Restaurant, several of the City of Trinidad council members, and the Harbor Master. All individuals interviewed responded that they have not observed a Brown pelican on the pier. Therefore, it was determined that the Brown pelican is not found in the project area. Nevertheless, the Brown pelican may fly over or utilize other areas in the Trinidad Bay.

Mammals. Although no rare, threatened, or endangered mammals were observed in the project area, a variety of species, as described in the biological resources surveys excerpts provided above, may visit the project area during the year.

Noise Impacts to Mammals and Fish. The concerns that have been raised in regards to impacts to marine mammals by the California Coastal Commission (CCC) and the National Marine Fisheries Service (NMFS) regard high noise levels generated in the water as result of pile driving. However, this project will not involve pile driving. As described in the project description, steel plates will be inserted, holes will be augured and concrete will be poured in place to form the piles. Thus, the potential noise impacts from pile driving are eliminated. Most of the noise generated is expected to be generated by the motors on the deck of the pier and not in the water.

National Marine Fisheries provided the following criteria for effects of pile driving to salmonids. NMFS has a dual criteria for physical injury: a single strike peak sound pressure level of 208 decibels (dB) re 1 μPa and an accumulated Sound Exposure Level (SEL) of 187 dB re 1 μPa squared-second, where total SEL = single strike SEL + 10log(number of strikes) and the sound level the fish receives from each strike does not change. NMFS also uses a root-mean-square sound pressure level of 150 dB re 1 μPa as the threshold for adverse behavioral response. (Email comm. Ashton, 2007)

impact IV-1: Potential impacts to mammals and fish from noise levels generated underwater as result of construction activities.

MITIGATION IV-1: To insure that no impacts occur to fish and mammals during pile installation, the Contractor shall perform a noise study to confirm that noise levels are not above the thresholds specified by NMFS.

The noise study will be conducted by Illingworth & Rodkin, Inc. based in Petaluma, California. Illingworth & Rodkin, Inc. has unique experience in measuring and assessing the impacts of underwater sounds on the marine environment and has made presentations of the sound pressures from these activities to a number of agencies on the behalf of Caltrans and several different construction companies. Illingworth & Rodkin, Inc will measure the ambient sound levels in the air and water in Trinidad Harbor and will measure noise levels generated from drilling and steel casing installation for the piles.

“Based on past experience Illingworth and Rodkin , Inc. had with NMFS, noise levels would be measured simultaneously at 10m (32.8 ft.) from pile installation and an attempt would also be made to measure the sound levels at 20 - 100m (6.1 ft. – 328 ft.) depending on conditions. “Measurements will be made using G.R.A.S. 10CT hydrophones with PCB in-line charge amplifiers (Model 422E13) and PCB Multi-Gain Signal Conditioners (Model 480M122) or equivalent systems. The signals will be fed into Integrating Sound Level Meters (SLM) and Solid State Recorders (SSR) or equivalent equipment (Keith Pommerenck Email comm., 2007).”

“The peak pressure and root-mean square average sound pressure levels ($RMS_{impulse}$ levels) will be measured ‘live’ using the SLM. The SLM will have the ability to measure the unweighted peak sound pressure and RMS sound pressure levels over the relative short periods (e.g., less than 50 milliseconds). Many SLMs can measure the RMS sound pressure level of these pulses using the standard ‘impulse exponential-time weighting’ (35 millisecond rise time) function. Additional subsequent analyses of the acoustical impulses will be performed using a Real Time Analyzer capable of providing narrow band frequency and corresponding pressure over time analysis (waveform).” (Keith Pommerenck Email comm., 2007)

“Quality Control. The measurement systems will be calibrated prior to use in the field. For example, an acoustical pistonphone and hydrophone coupler could be used to send known sound signals to the underwater sound measurement system. This type of pistonphone used with the hydrophone coupler, produces a continuous 145 dB (re 1 μPa) tone at 250Hz. The SLMs are calibrated to this tone prior to use in the field. The tone is then measured by the SLM and is recorded on to the beginning of the digital audiotapes that will be used. The system calibration status would be checked at the end of the measurement event by both measuring the calibration tone and recording the post-measurement on the tape. The taped calibration tones are used to calibrate the real time analyzer prior to analysis of tape-recorded pulses."

All field notes would be recorded in water-resistant field notebooks. Such notebook entries would include calibration notes, measurement positions, pile-installation information, system gain setting, and equipment used to make each measurement. (Keith Pommerenck Email comm., 2007)

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/NMFS, USAOCE, CDFG.
> Monitoring Frequency: Once during CISS pile installation.
> Evidence of Compliance: Submit report to USACOE, CCC, NMFS, CDFG, and the City of Trinidad.

MITIGATION IV-2: Daily work windows would be enforced for noisy work. Any work that is above peak ambient levels would be restricted to the period between 7 AM and 7 PM except for concrete pouring.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager.
> Monitoring Frequency: Daily.
> Evidence of Compliance: Project Manager Daily Logs.

MITIGATION IV-3: Minimize noise impacts during pile installation of CIP piles by vibrating steel plates into place, drilling the holes, and pouring the concrete.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager
> Monitoring Frequency: During ISS pile installation.
> Evidence of Compliance: Project Manager Daily Logs.

IV. b. f, g) The Trinidad Bay includes the kelp beds that were designated as an Area of Special Biological Significance (ASBS) under provisions of the California Marine Life Protection Act. The California State Water Resources Control Board (SWRCB) designated the kelp beds at Trinidad Head as an ASBS in 1974 for the protection from point source pollution; now designated as State Water Quality Protection Area. The designation came under several plans within the Porter-Cologne Water Quality Control Act. The ASBS is also designated by the California Coastal Commission as a Critical Coastal Area (CCA) for protection of the ASBS from non-point source pollution. The State Water Resources Control Board is the primary agency responsible for the kelp beds. The secondary agencies responsible are the Regional Water Quality Control Board and the California Department of Fish and game. No Special status species were identified within the project area.

The habitat directly under the pier will be modified as a result of the replacement of 205 cresosote treated piles with 115 CISS piles. In order to install the new piles, 115 holes will be augured to a depth of 25 - 35 ft. (10.7m) below the mud level. The piles are required to penetrate 25 ft. (7.6m) in to the bedrock, which varies in elevation along the pier (Taber Consultants, August, 2007). A total of approximately 10 -

100 yd^3 (7.6 -76.5 m^3) of sediment will be removed from the project site (see Project Description). The sediment removed from the replacement of the exiting wood piles with the CISS concrete piles shall be temporary stockpiled at the staging area and then transported by the contractor to an approved upland disposal location (see Geology and Soils Section).

Each one of the existing piles occupies a surface area of 0.8 ft^2 (0.07m^2). A total surface area of 164 ft^2 (15.2m^2) is occupied by the existing piles. The surface area occupied by each of the proposed CISS concrete piles is 1.8 ft^2 (0.16m^2). A total surface area of 207 ft^2 (19.2m^2) will be occupied by the proposed piles and will be disturbed in the intertidal and subtidal zones during reconstruction of the piles. The new piles require an additional 43 ft^2 (4 m^2) of surface area that was not disturbed during the construction of the new pier. This disturbance is temporary. Following removal of the old creosote treated piles and installation new CISS piles additional habitat will be available directly under the pier.

The replacement of the creosote treated piles with concrete piles is expected to provide additional habitat that would have not been available if the current piles were left in place. The existing Douglas-fir (*Pseudotsuga menziesii*) piles are creosote treated. The depth of creosote penetration into the piles varies from 0.25 to 2 inches (6.4 to 51 mm). Creosote is composed of a mixture of chemicals that are potentially toxic to fish, other marine organisms and humans. Polycyclic aromatic hydrocarbons (PAH), phenols and cresols are the major chemicals in creosote that can cause harmful health effects. In Puget Sound, for example, the use of creosote-treated wood in the water is prohibited. Since 2000, the Washington State Ferries (WSF) removed 831,000 board ft. of creosote-treated timber and pilings from Puget Sound and plan to remove an additional 14.0 million board feet of creosote-treated timber over the next 10 years at 13 terminals (Washington State Department of Transportation, 2007). The removal of these piles is expected to enhance the water quality and the use of cast-in-steel-shell concrete piles is expected to increase as available habitat for algae and macroinvertebrates and consequently provide additional food sources for fish and mammals. The steel shells will be coated with a non-toxic polymer to protect the steel. In the long run (at least 50 years) the steel shells may degrade, but the concrete piles will remain for the lifetime of the pier. No mitigation is warranted.

IV. c) The proposed project will not have any adverse affects on wetlands. There are no wetlands in the project area. No Mitigation is warranted.

IV. d) Although no rare, threatened, or endangered species were observed in the project area, a variety of species migrate along the north coast and periodically visit the Trinidad Bay. Avoidance of these species to extent possible will minimize impacts to these species. From the data provided by Dr. Goley, most sightings of Gray whales occurred between April and July (Tables 10-12). Most sightings of Harbour Seals also occurred between April and July (Table 13-18). According to the data provided by Mr. Scott Shannon, the peak occurrence of River otters in Trinidad Bay occurs between June and August (Figure 25). Although no endangered fish species were identified in the ASBS, salmonids migrate into the ocean beginning in late March until September (NMFS, 2005). The data indicates that the most critical period to avoid, while planning for a nine month construction season is from June to August Based on the information provided construction activities are proposed to commence on August 1st, 2007 and terminate on May 1st, 2007.

<u>MITIGATION IV-4:</u> Two trained personnel in identification of marine mammals shall attend the project site one hour prior until one hour after construction activities cease each day throughout the construction window. The trained personnel shall be trained by Dr. Dawn Goley whom prepared the biological assessment for the Harbour seals and Gray whales for the project. Should the trained personnel identify marine mammals within 500m (1640 ft.) of the project area, they shall notify the Project Manager/Engineer whom will notify the Contractor. When working on pile removal or installation, the

Contractor shall temporarily stop work to allow the species to move away from the project site. The contractor will not be required to stop the work when working on the removal or construction of the pier decking. The trained personnel shall invoke clapping motion to force the mammals to move away from the project site. All sighting will be recorded and documented for future references.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Trained personnel and Pacific Affiliates, Inc Project Manager/NMFS, USAOCE, CCC, CDFG, and the City of Trinidad
Monitoring Frequency: Daily during reconstruction work.
Evidence of Compliance: Monitoring logs submitted to the USACOE, CCC, NMFS, and the CDFG.

