STATE OF CALIFORNIA -- THE RESOURCES AGENCY
Gray Davis, *Governor*

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

W-14a

Date Filed:	July 22, 1999
49th Day:	September 9, 1999
180th Day:	January 18, 2000
Staff:	CLK-SF
Staff Report:	August 27, 1999
Hearing Date:	September 15, 1999
Approved 9-0	
Revised Findings:	October 15, 1999
Hearing Date:	November 3, 1999
Item Number:	W-14a

REVISED FINDINGS

APPLICATION FILE NO.: **E-98-26**

APPLICANTS: **Chevron Pipeline Company**

PROJECT DESCRIPTION: Partial abandonment of the Chevron Estero Bay Marine Terminal. The project will involve removal of mooring buoys, anchors and chains, cathodic protection system, submarine hoses, and other miscellaneous remnants of the crude oil marine tanker terminal. In addition, the applicant proposes to leave in-place 3 pipelines proposed to be used as conduit for submarine fiber-optic cables, and to abandon in-place additional pipelines and debris associated with the former operation of the marine tanker terminal.

PROJECT LOCATION: State Lease PRC 2478.1, in Estero Bay, offshore of the City of Morro Bay, San Luis Obispo County. (Exhibit 1)

SUBSTANTIVE FILE DOCUMENTS: See Appendix A

COMMISSIONERS ON PREVAILING SIDE: Daniels, Dettloff, Allgood, Flemming, Kruer, McClain-Hill, Orr, Reilly, Wan

Staff Note

On September 15, 1999, the Commission approved Coastal Development Permit No. E-98-26 with conditions. However, the Commission imposed an additional condition to those recommended by staff for its approval of the project. Staff has therefore prepared the following set of permit conditions, adding ***Special Condition 7****, and revised findings for the Commission's consideration to support its action. These findings reflect the action taken by the Commission at the meeting of September 15, 1999. The purpose of the hearing is to consider whether* ***Special Condition 7*** *and the revised findings accurately reflect the Commission's previous action rather than to reconsider the merits of the project or the appropriateness of the previously adopted special conditions. Public testimony will be limited accordingly.*

Synopsis

Chevron proposes to decommission its Estero Bay Marine Terminal. The terminal served to load crude oil onto marine tankers since its construction in 1929, and ceased operation in June 1999. The proposed decommissioning plan involves removal of certain components of the facility, abandonment in-place of other components, and the retention of three pipelines for possible reuse as conduit for future submarine fiber-optic cables.

On June 14, 1999, the State Lands Commission certified a mitigated negative declaration (MND) for the partial abandonment project and granted a five-year interim lease to allow the three pipelines to remain in place for possible reuse. Any future proposal for reuse or abandonment of these pipelines will be subject to separate environmental review and approval from the State Lands Commission and the Coastal Commission.

The MND compares different project alternatives, including the removal of all of the offshore components that Chevron proposes to abandon in-place. This environmental review concluded that while neither abandonment in-place, nor removal of these terminal components would result in significant adverse environmental impacts, removal would cause some minor temporary disturbance to the marine environment that could be avoided through abandonment in-place. Accordingly, Chevron proposes to abandon the majority of the offshore components of the marine terminal in-place on the seafloor.

Among the facilities proposed to be abandoned in-place are three pipelines taken out of service between 10 and 50 years ago. It is possible that these pipelines may contain residual oil or other hazardous substances that could be released in the future. The staff recommends that the Commission impose **Special Conditions 1-4** to require measures designed to prevent such spills, including cleaning and analyzing the contents of the pipelines.

Chevron may not be successful in completely removing remnants of pier pilings and anodes. These could later become exposed, particularly in the event of severe winter storms, creating a potential public hazard. The staff recommends that the Commission impose **Special Condition 5** to require that Chevron monitor the beach during the winter storm season and remove any pilings or anodes that become exposed for two years following completion of the abandonment project.

Table 1 below summarizes project-related significant issues, potential impacts, and the mitigation measures that the applicant will need to implement to avoid, or reduce to

insignificance, any impacts. The Commission finds that the proposed project, as conditioned, is consistent with Coastal Act policies.

Table 1. Issue Summary: Potential Project-Related Impacts and Mitigation Measures

Potential Impact	Analysis
Oil Spills/ Water Quality	<u>Issue:</u> Residual oil within previously abandoned pipelines could be released to the marine environment. <u>Mitigation Measures:</u> • **Special Condition 1** requires Chevron to clean the interior of the pipelines to less than 15 ppm total petroleum hydrocarbons (TPH). • **Special Condition 1** specifies that if Chevron is unable to verify that the abandoned pipelines contain less than 15 ppm TPH at the conclusion of pipeline cleaning and sampling, the executive director may determine that an amendment is required to consider whether Chevron shall implement additional measures necessary to protect against a harmful release of petroleum hydrocarbons. • **Special Conditions 2 and 3** require Chevron to analyze the contents of the pipelines and to document that they contain less than 15 ppm TPH. • **Special Condition 4** specifies that if sampling results indicate TPH levels greater than 1,000 ppm within the pipelines <u>prior to flushing</u>, Chevron shall submit to the executive director a revised estimate for the reasonable worst-case project related spill and shall re-evaluate the response capabilities required during purge operations. If the executive director determines that the revised worst-case spill estimate exceeds the on-site spill response capabilities described in the oil spill contingency plan included with the permit application, Chevron shall obtain an amendment to this permit prior to proceeding with abandonment of offshore terminal facilities. <u>Issue:</u> Release of oil from the loading lines or an upset involving vessels or equipment during offshore project operations could result in an accidental oil or fuel spill. <u>Mitigation Measures:</u> • Prior to abandonment operations, Chevron shall verify that the hose strings and pipelines have been flushed to below 15 ppm TPH. • Chevron shall deploy a seep tent to contain any residual oil released during hose disconnection. • Chevron will have substantial on-site spill response equipment and capabilities during offshore abandonment activities.
Biological Resources	<u>Issue:</u> Removal of terminal components and work vessel anchoring could disturb or damage subtidal habitats. <u>Mitigation Measures:</u> • Chevron will deploy work vessel anchors in accordance with an anchoring plan designed to avoid impacts to subtidal habitats to the maximum extent feasible. • Chevron will minimize disturbance by removing only those components of the terminal as necessary to protect public safety and those required to be removed pursuant to state and federal regulations.