V. CULTURAL RESOURCES –Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Cause an adverse change in the significance of a historical resource, as defined in Title 14; Chapter 3; Section 15064.5?			**X**	
b) Cause an adverse change in the significance of an archeological resource, pursuant to Section 15064.5?		**X**		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				**X**
d) Disturb any human remains, including those interred outside of formal cemeteries?		**X**		

Setting. The Tsurai Indians settled the Trinidad area more than 350 years ago. Descendants of the Tsurai Indians, one of many groups belonging to the Yurok Tribe still live in Trinidad today. In 1595, Trinidad Bay was documented by a Portuguese sea captain, Sebastian Rodriguez Cermeno, but he did not land. On Trinity Sunday June 9th, 1775, the Spanish captains, Heceta and Bodega Rodriguez Ceremeno landed in Trinidad Bay. The port was named *La Santisima Trinidad* and claimed as an area of Spain and was used for many years as a moorage area for ships exploring the fur-trade. The American Captain George moored in Trinidad Bay in 1793. In December of 1849, during the gold rush, Josiah Gregg found Trinidad after traveling through the mountains. Trinidad then became a supply town for gold-miners heading for the Klamath, Salmon and Trinity Rivers. The city of Trinidad was officially incorporated in 1870 and remains the smallest city in Humboldt County. Trinidad harbor also became the only local seaport to ship lumber from area sawmills. The Trinidad Head Lighthouse was built in 1871 to aid the vessels transporting goods (Trinidad Chamber of Commerce, 2002). In November of 1912 the West Coast Whaling Company considered the establishment of a whaling station in Trinidad. The California Sea Products Company established a station 11 years later. Whaling was done by first harpooning the whales at sea and then towing them into the processing plant at the Trinidad Bay. Here at the plant, the whales were butchered and made into pet food, fertilizer, and crude oil. The whaling station at Trinidad Bay was closed in 1929 (Tsurai Draft Management Plan, 2006).

The Cher-Ae Heights Indian Community of the Trinidad Rancheria is a federally-recognized tribe composed of descendants of three tribes, the Yurok, Weott, and Tolowa. The Trinidad Rancheria was established in 1906 by a United States Congressional enactment. In 1908, 60 acres of land were purchased on Trinidad Bay for homeless Indians. The community began developing in the 1950's. In January 2000, Trinidad Rancheria acquired approximately 14 acres of land at the Trinidad Harbor.

Tsurai Management Area

Additional information on historical and cultural resources was obtained from the review of the Draft Tsurai Management Plan prepared by the Yurok Tribe Environmental Program for the California Coastal Conservancy in August 2006. The Tsurai Study Area (TSA) is located within the ancestral lands of the Yurok Tribe, which extend along the northern California coast from Little River in Humboldt County to Damnation Creek in Del Norte County, and inland along the Klamath River. The TSA contains the Tsurai Village located upland northeast of the project site on a mid-sloped terrain between the beach and the bluff, approximately 25 to 40 ft. (7.6m - 12.2m) above the high tide line. Archeological sites and graves can be found at the historical Tsurai village. "The cultural landscape of Yurok people comprises what is known as "ancestral territory" and connects coastal, inland, river, and high county areas and resources." (Tsurai Draft Management Plan, 2006)

The network of trails that linked the rivers and coastal villages show the importance of the coastal resources to the Yurok tribe. On the coast, prior to European settlement, Yurok found resources for food including a variety of seaweeds, mussels, clams, surf fish, and other diverse coastal marine species. There was approximately one-third the number of houses in the coastal Yurok villages than those found in the river villages." (Tsurai Draft Management Plan, 2006)

The Tsurai village was the southernmost village within the Yurok Territory. According to the Yurok, the village was bounded by a small stream four miles north of Trinidad Head (Tsurewa), and by Beach Creek (O prmrg wroi) and the village located at the Little River (Me'tsko or Srepor) from the south. Little River also acted as the most southern boundary between the Yurok and Wiyot Tribes. The Tsurai village is the largest Yurok coastal village found

"The language spoken at the Tsurai village is the most divergent dialect from what Yuroks of other villages spoke. Tsurai and the surrounding landscape are places of great importance to Yurok culture as evident in oral histories, ceremonial activities, and subsistence practices that continue to this day. Tsuari means "mountain" because of its association with Tsurewa, is the only Yurok village that is in a protected bay as it sits tucked between the windy bluff and the beach below." (TSA Draft Management Plan, 2006)

Academic archeological excavations of the village and some burials within the village were conducted between August and September 1949 by Professor Robert F. Heizer and John E. Mills and students from University of California Berkeley. The Tsurai Draft Management Plan describes the investigation and findings as follows:

> "Heizer and Mills (1952) published a history of the village in a book entitled, *The Four Ages of Tsurai* (Heizer and Mills 1952) and later published the archeological findings of the 1948-49 excavation in a comparative site study (Elasser and Heizer 1966). Subsequent cultural resource studies were conducted in efforts to identify site extent, site boundaries, or address management concerns. No recent comprehensive investigation of the Tsurai village has been conducted. Past studies indicate that the village was a permanent village, containing multiple levels of human occupation through time. Cultural resources identified within the TSA include a cemetery, traditional trails, sacred trees, house pits, a sweathouse, and Brush Dance area, as well as a dense archeological deposit associated with the occupation of the village and the use of surrounding coastal and marine resources. Professor Heizer assertion that Tsurai village was between 300-400 years old was based upon a single radioactive date. Artifacts, specifically stone stools, recovered from the site suggest a much longer time span of human occupation."

Between the 1950s and the 1970s looting of the grave sites and the Tsurai village continued. In 1978, the Tsurai Ancestral Society was formed and led by Axel Lindgren II to protect and maintain the village and burial grounds. In 1978 the California Coastal Conservancy was established to preserve, protect, and restore California coastal resources while ensuring public access and authorized the purchase of six parcels, which included the Tsurai Village. These six parcels have come to be known as the "Tsurai Study Area (TSA)", although there are only four parcels included within the TSA as shown on the City of Trinidad's' Land Use Map. In 1989 the land was sold to the City of Trinidad with funds granted to the City from the State California Environmental License Plate Fund. The Coastal Conservancy retains a conservation easement to ensure its statutory goals are maintained. Existing trails within this easement provide coastal access.

On November 3rd, 1969, the village of Tsurai was designated a California State Historical Landmark (Landmark Number 838) and commemorated with a historical marker, installed on top of the bluff near the intersection of Edwards Street and Ocean Avenue in 1970. The village was nominated to the National Register of Historic Places in 1977, but was never evaluated. The Trinidad Cemetery located at the north end of Stagecoach Road within the city limits is designated as an historical site in the City of Trinidad's Local Coastal Program (LCP). The last resident of the Tsurai is buried there and some of the grave stones are dated in the late 1800's.

According to the TSA Management Plan no location within the TSA is included on the National Register of Historic Places. However, the Tsurai village, located upland from the Trinidad Pier, is both on the California Register of Historic Places and the California Historical Landmarks lists. There are both historical and archeological resources within the TSA, including a burial ground. These resources are not necessarily confined to within the TSA.

V. a, b, d) According to the City of Trinidad's (LCP), no known archeological or paleontological sites, as identified by the State Historic Preservation Officer, occur within the project area (City of Trinidad LCP, 1980). Other than the TSA, a record survey was requested on July 20th, 2007 from the North Coast Information Center (NCIC) of the California Historical Resources Information System (CHRIS), and consultation with the California Office of Historic Preservation as well as the Yurok Tribe and Trinidad Rancheria in compliance with the state and federal regulation and policies.

The Recommendation of the Record Survey were as follows: "We predict that there is high probability of finding sites or other evidence of human cultural activity in your project study area. We also understand that your project ground disturbances will involve the drilling of soils deposited in lands underneath the water. The possibility of finding prehistoric and historic artifacts in these soils is high. We advise the use of cultural resource monitors familiar with Yurok culture and development of an artifact treatment protocol. This office can provide samples of such protocols. Please be advised that the locations of historic and cultural resources do not always follow predicated patterns." (NCIC, August 2007)

Other potential historic resources include all remnants from the Spanish whaling station that operated at the location of the existing pier in the late 1700's. The port was named *La Santisima Trinidad* and claimed as an area of Spain and was used for many years as a moorage area for ships exploring the fur-trade.

Two precautionary mitigation measures are added to insure the protection of archeological and historical sites. This mitigation measure will also address actions that should be taken should human remains be discovered at the site.

IMPACT V-1: Potential impacts to historical, archeological and human remains.

MITIGATION V-1: The Trinidad Rancheria will employ an elder of the Yurok Tribe qualified by the State Historical Preservation Officer to monitor the construction site for cultural and archeological resources. The monitor will be present during pile removal and pile installation activities. The tribe monitor will inspect the sediment removed from the construction area for cultural or archeological resources. The tribe monitor will inspect the material as it is bored out of the holes and will also be able to continuously inspect the material at the temporary stockpiling location.

> Timing for Implementation/Compliance: During pile replacement activities.
> Person/Agency Responsible for Monitoring: Certified Cultural Monitor, Elder of the Yurok Tribe.
> Monitoring Frequency: As needed during pile replacement activities.
> Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG

MITIGATION V-2: The Contractor will be notified of, and required to monitor for signs of potential undiscovered archeological, ethnic, religious, or paleontological resources. If cultural/archeological resources are discovered during pile removal or pile installation, operations will be halted until a qualified cultural resources specialist is consulted. Subsurface surveys shall be conducted to determine the boundaries of the resource. If human remains are discovered, the County Coroner must be contacted. Required procedures to be followed in the event of accidental discovery of cultural materials or human remains are described in sections 15064.5(e) and 1564.5(f) of the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). A protocol to follow in the event that cultural/archeological resources are discovered shall be prepared by the contractor prior to commencement of the project. A copy of this protocol shall be submitted to the City of Trinidad and the Yurok Tribe.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: NCIC and Yurok Tribe.
> Monitoring Frequency: As needed.
> Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG.

V. c) The project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The project site does not contain unique geologic resources. The site is too young on a geological time scale and therefore no paleontological resources are expected to be found at the project site.

VI. GEOLOGY AND SOILS – Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Publication 42.			**X**	
ii) Strong seismic ground shaking?			**X**	
iii) Seismic-related ground failure, including liquefaction?			**X**	
iv) Landslides?			**X**	
b) Result in soil erosion or the loss of topsoil?			**X**	
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			**X**	
d) Be located on expansive soil, as defined in table 18-1B of the Uniform Building Code (1994), creating risks to life or property?				**X**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				**X**

Taber Consultants Engineers and Geologists prepared a Preliminary Foundation Investigation Report of the project site dated August 17th, 2007. Below are excerpts from the report, which pertain to the analysis of this section. The Final Report will be submitted to the City of Trinidad. All recommendations of the report were incorporated into design of the new pier.

Setting. "The site is shown on published geologic mapping ("Geologic Map of the Weed Quadrangle", CDMG, 1987, 1:250,000; "Geologic Reconnaissance of the Northern Coast Ranges and Klamath Mountains, California" CDMG Bulletin 179, 1960; and "Geologic Map Trinidad Quadrangle" California Department of Forestry 1979, 1:62,500) as underlain by pre-Cretaceous rocks of the Franciscan Complex and Quaternary marine terrace deposits. This rock is described in publications as variably weathered, highly fractured/sheared with variable composition composed predominantly of mudstones, greywacke, and metasedimentary rocks, with lesser amounts of igneous and metamorphic rocks." (Taber, August 2007).

"Proximity to the Mendocino Triple junction results in both reverse/thrust and right lateral strike-slip motion being accommodated on a complex system of local faults. A potentially active trace of the Trinidad Fault has been mapped to cross through the project area (USGS OFR-96-656). This fault is considered to be a reverse/thrust fault and is reported to have displaced older marine terrace deposits near Trinidad Head. The project area is not located within an Alequist-Priolo “Earthquake Fault Zone” requiring special studies for fault rupture hazard.” (Taber, August 2007).

Geotechnical Investigation. The key geotechnical issues to consider for the Trinidad pier site are: (1) high seismic accelerations from Trinidad Fault; (2) foundation design criteria (bearing capacity, erosion, etc.); and (3) excavation conditions (Taber Consultants, 2007). A geotechnical investigation of the pier was conducted between June 23rd -26th, 2007. Core boring were used to obtain four core samples from four locations along the length of the existing pier (Figure 3). Borings were advanced to depths of approximately 50 ft. (15.2m) below the mud line through the existing pier decking.

Prior to auguring and/or coring, a four-inch (10.6cm) diameter steel casing was advanced approximately five ft. (1.5m) into the soft sediments above the rock. This casing is for maintaining the integrity of the hole during drilling and in some cases requires advancing to full depth as drilling proceeds. Initial drilling was by a solid flight auger for the soft sediments and transitioned to diamond bit coring once rock was encountered.

Auguring was accomplished with a three-inch (7.62cm) diameter solid-flight auger bit. Driven samples (SPT or California Modified) were taken approximately every five ft. (1.5m) until rock was encountered. Sampler penetration resistance was recorded and correlated with soils strength and bearing characteristics. Borings were logged and soils field-classified by a field geologist/engineer as to consistency, color, gradation, texture, etc., on the basis of sampler penetration resistance, examination of samples, and observation of drill cuttings. Selected samples were retained in moisture proof containers for later laboratory testing. The samples were analyzed for moisture-density and strength; corrosivity; Plastic Index; Direct-Shear; and engineering classification (Gradation and Atterberg Limits).

Rock samples were recovered using HQ (2.5-inch) size continuous diamond bit coring. Diamond bit coring was accomplished using mud rotary techniques such that all drilling mud was re-circulated and captured on the drill rig. This mud was disposed at an approved disposal location by the Contractor. Due to the core barrel no sediment or rock was released into the water column during auguring. Cores were logged and rock classified by a field geologist/engineer as to type, color, quality, and other pertinent characteristics. Cores were retained for later inspection and testing on select portions. No drive samples were taken.

“Earth material observed during the subsurface investigation can be broken into two general categories, which are described below:

Recent marine deposits. A thin veneer (approximately 3.5 to 7.5 ft. thickness) of recently deposited loose to compact gray sand with shell fragments and other debris overlies the entire site. Some gravel size rock fragments were also observed in the cuttings (possibly derived from the adjacent Trinidad Head and Little Head). Large (2-3 ft. diameter) blocks of Franciscan material were observed at the base of both Trinidad Head and Little Head.”

“Recent marine material was penetrated from mud line surface to approximately 39.5 ft (12.0m), 36.0 ft. (11.0m), 26.0 ft. (7.9m), 19.2 ft.(5.9m) depth (approximate elevation -19.2 ft. (5.9m), -15.8 ft. (4.8m), -6.1 ft. (1.9m), and 0.8 ft. (0.24 m)) in boring 1, 2, 3, and 4 respectively.”

“Bedrock. Bedrock of the Franciscan Formation underlies the recent marine deposits in each of our boreholes. This unit predominantly consists of gray, green, and black, weathered to decomposed mudstone, shale, and sandstone, with some zones of hard gray sandstone. As described in published mapping decomposed igneous and metamorphic rock are also likely present. This unit is variably fractured and sheared with significant localized slicksided surfaces. Carbonate (likely acite) filled fractured and stringers are found throughout, with some zones containing approximately 30-40 percent calcite by volume. Bedrock materials are considered to be generally stable and capable of contributing to structure support."

"Sheared Zones. Zones of extremely fractured slicksided rock material were found in several borings and may relate to a shear zone or the trace of the Trinidad Fault observed at the base of Trinidad Head by Woodward-Clyde (1980). Further investigation would be required to fully delineate and categorize this material and to determine its relationship with local faults, if any."

VI. a) "The region is subject to strong earthquakes, as is much of California. "In accordance with current Caltrans Division of Structures site seismicity evaluation procedures (with reference to "California Seismic Hazards Map 1996" and "Attenuation Curves" by Mualchin and Jones, 1992), a "Peak Bedrock Acceleration" (PBA) of 0.72 g is assigned to the site, associated with an event of 7.50 magnitude on the Trinidad fault located approximately 1.0 km easterly. The fault is considered "active" and capable of producing significant seismic accelerations at the pier site. Technical information accompanying the "California Seismic Hazards Map 1996" lists this fault as not known, though geologic mapping of the area categorize this fault as a reverse/thrust." (Taber, August 2007)

"This site may conservatively be assigned "Type-C" soil profile per Table B.1 of Caltrans "Seismic Design Criteria, Version 1.4" (June 2006)." (Taber, August 2007)

"Caltrans procedures require increases in seismic parameters for certain types of faults – namely "reverse thrust" and "reverse oblique" faults – which are also applied to faults of unkown type. Increases in SDC response curves are also required where a fault is located within 16 km of the site. Staged increases in spectral accelerations depending upon structure period are therefore recommended and are provided below." (Taber, August 2007)

"Based on the above information, structure design is recommended to be based of the following SDC parameters: (1) Controlling Fault: Trinidad, (2) Soil Profile, Type C, (3) Magnitude 7.25± 0.25, (4) Peak Bedrock Acceleration (PBA) of 0.70 g, and (5) Modified ARS Curve from SDC Figure B.5 with staged increase in spectral accelerations per below."

Structure Period (seconds)	Increase in Spectral Acceleration (%)
0-0.5	No Increase
0.5-1.0	0% to 20% Linear Increase
>=1.0	20% Increase

Seismic affects other than ground shaking including ground rupture, tsunami, and slope failures are considered possibilities at the subject site owing to its low elevation and proximity to known active faults. Seismic shaking from the nearby Trinidad Fault or other regional faults may lead to instability of material on Trinidad Head, Little Head, or other nearby terrain bordering Trinidad Bay. Blocks of material cleaved from the head of large landslides could potentially generate large waves locally. The possible trace of the Trinidad Fault believed to run next to Trinidad Head poses the possibility of ground rupture near or below the proposed structure and may generate a tsunami in the local area directly.
The proposed project site may be subject to strong seismic shaking and related hazards. There is no increased exposure to geologic hazards for people or property due to the proposed project. An existing hazard at the site is an earthquake related tsunami, but the risk is not increased by project implementation. Public safety will be improved because the new pier will be constructed to better withstand seismic

events. The proposed pier will be designed to withstand the maximum credible seismic event for the project location (see Project Description).

VI. b) The project is located within the waters of Trinidad Bay and involves replacement in kind of the existing pier and therefore will not result in erosion or lost of topsoil. A total area of 203 ft^2 ($18.2m^2$) in Trinidad Bay will be disturbed as a result of the auguring for the new piles. Approximately 10 -100 yd^3 (7.6 – 76.5 m^3) of sediment and cuttings will be removed and temporarily stockpiled at the staging area during replacement of the old wood piles with the proposed CISS concrete piles. Cuttings from drilling will be pumped into 50 gallon drums and sediment shall be stockpiled at the staging area. The Contractor shall implement the BMPs listed in the Project Description Section of this document. The material will then be transferred to an approved upland disposal site. See Hazards and Hazardous Material Section for sediment disposal procedures.

VI. c) The project is located near a fault, but is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The geotechnical recommendations will be implemented to insure the pier is structurally stable to withstand earthquakes. Design of the pier including size of piles and design-bearing capacity are based on the geotechnical report recommendations.

VI. d-e) The project is not located on expansive soil or unstable geologic soil units, nor does it involve the construction of septic systems or generation of wastewater. No mitigation is warranted.

The Geotechnical engineer concludes in the Preliminary Site Investigation Report that: ”the site is adequately stable for the proposed foundation and support is available by means of foundations penetrating into the underluying weathered rock materials. The use of typical driven piles is considered possible at the site but may be unsuitable due to possible difficult driving conditions, environmental impacts, and regulatory restrictions. Cast-in-steel-shell (CISS) piling is likely the preferred method of installation, though special procedures may be required. Cast-in-drilled-hole (CIDH) piling is also considered feasible with casing and other spatial procedures, but would be unsuitable for battered pile installation, due to hole stability problems.” (Taber, August 2007)

“Wet construction should be expected and wet excavation procedures should be followed. Rock surface are interpreted from available boring data, and significant deviations from the assumed surface are likely. Depth to bedrock should be verified during construction. Casing will likely be required for construction and placement by the contractor may involve impact driving or vibratory installation. See Biological Resources for mitigation measures).

“Fault movement, either on or nearby the subject site, has the potential to create high seismic accelerations, differential movement of the pier structure is meant to stay in-service after a large earthquake event (Taber, August 2007).” See Project Description Section for CISS piling.

VII. HAZARDS AND HAZARDOUS MATERIALS- Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Create a hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		**X**		
b) Create a hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		**X**		
c) Have hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			**X**	
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				**X**
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and consequently result in a safety hazard for people residing or working in the project area?				**X**
f) Be located within the vicinity of a private airstrip, and consequently result in a safety hazard for people residing or working in the project area?				**X**
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				**X**
h) Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				**X**

Setting. The existing pier was constructed in 1946. The Douglas-fir piles were treated with creosote and the decking was pressure treated. Creosote is composed of a mixture of chemicals that are potentially toxic to fish, other marine organisms and humans. Polycyclic aromatic hydrocarbons (PAH), phenols and cresols are the major chemicals in creosote that can cause harmful health effects. Pressure-treated lumber is wood that has been immersed in a liquid preservative and placed in a pressure chamber. The chamber forces the chemical into the wood fibers. The pressurized approach makes sure that the chemical makes it to the core of each piece of wood. The most common chemical used to treat lumber used to be chromated copper arsenate (CCA). In 2003, however, the Environmental Protection Agency (EPA) restricted the use of CCA in residential settings due to health and environmental concerns about arsenic leaching out of the wood. CCA has been restricted by the EPA for use only by certified pesticide applicators. Many of the piles are still coated creosote and most of the decking is still pressure treated.

The sheds on the pier that will be removed are coated with paint. Lead-based primer, and a white finish coat are present on the three existing sheds on the pier. The electrical boxes on the pier proposed to be removed and replaced are made of mercury. There is no asbestos on the pier. The project location is not listed on the current Hazardous Waste and Substance Site List at the Department of Health and Human Service, Agency for Toxic Substances & Disease Registry, or by the California Department of Toxic and Substance Control, Hazardous Waste and Substance Site List.

Sediment Quality in Trinidad Bay. Sediment removed from the project site during pile installation (approximately 10 - 100 yd^3 (7.6 – 76.5m^3)) will be temporarily stockpiled in 50 gallon drum at the staging area until all auguring is completed. The material will then be transferred to an approved upland disposal site. Most of the sediment excavated is expected to be in the form of cuttings if the hole is augured and/or drilled at a location of exiting piles. Sediment removed from the inner core during auguring shall be mostly dry due to the compression created in the core during auguring.