	Issue: Open-water species may be disturbed during removal work. **Mitigation Measures:** • Chevron will avoid disturbing sensitive open-water species by scheduling offshore activities to occur when such species are not present at the site. **Issue:** Shoreline species may be disturbed or damage to during removal of terminal components. **Mitigation Measures:** • Chevron will avoid disturbing sensitive shoreline species by scheduling onshore activities to occur when such species are not present at the site.
Air Quality	**Issue:** The emissions for offshore activities exceed the daily NOx threshold. **Mitigation Measures:** • Chevron proposes to use reformulated fuel (CARB diesel) to power all marine vessel engines and auxiliary equipment itemized as emission sources for project activity. • The 7% reduction in NOx, from the use of CARB diesel is not sufficient to lower emissions below the APCD threshold, and therefore, emission offsets shall be applied to mitigate the remainder of the exceedance. Chevron has adequate emission credits banked with the APCD from prior emission reduction measures that can be used for project mitigation.
Commercial and Recreational Fishing	**Issue:** Work vessel traffic may cause damage to set gear, including crab pots and nets and preclude fishing during abandonment activity. **Mitigation Measures:** • Work vessels shall comply with vessel traffic corridor agreement that was in place during terminal operations. • Chevron shall issue a notice to mariners two weeks prior to commencing offshore activities.
Public Access/ Recreation	**Issue:** Shoreline excavation will interfere with public beach use at the project site for an approximately two-week period. **Mitigation Measures:** • Chevron shall schedule shoreline work during the winter in order to avoid the peak use period. **Issue:** Remnant piers pilings and anodes could be exposed in the future creating a hazard to the public. **Mitigation Measures:** • **Special Condition 5** requires Chevron to monitor the beach for two years following abandonment and to remove any exposed materials that are discovered.
Cultural Resources	**Issue:** Shoreline work could disturb or damage designated archaeological sites. **Mitigation Measures:** • Chevron shall retain a Native American (Chumash) monitor to be present during any ground-disturbing activities in the area. • If human remains are found, Chevron will notify the county coroner and take appropriate steps to facilitate reburial of the remains according to the wishes of the Chumash people.

1.0 STAFF RECOMMENDATION

Motion:

I move that the Commission adopt the revised findings dated October 14, 1999, in support of the Commission's action on September 15, 1999, approving Coastal Development Permit No. E-98-26.

The staff recommends a YES vote. Pursuant to section 30315.1 of the Coastal Act, adoption of findings requires a majority vote of the members from the prevailing side present at the September 15, 1999 hearing, with at least three of the prevailing members voting. Only those Commissioners on the prevailing side on the Commission's action on the permit are eligible to vote. See the list on Page 1. Approval of the motion will result in the adoption of revised findings as set forth in this staff report.

ADOPTED RESOLUTION OF APPROVAL

The Commission hereby **grants** permit E-98-26, subject to the conditions specified below, on the grounds that (1) as conditioned the development will conform with the provisions of Chapter 3 of the California Coastal Act and (2) will not cause any significant adverse environmental impacts within the meaning of the California Environmental Quality Act.

2.0 STANDARD CONDITIONS

See Appendix B.

3.0 SPECIAL CONDITIONS

The Commission grants this permit subject to the following special conditions:

1. Pipeline Cleaning

Chevron shall clean the pipelines to be abandoned in-place on the seafloor as necessary to assure that oil and/or other contaminants that may be contained within the pipelines are not released into the marine environment. If Chevron is unable to verify that the abandoned pipelines contain less than 15 ppm TPH at the conclusion of pipeline cleaning and sampling, Chevron shall submit within 60 days of such determination an application to amend this permit to consider whether additional measures are necessary to protect against a harmful release of petroleum hydrocarbons.

2. Pipeline Sampling Plan

Prior to the commencement of pipeline cleaning, Chevron shall submit a sampling plan for review and approval of the executive director to assure that pipeline sampling will be conducted in conformance with the abandonment procedures described in the permit application. The plan

shall contain the following: (a) proposed method for locating the lines and exposing the high and low ends of each line; (b) procedures for tapping into the lines and withdrawing water samples; (c) analytical methods for determining if water meets the standard of less than 15 ppm TPH; (d) anchor plan for the work vessel supporting sampling activities designed to avoid impacts to hard bottom, kelp beds, and other sensitive marine habitats; and (e) contingency plans addressing instances when lines cannot be found, high ends of the lines cannot be exposed safely, or if water cannot be extracted from the lines. Field screening methods may be used for initial determinations, but samples verifying that the water in the lines contains less than 15 ppm TPH shall be analyzed and documented by a state-certified laboratory.

3. Documentation

Within 30 days of the completion of pipeline cleaning, Chevron shall submit a pipeline abandonment monitoring report to the executive director documenting the following: (a) analytical results from line sampling; (b) observations of line condition and integrity noted during sampling and, if applicable, whether these observations affect line purge procedures; and (c) analytical results from line flushing.

4. Spill Response Capabilities

If sampling results indicate TPH levels greater than 1,000 ppm within the pipelines prior to flushing, Chevron shall submit to the executive director a revised estimate for the reasonable worst-case project related spill and shall re-evaluate the response capabilities required during purge operations. If the executive director determines that the revised worst-case spill estimate exceeds the on-site spill response capabilities described in the oil spill contingency plan included with the permit application, Chevron shall obtain an amendment to this permit prior to proceeding with abandonment of offshore terminal facilities.