MFG collected sediment samples which were analyzed for petroleum hydrocarbons, organochloride pesticides and polychlorinated biphenyls (PCBs) to test for petroleum contamination from boating and runoff in preparation of the Water Quality Assessment for Trinidad Bay submitted to the SWRCB (305(b) report). Sampling occurred during the summer fishing season when boating contamination is at its peak, and during winter for comparison (MFG, 2005).

On September 11th, 2003, MGF, Inc. collected sediment samples from below the edge of the pier approximately 200 ft. (61m) from shore. Since there were no detections for organochloride pesticides and PCBs in the sediment, it was not analyzed for in subsequent sampling events. On June 9th, 2004, sediment samples were collected 800 ft. (244m) offshore from the boat ramp. Organochlorine pesticides or PCBs were not detected above reporting limit and were not tested for again (MFG , 2005).

Based on MFG, Inc. findings, the sediment in Trinidad Bay in the surrounding area of the pier is clear of contaminants. The sediment directly under the pier may be required to be tested at the temporary stockpiling locations to insure it can be disposed at the proposed Anderson Landfill. The required testing procedures and the maximum acceptance criteria for upland disposal for Nonhazardous/Nondesignated Petroleum- Contaminated Soil are shown in Table 20. It is the Contractor's responsibility to transport and dispose of the material at an approved upland dredge disposal site.

VII. a, b) The proposed project will not create a hazard to the public or the environment. No hazardous material will be used in the project, except for diesel to fuel the construction equipment at the project site. Hazardous construction material includes concrete and removal of creosote treated piles. There will be no changes in current boat fueling activities following completion of the project.

Removal of creosote piles will improve water quality conditions and will minimize the introduction of hazardous wastes to the ASBS. All construction debris including removed piles and decking shall be temporarily stored on the southeast side of the staging area until all removal activities are completed (Figure 2). During temporary storage the piles will be covered by a three mil. plastic cover to prevent leaching of the creosote from the piles into the ground. The creosote treated piles will then be transported to the Anderson Landfill or another approved upland disposal site for permanent disposal.

BMPs for water quality control at the temporary stockpiling locations include WM-3 – Stockpile Management, WM-4 Spill Prevention and Control, and WM-5 – Solid Waste Management as listed in the CASQA Handbook.

All notification requirements (and other applicable requirements) of the US Environmental Protection Agency's National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61, Subpart M and/or the North Coast Unified Air Quality Management District (AQMD) will be followed including notifying AQMD at least 10 days prior to removal of the exiting pier begins. Implementation of special provisions and construction methodology will reduce potential impacts to a less than significant level.

The contractor shall fuel all construction equipment at the staging area. No fueling shall occur on the pier. Fuel shall be stored at the designated location in the staging area. The contractor shall implement CASQA BMP's NS-9 Vehicle and Equipment Fueling and NS-10 Vehicle and Equipment Maintenance in addition to the mitigation measures listed below. Vehicle and equipment procedures and practices shall be implemented to prevent fuel spills and leaks. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

<u>IMPACT VII-1:</u> Potential impacts to water quality from the use of hazardous construction materials and fueling of construction equipment.

<u>MITIGATION VII-1:</u> The contractor shall submit to the Project Engineer a Hazardous Materials Spill Prevention Plan that will include a list of all materials and equipment to be used, a list of equipment that shall be used in case of a spill and the necessary resource and regulatory agencies that must be notified in case of an accidental spill of any hazardous material. A copy of this plan will be submitted to the City of Trinidad.

> <u>Timing for Implementation/Compliance:</u> Submit plan prior to construction/during project.
> <u>Person/Agency Responsible for Monitoring:</u> Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC and the City of Trinidad.
> <u>Monitoring Frequency:</u> Implement as needed.
> <u>Evidence of Compliance:</u> Daily project logs.

Additional Mitigation Measures and BMP's to prevent impacts to water quality and the biological resources from the use of Hazardous Materials during construction activities are described in Section IV - Biological Resources and Section VIII - Hydrology and Water Quality.

VII. c) No existing or proposed schools occur within a quarter mile of the facility. Trinidad Elementary School is approximately ½ mile away from the project site, but is located upland where is no potential for project impacts. Fuel and concrete mixing trucks will be driving by the school at least twice a day.

VII. d) The project area is not included in any listing of hazardous material sites compiled pursuant to Government Code Section 65962.5.

VII. e, f) The project area is located approximately 7.6 miles northwest of the Arcata Airport and therefore, will not result in a safety hazard for people residing or working in the project area.

VII. g) The project will have no bearing on any emergency plan.

VII. h) The project site is not considered to be a wildfire hazard area.

VIII. HYDROLOGY AND WATER QUALITY- Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Violate any applicable water quality standards or waste discharge requirements?		**X**		
b) Deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted?				**X**
c) Alter the existing drainage pattern of the site area, including through the alteration of the course of a stream or river, in a manner that would result in erosion or siltation on- or off-site?			**X**	
d) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?		**X**		
e) Place housing within 100-year floodplain, as mapped on Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				**X**
f) Place within a 100-year floodplain structures that would impede or redirect flood flows?				**X**
g) Expose people or structures to a significant risk of loss, injury, or death involving: 1) flooding, including flooding as a result of the failure of a levee or dam or 2) inundation by seiche, tsunami, or mudflow?			**X**	
h) Otherwise degrade water quality?			**X**	
i) Change the amount of surface water in water body?				**X**
j) Change currents of the course or direction of water movements?			**X**	

Setting. The North Coast Region is divided into two natural drainage basins, The Klamath River Basin and the North Coastal Basin. Trinidad area is located within the North Coastal Basin which is divided into nine hydrologic units. The project site is located with the Trinidad Hydrologic Unit 1108 (NMFS Critical Habitat Maps, 2006).

The Trinidad Hydrological Unit is the smallest watershed in Humboldt County encompassing 83,684 acres (33,865 hectares) and it encompasses several smaller drainages that all drain westward into the Pacific Ocean. The major rivers within the Trinidad Hydrologic Unit include Little River which extends 19.6 river mi. (31.5km) and discharges approximately 3 mi. (4.8km) south of the Trinidad Pier, and Maple Creek which discharges approximately 8.5 mi. (13.7km) north of the Trinidad Pier. Little River bounds Trinidad Bay from the south and from the north the bay is bounded by Trinidad Head (See Figure 1).

Major land uses in the watershed above Trinidad Bay include residences on septic systems, commercial timberland, and public/open space with small areas of commercial. Simpson, now Green Diamond, is the largest private land owner in the watershed (65,482 acres/26,499hectors). Trinidad vegetative cover in the watershed is predominantly redwood forest (57%) with significant amounts of oak woodlands (14%), riparian areas (10%) and some pine forest (8.5%), (Humboldt County, 2002). Although the harbor is utilized by a fleet of approximately 100 moorings, and many more boats use commercial and sports fishing vessels and all of Trinidad Rancheria's facilities and the residents of the City of Trinidad use septic systems for wastewater disposal, including the restaurant at the harbor, Trinidad is the only watershed in Humboldt County that has not been identified with the need for TMDLs.

Currents in the Trinidad Bay. The bay is semi-protected from the strong northwesterly winds that usually blow along the Northern California coast. Many large rocks are distributed within the bay and rocky intertidal zones are separated by periodic sandy and gravel beaches. Currents in the ASBS vary with the season. A south flowing current occurs between February and October. This current causes a clockwise and counter clockwise gyres in the northeastern and southeastern portions of the ASBS respectively. A reverse current occurs during the winter between November and February. This current occurs as a result of the northward flowing Davidson current. The northward flowing current establishes a clockwise gyres in the north and south part of the ASBS. The local current pattern tends to trap materials in a gyre southeast of the Trinidad Head in the winter (Water Quality Monitoring Report, June 1979).

Regulatory and Non-Regulatory Programs within the ASBS. The Trinidad Bay includes the kelp beds that were designated as an Area of Biological Significance (ASBS) under provisions of the California Marine Life Protection Act. The California State Water Resources Control Board (SWRCB) designated the kelp beds at Trinidad Head as an ASBS in 1974; also designated as Critical Coastal Areas (CCAs) by the California Coastal Commission. The designation came under several plans within the Porter-Cologne Water Quality Control Act. The State Water Resources Control Board is the primary agency responsible for the kelp beds. The secondary agencies responsible are the Regional Water Quality Control Board and the California Department of Fish and game.

Trinidad Bay has been selected to be one of five ASBS pilot studies as part of the California Critical Coastal Areas (CCA) Program. The CCA program is part of the Nonpoint Source (NPS) pollution Plan, which is a non-regulatory planning tool to coordinate the efforts of multiple agencies and stakeholders to protect and direct resources to the CCAs.

The Trinidad – Westhaven Coastal Watershed Project is outlined in the Integrated Coastal Watershed Management Plan for the Trinidad ASBS. The Stakeholders and planning team include: the City of Trinidad, Westhaven Community Service District, Trinidad Rancheria, Yurok Tribe, Green Diamond Timber Products, County of Humboldt, California Coastal Commission, California Coastal Conservancy, Department of Fish and Game, State Water Resources Control Board, North Coast Water Resources Control Board, Humboldt State University – CICORE, Streamline Planning Consultants, RCAA, and Winzler and Kelly. This watershed analysis was started in March 2006 and will continue through March 2008. There were six meetings planned during the monitoring period to allow public input (three meeting have been completed). The main focus of the watershed assessment is storm water assessment and monitoring, on-site wastewater treatment system assessment, Action Plan, development monitoring and public educations are also included (MFG, 2005).

Water Quality Objectives. The following water quality standards were complied by MFG, Inc. and are listed in the California Ocean Plan. Toxicity objectives listed for the protection of humans for benzene (5.9 μg/l), toluene (85,000 μg/l), and ethyl benzene (4,100 μg/l). There are no listed objectives in the California Ocean Plan for petroleum hydrocarbons.

The SWRCB and the California Department of Health Services (DHS) have adopted bacteria standards, provided below, from the Ocean Plan for contact recreation. The standards are for total detections throughout the water column:

- Total coliform density shall not exceed 10,000 MPN per ml;
- Fecal coliform shall not exceed 400 MPN per 100 ml;
- Enterococcus density shall not exceed 104 MPN per 100 ml; and
- Total coliform density shall not exceed 1,000 MPN per 100 ml when fecal coliform/total coliform ration is not to exceed 0.1.

The water-contact standards for bacteria are applicable in the zone bounded by the shoreline to 1,000 ft. (305m) offshore or 30 ft. (9.1m) MLLW, whichever is further from the shoreline. These standards are also applicable to kelp bed areas.

The following additional water quality standards are from the 2005 California Ocean Plan:

- Dissolved Oxygen - "The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as a result of discharge."
- pH - "The pH shall not be changed at any time more than 0.2 units from that which occurs naturally."
- Temperature - No Thermal discharges in areas designated as ASBS.

There are no standards for salinity and conductivity in the California Ocean Plan.