5. Beach Monitoring

For a two-year period following the completion of abandonment, Chevron shall monitor the shoreline and surf zone areas for exposed remnants of pier pilings, anodes, or other materials associated with the marine terminal. Monitoring shall be conducted on a weekly basis during the winter season (November through March) and following all significant storm events. Monitoring shall occur within 1-hour of the lowest daily tide. Chevron shall submit beach monitoring reports on December 1, February 1 and April 1 to the executive director. Chevron shall remove all exposed materials within 15 days of discovery using the methods authorized herein. Removal shall not be permitted during the snowy plover nesting season (March through September) unless authorized by the executive director in consultation with the U.S. Fish and Wildlife Service.

6. Water Quality Certification

Prior to commencement of work, Chevron shall submit to the executive director a copy of an approved certification or certification waiver for the proposed project from the Central Coast Regional Water Quality Control Board under Section 401 of the Federal Clean Water Act.

7. Unanticipated Impacts

As a part of any future coastal development permit application for either the reuse or abandonment of the two crude-oil loading pipelines and the wastewater outfall line, Chevron shall submit an evaluation of whether unanticipated individual or cumulative adverse impacts to coastal resources (e.g., conflicts with commercial or recreational fishing or other uses, and/or hazards), have arisen with the facilities that have been allowed to be abandoned in-place under this permit (as further described in Section 4.1.5 of the adopted Commission findings for this permit). This evaluation shall include, at minimum, a recent seafloor survey showing the burial status of the facilities and documentation of any known or reported use conflicts or adverse environmental impacts believed to be associated with the facilities. Based on this information, the executive director will schedule for the Commission's consideration the question of whether removal of the facilities may be necessary to mitigate individual or cumulative adverse impacts to coastal resources. In the event of an affirmative determination by the Commission on the foregoing question, Chevron shall, within 60 days after such determination, submit a plan for the removal of such facilities in the form of an application to amend this permit.

4.0 FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

4.1 PROJECT DESCRIPTION

4.1.1 Project Location

The Estero Bay Marine Terminal is located in Estero Bay, San Luis Obispo County, between Cayucos and Morro Bay. The marine terminal facility is located within state tide and submerged lands lease PRC 2478.1.

4.1.2 Background/History

The Estero Bay Marine Terminal was constructed in 1929 and had been in continuous operation until June 1999. The terminal consists of two onshore facilities, the Shore Plant and the Hill Plant, and two offshore tanker berths. The Shore Plant is located just inland of highway 101 and comprises the control house and other facilities related to tanker operations. The Hill Plant consists of insulated oil storage tanks at sufficient elevation to allow gravity loading of tankers. The proposed project involves only the offshore components of the terminal. Chevron is currently exploring possible reuse options for the onshore facilities.

The offshore components of the terminal include two tanker berths consisting of crude oil loading pipelines, loading hoses, mooring and navigation buoys and associated anchors and chains. The offshore terminal site also contains cathodic protection equipment, pier pilings, pipelines, telephone cables, anchors, and other miscellaneous remnants of out-of-service terminal facilities previously abandoned in place on the seafloor.

During tankering operations, crude oil arrived via pipeline at the terminal from the San Joaquin Valley and from the San Ardo oil fields in southern Monterey County. The crude oil was loaded onto tankers or barges for transportation to refineries. Recently, average daily throughput at the terminal was 40,000 to 50,000 barrels (bbl) of oil per day.

Chevron is now shipping San Joaquin Valley crude via the recently completed Pacific Pipeline. San Ardo crude, formerly shipped by Mobil Oil Company through the Estero Bay Marine Terminal, is now transported via train.

4.1.3 Project Purpose

Chevron Pipeline Company (Chevron) proposes to decommission its Estero Bay Marine Terminal. The proposed decommissioning plan involves removal of certain components of the facility, abandonment in-place of other components, and the retention of three pipelines for possible reuse as conduit for future submarine fiber-optic cables.

On June 14, 1999, the State Lands Commission certified a mitigated negative declaration (MND) for the partial abandonment project and granted a five-year interim lease to allow the three pipelines to remain in place for possible reuse. Any future proposal for reuse or abandonment of these pipelines will be subject to separate environmental review and approval from the State Lands Commission and the Coastal Commission.

The MND compared different project alternatives, including the removal of all of the offshore components that Chevron proposes to abandon in-place. This environmental review determined that while neither abandonment in-place, nor removal of these terminal components would result in significant adverse environmental impacts, removal would cause some minor temporary disturbance to the marine environment that could be avoided through abandonment in-place. Accordingly, Chevron proposes to abandon the majority of the offshore components of the marine terminal in-place on the seafloor. Only those terminal components that could become a public hazard (e.g., pier pilings) or that are required to be removed under state and federal regulations governing the operations of the tanker terminal (e.g., loading hoses) are proposed for removal.

4.1.4 Facilities Proposed for Removal

Loading Hoses

Flexible loading hoses are attached to each of the two oil-loading pipelines. During transfer operations, the hose ends were lifted from the seafloor and connected to a vessel for transfer. The hoses will be removed using a work vessel that will deploy one anchor and tie up to three of the mooring buoys at each of the two berths. To prevent the release of any residual oil in the lines, a vacuum will be drawn on the lines from shore, pulling seawater into the lines, while divers disconnect the hoses from the pipe ends. The pipe ends will be capped. An oil containment device will be installed over the pipe ends during these operations to capture any residual oil that is released. The hoses will then be lifted aboard the work vessel. Residual oil within the hoses will not be released to the ocean, but will be contained aboard the work vessel and disposed of onshore.