Water Quality in Trinidad Bay. The Trinidad Rancheria established a two-year water quality baseline monitoring program in 2003, to investigate the current water quality conditions on or near the Trinidad Rancheria facilities. The samples were collected during the peak of the dry season (September/October) and the peak of the wet season (March/April). The baseline sampling for Trinidad Bay has been continued beyond the initial two-year to further extend baseline data, as well as, determine any future impacts to Trinidad Bay. The data was used to establish summer and winter background levels at each sample station (MFG, 2006).

MFG, sampled two drainages located on the Trinidad Rancheria property near the pier and the boat ramp. In addition, two locations in Trinidad Bay, one located between the pier and Trinidad Head, approximately 200 ft. (61m) from shore, and at a near-shore rock located approximately 800 ft. (244m) from the boat ramp were also sampled. The drainages into Trinidad Bay were sampled for fecal coliform to test for potential contamination from septic systems during the rainy season, which is when leach fields are most likely to be non-functioning. Sampling was also conducted during the summer for comparison to winter. The sampling stations in the subtidal area of Trinidad Bay were analyzed for fecal coliform and petroleum hydrocarbons to test for potential contamination from boating activities.

Fecal coliform were detected in March 4th, 2004 and April 28th, 2005 at the drainage, near the boat ramp, but did not exceed the standards (400 MPN per 100 ml). At the second drainage, near the pier, directly down slope from the restaurant, there were no detections for fecal coliform above the reporting limit (2 MPN per 100 ml). This location had higher specific conductance and salinity concentrations than the drainage site by the boat ramp, which is most likely due to freshwater mixing with seawater, as the sampling location is below the high tide mark.

Fecal coliform was detected ranging from 4 to 23 MPN per 100 ml in the water sample from between the pier and Little Head. No fecal coliform were detected during the fall sampling event. There were no petroleum hydrocarbons detected as TPH-G and TPH-D in water samples above the reporting limit. A sample was also analyzed on September 6th, 2004 and there were no detections above the reporting limit. In the water sample collected 800 ft. (244m) offshore from the boat ramp there were no fecal coliform levels exceeding the standard of 400 MPN per 100 ml. The fecal coliform concentrations ranged from 17 MPN per 100 ml to 80 MPN per 100 ml. Bacteria detection were consistent throughout the two-year period sampling period, most likely due to the nearby rock, which provides habitat to wildlife. There were no petroleum hydrocarbons as TPH-G and TPH-D above the detection limits in water samples during the baseline sampling event. (MFG, 2006)

MFG concludes in their report that:

> "no evidence has ever been presented that the kelp beds at Trinidad Bay are deteriorating or that water quality in Trinidad Bay is suffering as a result of operations at Trinidad Harbor." and continuous "Based on the data collected during the two year monitoring, the water quality in the ocean waters and the coastal creeks support the beneficial uses designated for coastal stream and ocean waters. The water quality data generated until 2005 fully supports the ASBS designations, Water Contact Recreation (REC-1), Non-Contact Water Recreation (REC-2) and Shell and Fish Harvesting (SHELL) and Aquaculture (AQUA) beneficial uses as designated in the North Coast Water Quality Control Plan (NCWQCP), (MFG 305(d) Report, 2006)"

MFG reported that the only issue raised in regards to water quality of Trinidad Bay was that when the Mad River drains into the Pacific Ocean north of its historical range, visibly turbid water tends to wrap around and into Trinidad Bay, the significance of which is unknown (SWRCB, 1979).

According to the NCWQCP, Trinidad Bay also supports the following beneficial uses designated for open water: Navigation (NAV), Commercial and Sport Fishing (COMM), Wildlife Habitat (WILD), and Rare, Threatened, or Endangered Species (RARE), Marine Habitat (MAR), Migration of Aquatic Organisms (MIGR). Spawning, Reproduction and/or early development (SPWN). The potential beneficial uses for ocean waters are Industrial Service Supply (IND), Industrial Process Supply (PRO), and Preservation of Areas of Special Biological Significance (ASBS)

Salinity. Variations in salinity in Trinidad Bay result from the precipitation in Trinidad Bay. The ambient sea water salinity was 31.6 ppt as an overall average for the past 5 years. The average salinity for the past 5 years in the sea water discharged from the Telonicher Marine Lab is equivalent to the ambient water salinity. (HSU Marine Lab, 2005)

Water Temperature. Water temperature in Trinidad Bay does not vary significantly during the year. According to the original temperature table created by NOAA in the 1980s by former NODC meteorologist Richard M. DeAngelis , water temperature at Trinidad Bay ranged from 50ºF (10ºC) to 55ºF (12.8ºC), (NOAA, 2007). The HSU Marine Laboratory operates and maintains the water quality sonde on the pier, which also provides daily water temperature data. Temperatures at Trinidad Bay have been measured since 1973.

VIII. a) Reconstruction of the Trinidad Pier has the potential to violate the water quality standards administrated by the State Water Resource Board and the North Coast Regional Water Quality Control Board. Potential impacts from reconstruction activates include the potential for sediment augured to be discharged back into the ASBS; potential for petroleum product associated with construction equipment to enter the water of the ASBS; and the potential for concrete to enter the waters of the ASBS.

Pursuant to the requirements of the NCRWQCB no direct discharge will be permitted into Trinidad Bay. A Water Quality Certification will be obtained from the NCRWQB for this project in accordance with Section 401 of the Clean Water Act. BMP's have been incorporated to ensure this requirement is met.

<u>IMPACT VIII-1:</u> Potential impacts to water quality during reconstruction activities.

<u>MITIGATION VIII-1:</u> The following measures are proposed to reduce the effect of potential project impacts to water quality and will be implemented at the staging area and the project site:

- The demolition plan as described in Section IV.B.3, shall be implemented including provision that no debris shall be allowed to fall into Trinidad Bay.

- Sediment and cuttings from CISS pile installation shall be removed from the work site into closed containers and shall receive appropriate treatment, as required by the Regional Water Quality Control Board prior to disposal.

- The contractor shall test the pH of the water one day following pouring of the concrete seal to insure that the pH of the water did not change by more than 0.2 units from the ambient pH. The water shall then be pumped into 50-gallon drums and transported to the staging area for discharge through percolation to eliminate solids. Should the pH of the water change by more than 0.2 units from ambient pH, then the contractor shall haul the water to the Eureka Wastewater Treatment Plant for treatment prior to discharge.

- No concrete washing or water from concrete will be allowed to flow into the ASBS and no concrete will be poured within flowing water.

- Temporary construction BMP's for the staging area will be implemented in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). BMP's for the staging area may include, but are limited to: mulches, silt fences, fiber rolls, straw bales, and sandbag barriers. The contractor shall utilize those BMPs listed in the CASQA Handbook and throughout this document as they apply.

- Temporary construction BMP's for the project area in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). BMP's for the construction site include protecting the waters from incidental discharge of debris by providing a protective cover directly under the pier and above the water to capture any incidental loss of demolition or construction debris. A copy of the SWPPP shall be provided to the City of Trinidad.

  <u>Timing for Implementation/Compliance:</u> During Construction.
  <u>Person/Agency Responsible for Monitoring:</u> Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC, and the City of Trinidad.
  <u>Monitoring Frequency:</u> Daily.
  <u>Evidence of Compliance:</u> Daily project logs.

<u>IMPACT VIII-2:</u> Potential impacts to substrate and water quality during tremie concrete seal pouring.

<u>MITIGATION VIII-2:</u> The following measures shall be implemented in the event of leaking of concrete into the sediment during tremie pouring:

- Stop construction activities.
- Notify the Regional Water Quality Control Board

- Determine the cause for leaking of concrete
- Develop mitigation restoration plan with regulatory agencies

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC.
Monitoring Frequency: Daily.
Evidence of Compliance: Daily project logs.

VIII. b) The Trinidad Pier Reconstruction Project will not cause depletion of groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In the Trinidad hydrologic unit, there are no significant surface water developments. Groundwater and surface water diversions supply most of the domestic and agricultural needs. Groundwater basins identified by the DWR in the Redwood Creek and Trinidad Units include Prairie Creek Area, Redwood Creek Valley, and Big Lagoon Area (DWR, 2006). Construction water will be served by existing water service and the pier which is supplied by the City from Luffenholtz Creek.

VIII. c, d) The proposed project will not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff. As stated above no discharge is allowed into the ASBS. There will not be any temporary runoff contributions into the ASBS resulting from construction of the pier. The Contractor shall comply with the mitigation measures listed above.

Currently storm water discharges into the bay through gaps in the decking. A new storm water system shall be incorporated into the design of the new pier. All runoff from the new pier shall be collected and routed upland. The pier shall be sloped from the east to west and drainage from the pier shall be routed upland through a storm water utility pipe. Two options are proposed for the final discharge of the Runoff from the pier. Runoff shall either be routed to a drainage inlet located at the north end of the pier, treated, and discharged into the ocean or routed upland and discharged through percolation. Plans for runoff will be developed in coordination with the regulatory agencies prior to pier reconstruction.

Although the second alternative was not discussed with the regulatory agencies prior to preparation of this document, Alternative 1 may be technically infeasible to implement using a gravity system, and the runoff will have to be pumped in order to be routed to the proposed percolation basin, which is located above the grade of the east end of the pier. However, an onsite system to treat the runoff for reduction of solids to the standards set by the regulatory agencies may be implemented. Should the agencies not approve discharge of treated runoff into the ASBS, then the first alternative will be implemented. An alternative location for the discharge of the runoff is by the launch ramp, where another percolation basin may be constructed.

VIII. e, f, g) No structures will be placed within the 100-year floodplain or redirect flood flows. An existing hazard risk at the site is an earthquake related tsunami, but the risk is not increased by project implementation, and exposure to tsunami risk is low. By project definition, no new structures, dams, or levees are involved.

VIII. h) All water quality impacts are as described in Section VIII. a.; no additional water quality impacts are expected.

VIII. i) There will be no significant changes in amount of water in Trinidad Bay as a result of the project. Some water will be dewatered from the borings in preparation for pile installation, but will be returned to the ocean through percolation at the staging area.

VIII. j) The proposed pier design reduces the pier pilings from approximately 215 wood piles (12 inch diameter to 115 concrete piles (18 inch diameter). The site has not been disturbed since the construction of the pier in 1946, except for minor improvements. The Contractor may encounter and remove debris that is located directly under the pier including fishing gear, metals and other home utilities such as refrigerators. The removal of the exiting piles and existing debris, and installation of the new piles may provide fewer impediments to the water circulating in Trinidad Bay. As a result, the rate of sediment transport by the currents is expected to increase. Dr. Donahue commented in the subtidal survey report: "areas directly under the pier lack organisms or substrate and relief. Decreasing the number of piles and removing existing debris could cause this area to be repopulated with fauna and microinvertebrates following construction of the pier."

IX. LAND USE AND PLANNING- Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Physically divide an established community?				**X**
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?		**X**		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				**X**

Setting. The Coastal Act requires all jurisdiction within the Coastal Zone to adopt a Local Coastal Plan (LCP). The LCP for the City of Trinidad was certified by the CCC on February 5th, 1980 and the City assumed permit-issuing on July 9th, 1980. Trinidad Harbor is designated by the CCC as Area of Deferred Certification (ADC). This ADC was created on May 2nd, 1978, as a Special Study Area at the time of the Local Use Program (LUP) was certified by the Commission. The area includes about 43 acres, 10 of which are lands between Trinidad Head and Bay Street, and an adjacent 33-acres water in Trinidad Bay (CCC, 2005). The Trinidad Bay currently has no land use or zoning designation.

Public Access. Several sections in the Coastal Act provide provision for ensuring public access to areas used for recreational activities. Section 30220 of the Coastal States that "Coastal area suited for water-oriented recreational activities that cannot be readily provided at inland water areas shall be protected for such uses." Section 30210 of Coastal Act – "Access; recreational opportunities; posting, provides the public maximum access, which will be conspicuously posted and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource area from overuse." Section 30211 states that "Development shall not interfere with the public's right of access to the sea where acquired through use of legislative authorization, including but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestial vegetation." The Reconstructed pier will provide improved public access and safety in accordance with the Coastal Act policies.

Temporary Impacts to Public Access to the Pier During Construction. Public access to the pier shall be maintained to the extent possible during reconstruction work. Necessary construction equipment will be located on the existing pier during construction work. Reconstruction will begin at the south end of the pier and terminate on the north end of the pier. The removal and installation of each row of piles, bents, and decking section is expected to take one week. It is expected that the “active” working area will encompass approximately 2,000 ft^2. (185m^2). The area used to unload and load crabs and the hoists, on the south side of the pier, should be available for use within eight weeks of the beginning of construction (End of September, 2008). When construction will occur on the middle part of the pier, access to the lower decking will not be provided (see Recreation Section for further discussion of public access to Trinidad Harbor). This area of the pier will be worked on following the end of the Salmon season September- October. Public access to the pier and floating dock will be maintained during salmon season.

IMPACT IX-1: Potential temporary impacts to public access to the pier during construction of the pier.

MITIGATION IX-1: The following BMP shall be implemented by the contractor to insure that public access is maintained to the extent possible while securing the safety of the public:

- The Contractor shall clearly mark with orange barrier fencing the perimeter of the working area and the staging area to insure the safety of the public and to alert the public of the areas that are closed for use.

- Signs shall be installed in the vicinity of the pier and the parking lots to alert the public of the construction activities.

- The contractor shall submit a detailed plan to the Project Engineer describing the procedures that will be followed to maintain public access to the pier and upland parking lot to the extent possible during construction acitivities.

- The Project Engineer shall coordinate all construction activities with the Trinidad Pier Harbor Master.

  Timing for Implementation/Compliance: During Construction.
  Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
  Monitoring Frequency: Daily.
  Evidence of Compliance: Daily project logs.

Coastal Dependent Uses. The Coastal Act also provides provisions for coastal dependent uses as in Section 30235 - Construction altering natural shoreline, which allows for construction that alters natural shoreline process to be permitted in order serve coastal dependent uses or to protect existing structures. Section 30235 provides priority to coastal-dependent developments over developments at or near the shoreline.

According to the City of Trinidad’s LCP, the Trinidad Harbor and public access facilities are the only structures allowed to be located less than 20 feet above Mean Lower Low Water. The Trinidad Pier is coastal dependent and provides commercial and recreational opportunities.

The Trinidad Pier is a heavily utilized, coastal-dependent use that should have priority. The Trinidad Pier Reconstruction Project is expected to increase the rates of public use of this facility.

IX. a, b) The Trinidad Pier is located in the waters of Trinidad Harbor and therefore will not divide an established community. Since the project involves the replacement of an exiting pier, the project will not conflict with any land use plan, policy or regulation of any agency with jurisdiction over the project. The proposed project is consistent with the purposes and criteria listed in Chapter 7 of Division 21, Sections 31300-31315 of the Public Resources Code regarding the restoration of urban waterfronts which is administrated by the California Coastal Conservancy.

IX. c) As described in Section IIIV. - Hydrology and Water Quality, the kelp beds, which support the biological community in Trinidad Bay are protected by the SWRCB and the RWQCB. As described in Section IV. - Biological Resources, the biological resources including the kelp beds were surveyed in preparation for this project in May 2007. The information provided in the survey shall be provided to the Contractor prior to commencement of construction activities. The Contractor will not disturb subtidal and intertidal area located between the pier and Little Head and the area west of the pier, where most of the habitat is located.

X. MINERAL AND ENERGY RESOURCES- Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Result in the loss of availability of a known mineral that would be of value to the region and the residents of the state?				**X**
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**
c) Result in the use of energy or non-renewable resources in wasteful or inefficient manner?				**X**

X. a-c) No mineral and energy resources are known at the project site. The use of energy and other resources for the construction and operation of this project is not considered a wasteful or inefficient use of energy. Mitigation is not warranted.

XI. NOISE – Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Generate or expose persons to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		**X**		
b) Generate or expose persons to excessive ground-borne vibration or ground-borne noise levels?				**X**
c) Result in permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				**X**
d) A temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?		**X**		
e) Be located within an airport land use plan or, where such a plan has not been adopted. Within two miles of a public airport or public use airport, and consequently expose people residing or working in the project area to excessive noise levels?				**X**
f) Be within the vicinity of a private airstrip, and consequently expose people residing or working in the project area to excessive noise levels?				**X**

Setting. The Federal Highway Administration Noise Abatement Criteria (NAC) define the optimal threshold for residential areas as Leq 67 dBA that is measured in the primary outdoor use area for a residential parcel, e.g., the backyard or patio. Levels of sounds (magnitude and loudness) are measured in decibels (dB). The frequency is the measure of the pressure fluctuations per second, measured in units of hertz (Hz). Frequency is expressed in octave bands which are divided into ten segments.

The thresholds, known as NAC are based upon the noise level of the noisiest hour average (peak hour) in a 24-hour period. The NAC uses a scale known as "Equivalent Noise" or Leq. Leq is the average "A-weighted noise level" (dBA) during a given measurement period.

The A-weighted factor reflects the fact that human hearing is less sensitive to low frequencies and extreme high frequencies than to frequencies in the mid-range. The L_{eq} scale is used because most of the sounds we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency added together to generate the sound. Sounds with varying frequencies can also be described by their Sound Exposure Level (SEL). SEL and L_{eq} are correlated.

Temporary Impacts. Noise from construction activities in the immediate vicinity of the project will occur with varying intensities during the duration of mobilization, removal of exiting pier, pier construction, and cleanup activities. The highest noise levels are expected to be generated by the motors of the auguring equipment for pile installation. No single location will experience a long-term period of construction noise. Construction activities would typically occur during normal working hours except for concrete pouring that may occur after typical working hours to allow the concrete to cure during the night. The loudest noise levels generated from the concrete pouring activities is the concrete pump. The maximum sounds levels expressed in dBA at a location approximately 50 ft. (15m) from the source generated from the following construction equipment are: heavy trucks – 88 dBA, pneumatic tools - 85 dBA, concrete pump - 82dBA, and impact pile driver 95 to 105 dBA (NCHRP, 1999), (Caltrans, 2007).

Figure 2 shows two construction noise level contours that were generated assuming an impact pile driver was operating at 105 dBA on the north end of the pier. The loudest noise levels generated by the impact pile driver were measured at a distance of 50 ft. (15m) from the source. At a 6 dBA reduction per doubling in the distance the noise levels at the closest house to the pier, not owned by the Trinidad Rancheria, generated by the loudest construction equipment would be 63 dBA. This resident is located approximately 500 ft. (150m) from the source and is located at the corner of Van Wycke Street and Galindo Street. The Trinidad Rancheria owns the vacation rental located above the pier. At this location the noise levels generated by the loudest construction equipment would be 93 dBA. The residence and the vacation rental described above are the only houses within the 65 dBA contour line. This analysis is conservative because it does not take into affect shielding effects from the surrounding structures and topography.

Potential impacts from construction noise to the biological resources and the appropriate mitigation measures are presented in Section IV. a. - Biological Resources.

XI. a-d) There will be a temporary increase in sound levels during the reconstruction operations as described above. Currently, noise levels are high due to pounding surf and the commercial and recreational activities occurring near the pier. Noise level of 75 dBA was recorded by the Trinidad Pier during boat launch ramp operations. Noise levels of 60 dBA was recorded inside the SeaScape Restaurant, 70 dBA on the northwest corner of the Trinidad State Beach parking lot, and 78 dBA was recorded across the street from the marine lab above Trinidad State Beach (Recorded by P.A., August, 2007).

IMPACT XI.-1: Potential increase in noise levels above the NAC value of 67 Leq within 450 ft. (137m) of the project site.

MITIGATION XI-1: **Construction site tool or equipment noise.** The following shall apply to construction noise from tools and equipment: Hours of Construction. The operation of tools or equipment used in construction, drilling, repair, alteration or demolition shall be limited to between the hours of 7 A.M. and 7 P.M. Monday through Friday, and between 9 A.M. and 7 P.M. on Saturdays. No heavy equipment related construction activities shall be allowed on Sundays or holidays. Concrete pouring shall be allowed after 7 P.M. in order to allow the concrete to cure during the night. **Stationary and construction equipment noise.** Trucks used for transport and all stationary and construction equipment shall be maintained in good working order, and fitted with factory approved muffler system. A sign shall be posted at the project site notifying the public of the hour of work.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
> Monitoring Frequency: Daily.
> Evidence of Compliance: Daily project logs.

XI. e, f) The project is located approximately 7.6 miles northwest form the Arcata Airport. The workers at the site are not expected to be exposed to excessive noise levels (see Transportation Section for further discussion).

XII. POPULATION AND HOUSING - Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Include substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				**X**
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				**X**
c) Displace substantial number of people, necessitating the construction of replacement housing elsewhere?				**X**

Settings. The new pier will replace the existing pier in Trinidad Bay.

XII. a-c) The project is replacement of an existing pier. No expansion beyond existing footprint of the pier. This project will not be growth inhibitive or inducing, but rather a means to improve fishing and recreational opportunities in Trinidad Bay. The project will have no effect on population or housing. Mitigation is not warranted.

XIII. PUBLIC SERVICES – Would the project result in 1) adverse physical impacts associated with the provision of new or physically altered governmental facilities, or 2) the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Fire Protection?				**X**
b) Police Protection?				**X**
c) Schools?				**X**
d) Parks?				**X**
e) Roads?			**X**	
f) Other public facilities?				**X**

XIII. a-d, f) except in an emergency, the project will place no demand on fire and police services. The project will not place additional demands on schools, parks, or other services. Mitigation is not warranted. One-to-one replacement of the pier will not increase the need for any public services.

XIII. e) The truck traffic associated with the construction equipment from the site to the staging area (approximately 400 ft. (122m)) will cause temporary increase in traffic in the pier area and parking lots. This potential impact is considered less than insignificant and mitigation is not warranted.

XIV. RECREATION	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				**X**
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?			**X**	

<u>Setting.</u> The Trinidad Harbor and pier provide many recreational opportunities for the public. The pier primarily supports fishing and boating activities, but also provides a vista point for casual visitors.