Buoys, Anchors and Chains

The marine terminal has two berths where tank vessels moored to transfer oil via the terminal pipelines to shore. Berth 1 is located 2,800 feet off shore and consists of a five-point mooring in 52 feet of water. In addition to the five mooring buoys, a sixth buoy is located at Berth 1 to mark the mooring and for barge/tug arrangements and a spar buoy marks the end of the oil loading pipeline. Berth 2 is 3,200 feet offshore and 2,500 feet from Berth 1. Berth 2 has a seven-point mooring in 51 feet of water. A navigational "gong" buoy is located 2,000 feet northwest of Berth 2 and a marker buoy indicates the location of the Berth 2 loading line.

Chevron proposes to leave the two marker buoys at the pipeline ends in place for reuse as cable conduit and to remove all other buoys and associated anchors and chains. The buoys, anchors, and chains will be removed using a work barge and crane held in position by either a tug or using its own engines. No anchors will be deployed during these operations. If the work vessel fails to dislodge an anchor, Chevron proposes to abandon the anchor in place, cutting the chain at the surface and lowering it to the seafloor.

Anodes

10- or 12-inch-diameter steel pipes, previously used as sacrificial anodes as a part of the cathodic corrosion protection system for the pipelines, are buried in the surf zone area of the marine terminal site. The anodes were previously connected to onshore rectifiers by copper cables. These anodes and cables are no longer in use and are not part of the cathodic protection system currently used to prevent corrosion of the three pipelines proposed to be abandoned in place. Chevron proposes to remove the anodes and cables using a crane or an excavator operating from the beach. If an anode pipe breaks and cannot be removed, Chevron will flatten the exposed end of the pipe and abandon it in place. Prior to commencement of this component of the proposed project, Chevron will document the condition of the beach using still photographs or video to aid in shoreline restoration. No excavations will be left unfilled overnight. For two years following completion of abandonment, Chevron proposes to monitor the area on a "regular basis" and after major storms to confirm that anodes do not become exposed.

Pier Pilings

Prior to the 1983 winter, the marine terminal included a wooden pier that was destroyed during severe El Niño storms. The pier supported pipelines that ran along the seafloor from the two berths to the seaward end of the pier and then on the pier to shore. The cut remnants of wooden pilings from the pier are occasionally exposed at low tides. Chevron proposes to remove the pilings 3 feet below the seafloor using a large excavator. For two years following completion of abandonment, Chevron proposes to monitor the area on a "regular basis" and after major storms to confirm that the pilings do not become exposed.

4.1.5 Facilities Proposed to Be Abandoned In Place

Out-of-Service Pipelines

Chevron proposes to abandon in place two out-of-service pipelines connecting each berth to the shore plant. The two pipelines are partially buried on soft bottom and run from each berth to the seaward end of the former pier. In addition, a third pipeline from Berth 1 to the pier was taken

out of service in 1947. Although the surveys performed for the development of the proposed abandonment project failed to locate this pipeline, there is no record of removal. It is likely that the pipeline was abandoned in place and remains beneath the seafloor.

Discarded Anchor

A broken mooring anchor was previously abandoned 500 feet southeast of Berth 1. Chevron proposes to abandon this anchor in-place in order to avoid minor adverse impacts to hard-bottom habitat that removal of the anchor would cause.

Out-of-Service Telephone Cables

Chevron proposes to abandon in place two out of service telephone cables running from each of the berths to the end of the former pier.

4.1.6 Facilities Proposed To Be Retained for Reuse

Loading Lines

An 18-inch-diameter oil-loading pipeline extends from the shore plant 3200 feet to Berth 1. A 20-inch-diameter, 3,494-foot-long loading line connects Berth 2 to shore. The pipelines are buried beneath the beach and surf zone and then emerge onto the seafloor to the berths. Chevron proposes to leave the two pipelines in place for reuse as conduit for submarine fiber-optic cables (see below).

Wastewater Outfall Line

A 16-inch-diameter wastewater outfall extends 3000 feet from the shore plant to Berth 1. Like the pipelines described above, the outfall line is buried from the shore plant through the surf zone and then runs along the soft bottom seafloor to the berth. Chevron proposes to leave the outfall line in place for possible reuse for fiber-optic cables (see below).

Cable Landing

Chevron proposes to leave in place the two crude oil pipelines and the wastewater outfall line for possible reuse as conduits for a submarine fiber-optic cable landing. Chevron intends only to provide the landing site. Cable installation and operation would be carried out by one or more cable companies. The proposed reuse will be subject to separate coastal development permit and California Environmental Quality Act review.

Although Chevron has initiated the environmental review process for the cable landing project, at this time there is no specific proposal to bring cables into the Chevron site. The State Lands Commission (SLC) has granted a 5-year interim lease to allow Chevron to pursue this project. If, at the conclusion of this period Chevron has not entered into an agreement with a cable company, Chevron shall submit an abandonment plan for the pipelines.

4.1.7 Abandonment Procedures

Anchoring

A work vessel or barge will be held in position with four anchors spread approximately 90 degrees from one another, although the exact anchor placement may vary by specific location.

Different angles may be employed, especially if the vessel needs to be moved a considerable distance fore and aft. Anchors are typically placed approximately seven to ten times the water depth out from the vessel (the "scope" of the anchor line) to attain maximum holding power of the anchors. However, if the vessel is to be repositioned using its anchors, the scope may be substantially greater than 10 to 1 (10:1) to permit moving the vessel while maintaining a scope near 7:1 for any anchor leg. The work vessel can be moved while at anchor by "taking in" on one or more anchor lines and "letting out" on others until the proper position is achieved.

Chevron conducted seafloor surveys of the marine terminal site *(Fugro 1996; Fugro 1997; Fugro 1998)*. The State Lands Commission's environmental consultant for the project also surveyed the site *(AMS 1998)*. Based on the results of these surveys, Chevron prepared an anchoring plan and procedures designed to avoid to the maximum extent feasible impacts to the marine environment (see Anchoring Plan, Appendix C).

Cutting Operations

Pipelines and other metal structures will be cut under water using an ultra-thermic torch and/or a hydraulically operated abrasive saw.

Jetting Operations

Jetting involves the use of a moderate- to high-pressure water jet to move loose sediment and gain access to, or re-bury, structures covered by sediment. A hose connects a water pump on the work vessel to a nozzle that is guided by a diver on the bottom. The sediment produced during jetting is allowed to dissipate.

4.2 Other Agency Approvals

4.2.1 U.S. Army Corps of Engineers

Chevron has applied to the U.S. Army Corps of Engineers (ACOE) for authorization of the proposed project under section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act. The ACOE is expected to grant approval for the proposed project.

Pursuant to section 307(c)(3)(A) of the Coastal Zone Management Act, any applicant for a required federal permit to conduct an activity affecting any land or water use or natural resource in the coastal zone must obtain the Coastal Commission's concurrence in a certification to the federal permitting agency that the project will be conducted in a manner consistent with the California Coastal Zone Management Program. The Commission's action on this permit amendment application shall comprise its federal consistency review for Chevron's proposed abandonment project.

4.2.2 California State Lands Commission

On June 14, 1999, the State Lands Commission (SLC) took the following actions: (1) certified the Mitigated Negative Declaration for the Estero Bay Marine Terminal Partial Abandonment and Interim Lease in accordance with the California Environmental Quality Act (CEQA), (2) adopted the Mitigation Monitoring Program, (3) approved the termination of the State Tide and Submerged Lands Lease PRC 2478.1, pursuant to a lease termination agreement, for the marine

terminal site, and (4) approved a five-year, interim lease for the two pipelines and the outfall line proposed to be left in place for possible reuse.

The SLC specified that at either the end of the five-year interim lease, or upon consideration of an application by Chevron for reuse of the retained pipelines, the SLC will review the status of the terminal facilities abandoned in-place to determine whether any unanticipated adverse impacts from those facilities warrant their removal.

4.2.3 Central Coast Regional Water Quality Control Board (RWQCB)

The Central Coast Regional Water Quality Control Board (RWQCB) regulates water quality in the project area. **Special Condition 6** requires Chevron to verify that the RWQCB has either certified (or waived certification) that the proposed project is in conformance with Section 401 of the Federal Clean Water Act.

4.2.4 San Luis Obispo County Air Pollution Control District (APCD)

The San Luis Obispo County Air Pollution Control District (APCD) has permit authority under the California Clean Air Act (CCAA) over direct emission sources, such as the operating marine terminal. Indirect emission sources or short term emissions from project construction or other temporary activities are evaluated and mitigated, if necessary, under the California Environmental Quality Act (CEQA) process. The APCD has established construction activity emission thresholds which, if exceeded, are considered significant impacts and require mitigation.

The APCD has reviewed the estimated project emissions and the mitigation measures proposed by Chevron, and has determined that air quality impacts will be adequately mitigated through the CEQA process. The APCD has indicated that no permit is required for the project under the CCAA.

4.2.5 City of Morro Bay

The portion of the project site between the mean high tide line and the Highway 1 right-of-way is within the jurisdictional boundary of the City of Morro Bay. On July 22, 1999, the city approved a minor use permit for project related activities proposed by Chevron to be conducted within its jurisdiction.

4.3 Coastal Act Issues

4.3.1 Oil Spills

Coastal Act Section 30232 states:

> *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

4.3.1.1 Potential Project-Related Oil Spills

An oil spill could be caused by the release of residual hydrocarbons within the pipelines proposed to be abandoned in place and during the removal of the loading hoses. A spill could also occur due to an upset involving equipment or vessels used for the abandonment project or during equipment refueling.

Following the cessation of tanker operations at the terminal this summer, Chevron began pipeline flushing as part of final maintenance procedures necessary to place the terminal in "Caretaker status" pursuant to U.S. Coast Guard regulations. Although these procedures are considered routine maintenance and do not therefore require a coastal development permit, Commission staff has worked with Chevron, State Lands Commission staff, and the Coast Guard to ensure the protection of coastal resources during maintenance operations. Chevron began flushing the crude oil loading pipeline to Berth 2 on July 7, 1999. On July 8, laboratory analysis verified that the flushing water contained less than 15 ppm total petroleum hydrocarbons (TPH). Chevron anticipates flushing the loading line for Berth 1 on August 30, 1999. Flushing will continue until less than 15 ppm TPH is confirmed. Upon completion of flushing, Chevron estimates that the residual hydrocarbons remaining will be less than 0.1 gallon in each of the loading hoses proposed to be removed.

Chevron estimates that the hydrocarbon content of the lines should not exceed 1,000 ppm or 0.1 percent. There has been no evidence of release from the pipelines over the years. However, future corrosion of the pipelines could release their contents. Based on the volume of water in the lines and the maximum likely concentration of hydrocarbons in the water, less than 27 gallons of hydrocarbons could be released from any of these three lines.

Even a small, uncontrolled release of oil from project activities could significantly affect sensitive biological resources if they come into contact within it. However, Chevron has proposed measures to reduce the possibility of an uncontrolled release of oil from either the hose strings or pipelines, and therefore, reduce the potential adverse impacts of the proposed project.

4.3.1.2 Oil Spill Prevention

The first test of Coastal Act Section 30232 requires the applicant to provide "protection against the spillage of crude oil, gas, petroleum products, or hazardous substances...." As noted above,

the proposed project could result in an accidental oil spill. Chevron proposes a number of measures to minimize the risk of a spill from occurring.

During hose removal operations a vacuum will be maintained on the pipelines and a seep tent will be positioned to capture any hydrocarbons that are released. A seep tent will be placed over the pipe end hose connection to capture any residual material that is released when the hose is disconnected. Oil residues within the hose string will collect on the water surface within the hose while the hose is being lifted. Before the final hose segment is raised, the hose end will be capped to hold the last several feet of water and the residues in the hose string so they can be collected aboard the work vessel and disposed of onshore according to all applicable regulations.