The proposed project will temporarily impact recreational use of the pier during construction. Construction will occur from August 1st, 2008 through May 1st, 2009. During this time heavy equipment would partially limit the area available for recreational users on the pier. Since the recreational uses of the Trinidad Harbor and Pier will remain the same following completion of the project, the temporary impacts are considered less than significant. Due to the new facility and utilities provided for the public, following project completion, recreational usage of the pier will continue.

XIV.a, b) By its nature, the project will have no adverse effects on recreational facilities. Neighborhood parks or other recreational facilities will not be impacted as a result of this project, and the project does not include the construction or expansion of new recreational facilities where they currently do not exist. Following completion of the project, more visitors are expected to come to the project site and adjacent beaches.

Temporary Impacts to Public Access to Upland Areas During Construction. Temporary impacts to public access to recreational facilities will occur during reconstruction of the pier. Approximately 2/3 of the parking lot area east of Trinidad State Beach shall be used as staging areas. Parking shall be temporarily impacted by reconstruction activities. Nevertheless, the west side of the parking lot (50ft. (15m) from the top of the beach westward shall be maintained for parking and beach access. The contractor shall install orange barrier fencing and signs around the perimeter of the staging area to alert visitors of the staging area.

The following BMP shall be implemented by the contractor to insure that public access is maintained to the extend possible while securing the safety of the public:

- The Contractor shall clearly mark with orange barrier fencing the perimeter of the working area and the staging area to insure the safety of the public and to alert the public of the areas that are closed for use.

- Signs shall be installed in the vicinity of the pier and the parking lots to alert the public of the construction activities.

Fisherman utilize parts of the proposed staging area for storing crab pots for several weeks prior to the beginning of crab season in December (per conversation with Craig Richardson, Harbor Master). An alternate storage area will be provided by the Harbor Master in the pier area during the construction period (per conversation with Craig Richardson, Harbor Master). In addition, to commercial fisherman, the general public uses the Trinidad Pier and SeaScape Restaurant daily for recreational activities.

Temporary public access to the pier will be maintained as described the Section IX - Land Use.
The Mitigation measure including the BMPs listed above are described in the Land Use Section.

XV. TRANSPORTATION- Would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Cause an increase in traffic that is substantial in relation to the existing traffic load capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersection)?			**X**	
b) Exceed, either individually or cumulatively, a level of service established by the county congestion management agency for designated roads or highways?				**X**
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				**X**
d) Substantially increase hazards to a design feature (e.g., farm equipment)?				**X**
e) Result in inadequate emergency access?				**X**
f) Result in inadequate parking capacity?			**X**	
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				**X**
h) Adversely affect rail, waterborne, or airborne transportation?				**X**

Setting. There are two main parking lots adjacent to the Trinidad pier. The parking area east of Trinidad State Beach will be utilized during construction as a staging area. As a result, there may be a temporary increase in traffic in the vicinity of the pier.

All construction equipment shall be mobilized to the site at the beginning of the work in August, 2008 and demobilized from the site in May, 2009 following completion of the work. Except for those two days traffic will not be affected in any of the of the City of Trinidad's Streets. Approximately 15-20 workers will occupy the construction and staging area.

No project component is anticipated to cause any permanent change in capacity of the traffic in the area, and therefore will not result in any growth inducing impacts.

The proposed project does not conflict with any adopted policies, plans or programs. The project is designed to accommodate pedestrians, bicyclists, vehicles and consistent with the American With Disabilities Act for handicap access. The pier piles are designed to withstand up to 100 Tons (90.7t). Thus, the new pier will provide a safe surface for vehicular traffic for commercial and recreational fishermen.

XV. a) The proposed project will not result in a substantial temporary increase in vehicular traffic during construction. There are currently 5-6 delivery trucks that serve the pier and restaurant each day. During construction activities a cement truck will arrive each day when concrete needs to be poured. The cement truck will leave the site and return to the concrete plant the same day. It is expected that the concrete pouring and curing shall occur over 115 nights and approximately 10 additional days for the decking. A cement truck can load a maximum of 10 yd^3 per truck. Only one trip to the site per day is expected. A fuel truck may visit the site every other day to fuel construction equipment. Workers will drive through the City of Trinidad to the construction site before and after working hours throughout the construction period.

XV. b-e, g, h) By its nature, the project will have no adverse effects on other aspects of transportation.

XV. f) The staging area will utilize the parking lot to the west of the pier as described in Section IV.B.1-Staging Areas which will decrease the parking capacity adjacent to Trinidad State Beach. The available area for parking will be approximately 0.53 acres, which should allow enough space for non-summer parking. In addition, there is another parking lot between the pier and State Beach parking lot (Figure 1). Both parking lots will be sufficient to accommodate the public needs and the temporary staging areas.

XVI. UTILITIES AND SERVICE SYSTEMS – would the project:	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				**X**
b) Require or result in the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, for any of the following utilities?				
i) Water treatment or distribution facilities?				**X**
ii) Wastewater collection, treatment, or disposal facilities?				**X**
iii) Storm water drainage facilities?			**X**	
iv) Electric power or natural gas?			**X**	
v) Communications systems?			**X**	
c) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needs?				**X**
d) Result in determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				**X**
e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			**X**	
f) Comply with federal, state, and local statues and regulations related to solid waste?				**X**

XVI. a-d) The proposed project will have no bearing on wastewater treatment or utility requirements. The proposed project does not include new water entitlements and it will not affect the quantity of water used. No mitigation is warranted.

The pier decking shall be sloped to the west in order to direct runoff from the pier to the stormwater collection pipe. The runoff shall be routed along the west side of the pier and discharged into a sedimentation basin which will be constructed at a later date. Another alternative proposes to route the runoff to a drainage inlet, where it will be treated to the standards set by the State Water Resources Control Board and the North Coast Regional Water Quality Control Board and discharged from the pier. The runoff will then be discharged back into the ocean.

Although the second alternative was not discussed with the agencies listed above prior to preparation of this document, Alternative 1 may be technically infeasible to implement using a gravity system, and the runoff will have to be pumped in order to be routed to the proposed percolation basin, which is located above the grade of the north end of the pier. However, an onsite system to treat the runoff for reduction of solids to the standards set by the regulatory agencies may be implemented. Should the agencies not approve discharge of treated runoff into the ASBS, then the first alternative will be implemented. An alternative location for the discharge of the runoff is by the launch ramp, where another percolation basin may be constructed (also see Hydrology Section for additional information).

XVI. e, f) See Section VII.a - Hazards and Hazardous Materials and Section VIII.a - Hydrology and Water Quality for discussion of removal and disposal of construction debris and sediment.

XVII. MANDATORY FINDINGS OF SIGNFICANCE	**Potentially Significant**	**Less Than Significant With Mitigation**	**Less Than Significant**	**No Impact**
a) Does the project have the potential to degrade the quality of the environment, substantially reduce habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			**X**	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other projects, as defined in Section 15130).			**X**	
e) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			**X**	

XVII. a, c) There is the potential for temporary and/or minor effects in the impact categories of aesthetics, air quality, biological resources, cultural resources, geology and soils, water quality, land use and noise. Identification of these less than significant impacts are outlined within the checklist. The analysis in this Initial Study shows that with accordance to specifics detailed in the project description and proposed mitigation measures, the proposed action will have no substantial adverse effects on the environment or on people. The reconstruction of the pier will have a net benefit to people.

XVII. b) The project's impacts will not add appreciably to any existing or foreseeable future significant cumulative impact, such, wetland loss, or air quality degradation. Incremental impacts, if any, will be negligible and undetectable. Project impacts are generally temporary in nature and will only occur during construction. This project will not be growth inducing or growth inhibitive, but rather a means to ensure safety of the existing system. Completion of the project is expected to improve the local economy by providing an improved recreational facility. The project will also improve the habitat for the biological resources in Trinidad Bay ASBS and will reduce cumulative and incremental impacts from creosote piling.

This project is not contingent on any other project. This project is related to the development of a storm water collection system for the pier and an upland fish cleaning station. Final plans for the preferred alternative for storm water collection and disposal (treatment vs. pumping upland) shall be submitted by the applicant and approved by all pertinent regulatory agencies prior to commencement of the Trinidad Pier Reconstruction Project. The plans and design of the fish cleaning station is addressed under a separate project.

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Trinidad Pier Reconstruction Project
Potential Project Impacts and Mitigation Measures

Applicant:
Cher-Ae Heights Indian Community of the Trinidad Rancheria

November 5, 2007

IMPACT IV-1: Potential impacts to mammals and fish from noise levels generated underwater as result of construction activities.

MITIGATION IV-1: To insure that no impacts occur to fish and mammals during pile installation, the Contractor shall perform a noise study to confirm that noise levels are not above the thresholds specified by NMFS.

The noise study will be conducted by Illingworth & Rodkin, Inc. based in Petaluma, California. Illingworth & Rodkin, Inc. has unique experience in measuring and assessing the impacts of underwater sounds on the marine environment and has made presentations of the sound pressures from these activities to a number of agencies on the behalf of Caltrans and several different construction companies. Illingworth & Rodkin, Inc will measure the ambient sound levels in the air and water in Trinidad Harbor and will measure noise levels generated from drilling and steel casing installation for the piles.

Underwater measurements shall be taken at one location during auguring along the pier. Measurements shall be taken at a distance of 10m (23.8ft), 20m (66ft), and 100m (328ft) from the north, south, east, and west sides of the pile. An undetected sound level from pile installation would be considered a measurement.

"Measurements will be made using G.R.A.S. 10CT hydrophones with PCB in-line charge amplifiers (Model 422E13) and PCB Multi-Gain Signal Conditioners (Model 480M122) or equivalent systems. The signals will be fed into Integrating Sound Level Meters (SLM) and Solid State Recorders (SSR) or equivalent equipment (Keith Pommerenck Email comm., 2007)."

"The peak pressure and root-mean square average sound pressure levels ($RMS_{impulse}$ levels) will be measured 'live' using the SLM. The SLM will have the ability to measure the unweighted peak sound pressure and RMS sound pressure levels over the relative short periods (e.g., less than 50 milliseconds). Many SLMs can measure the RMS sound pressure level of these pulses using the standard 'impulse exponential-time weighting' (35 millisecond rise time) function. Additional subsequent analyses of the acoustical impulses will be performed using a Real Time Analyzer capable of providing narrow band frequency and corresponding pressure over time analysis (waveform), (Keith Pommerenck Email comm., 2007)."

"Quality Control. The measurement systems will be calibrated prior to use in the field. For example, an acoustical pistonphone and hydrophone coupler could be used to send known sound signals to the underwater sound measurement system. This type of pistonphone used with the hydrophone coupler, produces a continuous 145 dB (re 1 μPa) tone at 250Hz. The SLMs are calibrated to this tone prior to use in the field. The tone is then measured by the SLM and is recorded on to the beginning of the digital audiotapes that will be used. The system calibration status would be checked at the end of the measurement event by both measuring the calibration tone and recording the post-measurement on the tape. The taped calibration tones are used to calibrate the real time analyzer prior to analysis of tape-recorded pulses."

All field notes would be recorded in water-resistant field notebooks. Such notebook entries would include calibration notes, measurement positions, pile-installation information, system gain setting, and equipment used to make each measurement (Keith Pommerenck Email comm., 2007).

Timing for Implementation/Compliance: During Construction.

Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc., Project Manager/NMFS, USAOCE, CDFG.
Monitoring Frequency: Once during CISS pile installation.
Evidence of Compliance: Submit report to USACOE, CCC, NMFS, CDFG, and the City of Trinidad.

All sound study data shall be submitted to the agencies listed above. If the sound study indicates that sound levels underwater are exceeding the thresholds set by NMFS for the protection of fish and mammals the following actions shall be taken by the Project Engineer and/or Contractor:

1. Stop work until regulatory and resource agencies are consulted.
2. Notify the CDFG, NMFS, USACOE, and the CCC that noise levels were exceeded.
3. Develop with the regulatory/resource agencies a mitigation plan prior to continuing the work.

MITIGATION IV-2: Daily work windows would be enforced for noisy work. Any work that is above peak ambient levels would be restricted to the period between 7 AM and 7 PM except for concrete pouring. Noise levels in the air should be monitored by the Contractor and/or Project Manager once a day during construction work for the duration of the project.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc., Project Manager
Monitoring Frequency: Daily
Evidence of Compliance: Project Manager Daily Logs.

MITIGATION IV-3: Minimize noise impacts during pile installation of CISS piles by vibrating steel plates into place, drilling the holes, and pouring the concrete.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc., Project Manager
Monitoring Frequency: During CISS pile installation.
Evidence of Compliance: Project Manager Daily Logs.

MITIGATION IV-4: Two trained personnel in identification of marine mammals shall attend the project site one hour prior until one hour after construction activities cease each day throughout the construction window. The trained personnel shall be trained by Dr. Dawn Goley, which prepared the biological assessment for the Harbour seals and Gray whales for the project. Should the trained personnel identify marine mammals within 500m (1640 ft.) of the project area, they shall notify the Project Manager/Engineer whom will notify the Contractor. The trained personnel shall focus on the area west of Little Head where potential construction impacts may occur. When working on pile removal or installation, the Contractor shall temporarily stop work to allow the species to move away from the project site. The Contractor will not be required to stop the work when working on the removal or construction of the pier decking. All sighting will be recorded and documented for future references.

Timing for Implementation/Compliance: During pile replacement.
Person/Agency Responsible for Monitoring: Trained personnel and Pacific Affiliates, Inc., Project Manager/NMFS, USAOCE, CCC, and CDFG.

Monitoring Frequency: Daily during reconstruction work.
Evidence of Compliance: Monitoring logs submitted to the USACOE, CCC, NMFS, and the CDFG.

If the marine mammal are found west of Little Head and East of the Trinidad Head within the project area, and the observers are not able to cause the marine mammals to leave the project site during underwater work, then the following actions shall be taken by the Project Engineer and/or Contractor:

1. Stop work until regulatory and resource agencies are consulted.
2. Notify the CDFG, NMFS, USACOE, and the CCC that marine mammal are present and will not leave the project area.
3. Develop with the regulatory/resource agencies a mitigation plan prior to continuing the work.

MITIGATION IV-5: The Contractor shall remove with a crane or other approved equipment to the extent possible solid debris that may be encountered directly under the pier during and/or following reconstruction activities. The removal of solid waste to the extent possible will be accepted by the CDFG as a compensation for the shading effects of the pier on the intertidal habitat.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, CDFG, and the City of Trinidad.
Monitoring Frequency: Daily during reconstruction activities as applicable.
Evidence of Compliance: Daily project logs.

IMPACT V-1: Potential impacts to historical, archeological and human remains.

MITIGATION V-1: The Trinidad Rancheria will employ an elder of the Yurok Tribe certified by the Yurok Tribe State Historic Preservation Officer to monitor the construction site for cultural and archeological resources. The monitor will be present during excavation of sediment, pile removal and pile installation activities. The Tribe monitor will inspect the sediment removed from the construction area for cultural or archeological resources. The Tribe monitor will inspect the material as it is bored out of the holes and will also be able to continuously inspect the material at the temporary stockpiling location.

Timing for Implementation/Compliance: During pile replacement activities.
Person/Agency Responsible for Monitoring: Certified Cultural Monitor, Elder of the Yurok Tribe.
Monitoring Frequency: As needed during pile replacement activities.
Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG

MITIGATION V-2: The Contractor will be notified of, and required to monitor for signs of potential undiscovered archeological, ethnic, religious, or paleontological resources. If cultural/archeological resources are discovered during pile removal or pile installation, operations will be halted until a qualified cultural resources specialist is consulted. Subsurface surveys shall be conducted to determine the boundaries of the resource. If human remains are discovered, the County Coroner must be contacted. Required procedures to be followed in the event of accidental discovery of cultural materials or human remains are described in sections 15064.5(e) and 1564.5(f) of the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). A protocol to follow in the event that cultural/archeological resources are discovered shall be prepared by the contractor and approved by the Yurok Tribe prior to commencement of the project. A copy of this protocol shall be submitted to the City of Trinidad and the Yurok Tribe.

> Timing for Implementation/Compliance: During Construction.
> Person/Agency Responsible for Monitoring: NCIC, Yurok Tribe and Tsurai Ancestral Society.
> Monitoring Frequency: As needed.
> Evidence of Compliance: Reports to the NCIC, USACOE, CCC, NMFS, and the CDFG.

IMPACT VII-1: Potential impacts to water quality from the use of hazardous construction materials and fueling of construction equipment.

MITIGATION VII-1: The contractor shall submit to the Project Engineer a Hazardous Materials Spill Prevention Plan that will include a list of all materials and equipment to be used, a list of equipment that shall be used in case of a spill and the necessary resource and regulatory agencies that must be notified in case of an accidental spill of any hazardous material. A copy of this plan will be submitted to the City of Trinidad.

> Timing for Implementation/Compliance: Submit plan prior to construction/during project.
> Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC and the City of Trinidad.
> Monitoring Frequency: Implement as needed.
> Evidence of Compliance: Daily project logs.

Additional Mitigation Measures and BMP's to prevent impacts to water quality and the biological resources from the use of Hazardous Materials during construction activities are described in Section IV - Biological Resources and Section VIII - Hydrology and Water Quality.

IMPACT VIII-1: Potential impacts to water quality during reconstruction activities.

MITIGATION VIII-1: The following measures are proposed to reduce the effect of potential project impacts to water quality and will be implemented at the staging area and the project site:

- The demolition plan as described in Section IV.B.3, shall be implemented including provision that no debris shall be allowed to fall into Trinidad Bay.

- Sediment and cuttings from CISS pile installation shall be removed from the work site into watertight containers and transferred to the staging area for temporary storage until transported by the contractor to an approved upland disposal site.

- The contractor shall test the pH of the seawater within the steel casings one day following pouring of the concrete seal to insure that the pH of the seawater water did not change by more than 0.2 units from the ambient pH. The water shall then be pumped into 55-gallon drums and transported to the staging area for discharge through percolation to eliminate solids. Should the pH of the water change by more than 0.2 units from ambient pH, then the contractor shall haul the water to the Eureka Wastewater Treatment Plant for treatment prior to discharge.

- No concrete washing will be allowed to flow into the ASBS and no concrete will be poured within flowing water.

- Temporary construction BMP's for the staging area will be implemented in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). BMPs for the staging area may include, but are not limited to: mulches, silt fences, fiber rolls, straw bales, and sandbag barriers. The contractor shall utilize those BMPs listed in the CASQA Handbook and throughout this document as they apply.

- Temporary construction BMPs for the project area will be implemented in accordance with the Contractor's approved Storm Water Pollution Prevention Plan (SWPPP). The approved SWPPP should cover of all the project area including the staging area. The construction site includes the pier and the staging area includes all stockpiles, concrete washout area, and fueling area if any used for construction purposes. BMPs for the construction site include protecting the waters from incidental discharge of debris by providing a protective cover directly under the pier and above the water to capture any incidental loss of demolition or construction debris. BMP for the staging area include secondary containment for hazardous waste, use of sand bags and sediment barrier, placing impermeable plastic lining under and above stockpiles, placing construction materials stockpiled on piles, etc… These BMPs are detailed in the attached list of BMPs. A copy of the SWPPP shall be provided to the City of Trinidad.

  Timing for Implementation/Compliance: During Construction.
  Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC, and the City of Trinidad.
  Monitoring Frequency: Daily.
  Evidence of Compliance: Daily project logs.

IMPACT VIII-2: Potential impacts to substrate and water quality during tremie concrete seal pouring.

MITIGATION VIII-2: The following measures shall be implemented in the event of leaking of concrete into the sediment during tremie pouring:

- Stop construction activities.
- Notify the Regional Water Quality Control Board.
- Determine the cause for leaking of concrete.
- Develop mitigation restoration plan with regulatory agencies.

  Timing for Implementation/Compliance: During Construction.

Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/RWQCB, USACOE, CCC.
Monitoring Frequency: Daily.
Evidence of Compliance: Daily project logs.

IMPACT IX-1: Potential temporary impacts to public access to the pier during construction of the pier.

MITIGATION IX-1: The following BMP shall be implemented by the contractor to insure that public access is maintained to the extent possible while securing the safety of the public:

- The Contractor shall clearly mark with orange barrier fencing the perimeter of the working area and the staging area to insure the safety of the public and to alert the public of the areas that are closed for use.
- Signs shall be installed in the vicinity of the pier and the parking lots to alert the public of the construction activities.
- The contractor shall submit a detailed plan to the Project Engineer describing the procedures that will be followed to maintain public access to the pier and upland parking lot to the extent possible during construction activities.
- The Project Engineer shall coordinate all construction activities with the Trinidad Pier Harbor Master.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
Monitoring Frequency: Daily.
Evidence of Compliance: Daily project logs.

IMPACT XI.-1: Potential increase in noise levels above the NAC value of 67 Leq within 450 ft. (137m) of the project site.

MITIGATION XI-1: **Construction site tool or equipment noise.** The following shall apply to construction noise from tools and equipment: Hours of Construction. The operation of tools or equipment used in construction, drilling, repair, alteration or demolition shall be limited to between the hours of 7 A.M. and 7 P.M. Monday through Friday, and between 9 A.M. and 7 P.M. on Saturdays. No heavy equipment related construction activities shall be allowed on Sundays or holidays. Concrete pouring shall be allowed after 7 P.M. in order to allow the concrete to cure during the night. **Stationary and construction equipment noise.** Trucks used for transport and all stationary and construction equipment shall be maintained in good working order, and fitted with factory approved muffler system. A sign shall be posted at the project site notifying the public of the hour of work.

Timing for Implementation/Compliance: During Construction.
Person/Agency Responsible for Monitoring: Pacific Affiliates, Inc. Project Manager/USACOE, CCC, and the City of Trinidad.
Monitoring Frequency: Daily.

Evidence of Compliance: Daily project logs.

All Best Management practices (BMP) specified in the Initial Study in addition to the mitigation measures described above are referenced to the California Storm Quality Association (CASQA) Construction Handbook.