The potential impact of having residual oil in the pipelines released to marine waters shall be mitigated by obtaining better information regarding the contents of the lines and, if needed, by purging the lines to attain a residual oil concentration of 15 ppm or less total petroleum hydrocarbons (TPH), which is consistent with residual levels set for the loading lines. This will be accomplished by: (1) sampling the lines, (2) setting action levels for sampling results, (3) purging the lines if needed, and (4) documentation.

Line Sampling

Special Condition 2 requires that, prior to the start of the project abandonment activities, Chevron shall submit a plan for the review and approval of the executive director to sample the contents of the pipelines The plan must contain the following information:

- Proposed method for locating the lines and exposing the high and low ends of each line.
- Procedures for tapping into the lines and withdrawing a water sample(s).
- Analytical methods for determining if water meets the standard of less than 15 ppm TPH. Field screening methods can be used for initial determinations, but samples verifying that the water in the lines contains less than 15 ppm TPH shall be analyzed and documented by a state-certified laboratory.
- Anchor plan for the work vessel supporting sampling activities designed to avoid to the maximum extent practicable, impacts to hard bottom, kelp beds, and other sensitive marine habitats.
- Contingency plans addressing instances when lines cannot be found, high ends of the lines cannot be exposed safely, or if water cannot be extracted from the lines.

Line Flushing

In accordance with **Special Conditions 1 and 2**, if the water within the lines contains 15 ppm TPH or greater, Chevron will flush the lines to meet the standard of less than 15 ppm TPH. Field screening methods can be used for initial determinations, but samples verifying that the water in the lines contains less than 15 ppm TPH shall be analyzed and documented by a state-certified laboratory. **Special Condition 1** further provides that if Chevron is unable to verify that the pipelines are cleaned to less than 15 ppm TPH, a permit amendment may be required to evaluate additional mitigation measures necessary to protect against a harmful release of petroleum hydrocarbons. Under Special Condition 7, if an unanticipated risk of a harmful release from the

facilities abandoned in place (as further described in Section 4.1.5) is later discovered, the Commission may require Chevron to remove those facilities.

During line purge, a State Lands Commission representative may be present to observe purge operations and to make field decisions, if needed, during the operations. The field monitor will have the authority to alter or cease operations based on safety, environmental, or other factors, and will document any field decisions made that vary from the previously established procedures. Field decisions may be necessary during the abandonment project for the following reasons:

- The condition of the pipelines is such that it is not possible to obtain the water samples necessary to test for residual hydrocarbons (e.g., the pipelines may be filled with sediment).
- The condition of the pipelines is such that it is not possible to flush the pipelines to below 15 ppm oil and grease content (e.g., the pipelines may be collapsed or obstructed).

Documentation

Pursuant to **Special Condition 3**, Chevron shall submit within 30 days of completion of pipeline cleaning a pipeline abandonment monitoring report to the executive director containing the following information:

- Analytical results from line sampling;
- Observations of line condition and integrity noted during sampling and, if applicable, whether these observations affect line purge procedures; and
- Analytical results from line flushing.

The Commission thus finds that, as conditioned, the proposed project will protect against the spillage of petroleum hydrocarbons and is therefore consistent with the first test of Coastal Act Section 30232.

4.3.1.3 Oil Spill Response

The second test of Coastal Act Section 30232 requires the applicant to provide effective containment and cleanup equipment and procedures for accidental spills that do occur. Despite the prevention measures proposed by Chevron, the possibility remains that the project could result in a minor oil spill.

Chevron's *Emergency and Oil Spill Response Manual* outlines procedures for responding to oil spill and other emergencies. During project activity, Chevron has stated it will have response capabilities on and off shore that can be activated if oil is released. The work vessel will be equipped with 200 feet of 8-inch sorbent boom that can be deployed if there is a release to water. The work vessel will also have a minimum of four 100-pad bales of sorbent pads on board, as well as containers and plastic liners to store the pads after use.

There is additional response equipment located onshore, some of which was previously stored in a response trailer on the west side of Highway 1. Onshore resources will include: 1,800 feet of Kepner boom, 1,000 feet of 12-inch Kepner boom, one 1,200-gallon storage bag, and one ACME 51 T skimmer. Chevron indicates it will have personnel and equipment available to transport the

equipment to the west side of Highway 1, where it can be deployed offshore or used for response activity on the beach. Chevron estimates the time to deploy boom from the shore to the support vessel using Chevron's rocket launcher is less than 1 hour.

During pipeline testing, cutting, and flushing, a fast response boat with capabilities equivalent to or greater than the Clean Seas *Clean Sweep* shall be present. The *Clean Sweep* has the following response capabilities and equipment: 300 feet of 8- by 12-inch, foam filled boom, 154 barrels per hour skimming capacity (derated), 28 barrels recovered oil storage on board.

The on site response capabilities that Chevron will provide during offshore abandonment activities are adequate to respond to a worst-case spill of 27 gallons of oil. However, **Special Condition 4** requires that if prior to flushing sampling results indicate TPH levels greater than 1,000 ppm, Chevron shall submit to the executive director a revised estimate for the reasonable worst-case project-related spill and shall re-evaluate the response capabilities required during purge operations. If the executive director determines that the revised worst-case spill estimate exceeds the on-site spill response capabilities described in Chevron's oil spill contingency plan, Chevron shall obtain an amendment to this permit prior to proceeding with abandonment of offshore terminal facilities.

The Commission thus finds that the project as conditioned is consistent with the second requirement of Coastal Act Section 30232.

4.3.2 Biological Resources

Coastal Act Section 30230 states:

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

Coastal Act section 30231 states in part:

> *The biological productivity and the quality of coastal waters... appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored....*

The natural habitats in the vicinity of the marine terminal site consist of the pelagic, subtidal, and intertidal zones, and the anadromous fish habitat of Toro Creek. The permit application includes a marine biological survey of the subtidal areas potentially affected by the proposed project (*AMS 1998).* The survey identified 10 habitat types with associated biota, delineated by substrate type and water depth (see Appendix D). Both hard- and soft-bottom habitat types are contained in the project area. The shoreline at the terminal site is comprised of sandy beach. A narrow strip of vegetated dunes runs between the beach and the highway. The mouth of Toro Creek is located approximately 100 feet north of Loading Line No. 2 (see Exhibit 2). Biological resources within

the project area include marine mammals, shorebirds, fish, invertebrates and plants. Several federally and state listed species of concern are found in the project area (see Appendix E).

Potential impacts of the proposed project to biological resources include:

- Disturbance or damage to subtidal habitats by removal of terminal components and work vessel anchoring.
- Disturbance of open-water species during removal work.
- Disturbance or damage to shoreline species during removal of terminal components.
- Disturbance or injury to habitats and individual species resulting from a release of oil or hazardous materials.

4.3.2.1 Subtidal Habitats

Soft-Bottom Habitat

Removal of 12 of the 13 mooring anchors and the hose strings could result in local disturbance of sediment substrate and associated benthic communities (see Appendix D). The biota associated with the sediment substrate at the terminal are typical of this community at these depths in Central California. The anchors and chains provide areas of hard-bottom habitat for biota. No ecologically or economically important species were observed in the area during the marine biological survey. Notably, no sizable beds of sand dollars exist in the areas that would be affected by anchor removal. Re-colonization of the impacted sediment habitat will begin almost immediately, and the area disturbed should recover to pre-disturbance conditions within one year *(AMS 1998)*. Because the biota associated with the sediment substrate in the project area are common, not economically or ecologically significant, and would regenerate quickly, disturbance of sediment substrate from mooring removal would be adverse but not significant.

Low Relief Hard-Bottom Habitat

Removal of three of the 13 mooring anchors could result in local disturbance of low relief (less than 1-foot) rock substrate and associated benthic communities. The biota associated with the low relief rock substrate near the terminal are typical for these depths in Central California. Low relief rock areas exhibit some effects of sand scour and less biological diversity than high relief areas. No unusual or ecologically important species were observed in the area during the 1998 biological survey. Re-colonization of the impacted low relief rock habitat will begin almost immediately, and the area disturbed should recover to pre-disturbance conditions within five years *(AMS 1998)*.

Moderate to High Relief Hard-Bottom Habitat

Anchor 2 at Berth 1 and Anchor 4 at Berth 2 sit on moderate (1 to 3 feet) to high (more than 3 feet) relief rock substrate that could be disturbed or damaged during anchor removal. High relief rock substrate habitats exhibit greater biological density, diversity, and sensitivity than low relief or sediment substrate habitats. Organisms in these communities are predominantly slow growing and long lived; therefore, this habitat takes longer than other areas to recover from disturbances.

In addition to disturbing the biota during anchor removal, there is the potential that the substrate itself could be damaged. Rock protrusions could be broken off upon impact by the anchor or chain, which would prevent the habitat from recovering to its pre-disturbance condition. Chevron proposes to remove the mooring anchors by lifting the buoy onto the work vessel and then positioning the work vessel directly over the anchor while lifting the anchor chain off of the seafloor. This procedure reduces the amount of seafloor disturbance by minimizing the amount of drag on the anchor before it is lifted free of the seafloor.

The biota observed in the moderate to high relief substrate are common along the coast of Central California. Therefore, disturbance of this habitat during mooring removal would not be significant in a regional context. However, the presence of moderate to high relief substrate is limited within the terminal area of Estero Bay; therefore, this habitat has high biological value locally. Anchor 2 at Berth 1 and Anchor 4 at Berth 2 shall be abandoned in place to avoid disturbing moderate to high relief hard substrate habitat. Chevron shall cut the anchor chains at the mud line and record the length of chain removed.

Work Vessel Anchoring

Work vessel anchors must be deployed to remove the hose strings. The effects of work vessel anchoring include the impact of the vessel anchor on the substrate, the drag of the anchor as it is set, and the impact and drag of the ground section of the anchor chain as the work vessel moves with wind and waves. Organisms or habitat in the way of the anchor or chain could be crushed or displaced during this process. The size of the area disturbed by the anchor chain is dependent on the amount of slack in the chain, how securely the vessel is held by the anchor pattern, and the weather. The area disturbed by anchor setting is estimated at 7 to 10 feet in diameter unless the anchor drags before setting. The procedure Chevron proposes for anchor placement, using a support vessel to lower and lift the anchor vertically through the water column, reduces the potential for anchor drag.

The proposed work vessel anchor plans submitted by Chevron indicate that the anchors deployed for removal of the hoses, would disturb sediment or low relief hard substrate. Although disturbance of moderate to high relief rock substrate could result in recovery to a lower relief community, as stated above, all of the subtidal habitats found at the marine terminal are common at these depths along the Central California coastline. Therefore, this impact would be adverse but not significant.

Miscellaneous Debris

During the 1998 biological survey, divers noted an accumulation of seafloor trash and debris between 200 and 300 feet west of the Berth 2 pipeline end manifold (PLEM). The debris included steel pipe of various sizes, steel cable, metal debris, abandoned cargo nets, and what appeared to be automobile batteries *(AMS 1998).* It is not known how long these items had been on the seafloor, although the debris exhibited some epibiota coverage. Toxic materials, such as sulfuric acid and lead, could be present in the batteries and could potentially leak into the surrounding water, thereby having an adverse impact on biological resources. Because the number and condition of batteries present are unknown, it is not possible to rule out the potential for releases from these items, which could cause a significant impact on biota near the terminal. Chevron proposes to avoid this potential impact by removing the batteries and other debris from

the seafloor. Removal will be conducted in a manner that reduces the potential for releases into the water. Once removed, the debris would not pose a potential threat to biological resources.

4.3.2.2 Open Water Species

California sea lions and sea otters can be found in the waters of Estero Bay. Sea lions have been observed hauled out on the mooring and navigational buoys at the terminal. Sea lions, like other marine mammals, are protected from harm or habitat disturbance under the Marine Mammals Protection Act. Although used by the sea lions, the buoys do not constitute habitat for the sea lions *(SLC 1999)*. Sea lions are generally not present during the breeding season from mid May to late July. Removal of the buoys during this period would not adversely affect sea lions. If the buoys are removed when sea lions are present, noise or gentle prodding may be required to extricate the sea lions from the buoys. While this activity would aggravate the animals, it would not affect them to the point of causing a reduction in numbers, or alteration in behavior, reproduction, or survival.

Chevron will minimize disturbance of sea lions through the following measures recommended by the National Marine Fisheries Service (*SLC 1999*):

- Schedule buoy removal when no animals are present. The sea lion breeding season extends from mid-May to late July. Between June 15 and July 15, most adult sea lions are in the Channel Islands.
- Employ a qualified marine biologist, approved by the CDFG and/or the NMFS, to handle marine mammals. The biologist shall have the authority to stop work if a situation develops that could be injurious to marine mammals.
- Use noise and general activity in the berth area to entice the sea lions to leave the buoys.
- If sea lions remain on the buoys and work must continue, the marine biologist may push the sea lions off of the buoys using a long pole with a blunt object attached to the end. At no time should the pole make contact with an animal's head. Because the project area is relatively close to shore, the work vessels are not likely to encounter migrating whales close enough for a collision to be of concern.

The noise of the work vessels is not likely to disrupt the behavior and foraging of birds and fish in Estero Bay. Although sea birds such as pelicans, loons, cormorants, and grebes, which dive below the surface for fish, may avoid the immediate vicinity of the work vessels, this is a small portion of Estero Bay. Chevron has proposed to schedule the offshore abandonment work to avoid the whale and steelhead migration seasons and the grunion-spawning season. Therefore, the proposed project would not have an adverse impact on these open-water species.

4.3.2.3 Shoreline Habitats

As part of the proposed project, Chevron has proposed removing anodes and cables from the former cathodic protection system and cutting off exposed pilings from the former pier as deeply as possible. Chevron has expressed some uncertainty over its ability to locate and recover all remnants of these features from the nearshore and onshore areas of the terminal. Several sensitive

species could be significantly affected by the proposed project, including: (1) the federally listed threatened western snowy plover, which nests on the sandy beach at the terminal, (2) the federally listed endangered tidewater goby, which inhabits the mouth of Toro Creek, and (3) the federally listed threatened steelhead, which migrates up Toro Creek from Estero Bay. Chevron proposes timing the proposed project activities to reduce the potential for significantly affecting these species.

Snowy Plover

Recent surveys of the beach area at the terminal identified several active and abandoned snowy plover nests between 500 feet north of the mouth of Toro Creek and 200 feet south of the former pier bulkhead. The plover nests in upper beach and dune areas, so removal of the anodes and pier pilings in the surf zone would likely not destroy nesting sites *(SLC 1999)*. If anode cables that extend inland far enough to disturb nesting sites are found, Chevron initially proposed to leave them in place. However, the U.S. Fish and Wildlife Service (USFWS) does not feel it is necessary to avoid disturbing the old nests as long as the activity is after the conclusion of the nesting season. Chevron will conduct the shoreline project activities to avoid the snowy plover nesting season, March through September, so that excavation using heavy equipment would not sufficiently disturb nesting plovers to affect their breeding. The USFWS has stated that impacts to the snowy plover would be less than significant if work is limited to the non-nesting period *(Bosch 1999)*.

Pismo Clam

The beach in front of the shore facility is part of the Pismo Clam Preserve where harvesting clams is prohibited. Pismo clams could be disturbed during the shoreline removal activities. Chevron will remove the first foot of sand at any excavation and thinly disperse the sand toward the ocean. The clams, and any other biota in the dispersed material, will burrow into the sand without adverse effects. By dispersing the material, the sand will not be deep enough to smother clams beneath it. After the first foot of sand has been removed, additional layers of sand that are excavated will be placed in an area where the first foot of sand has been removed to prevent the stockpile from smothering sand-dwelling organisms. By including these measures in the project work plan, Chevron will avoid adverse impacts to pismo clams and other sand-dwelling organisms during shoreline excavation.

Grunion

California grunion spawn on Morro Strand State Beach from April through August. Because Chevron proposes to schedule shoreline activities to avoid the snowy plover nesting season (March through September), the grunion-spawning season will also be avoided.

Toro Creek

Toro Creek enters Estero Bay just north of the shore facility. Tidewater goby and steelhead have been reported in Toro Creek. In summer months, the mouth of the creek closes from accumulated sand. During the rainy season, the mouth of the creek meanders from day to day and tide to tide. Tidewater goby may be present whenever there is ponded water. However, no excavation will occur within the historic range of the creek mouth while the creek is spilling into the bay. Steelhead are present in Toro Creek from February through April. Chevron proposes to schedule

shoreline activities to avoid the steelhead migration season from February through April. Therefore, there would be no impact on steelhead or tidewater goby.

Conclusion – Biological Resources

Under **Special Condition 7,** the Commission may require Chevron to remove facilities approved to be abandoned in place (as further described in Section 4.1.5) if unanticipated impacts to coastal resources are later discovered. The Commission finds that the proposed project will be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all potentially affected species of marine organisms in conformity with the requirements of Coastal Act Sections 30230 and 30231.

4.3.3 Air Quality

Coastal Act Section 30253(3) requires that:

> *New development shall:*
>
> ...
>
> *(3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*

The San Luis Obispo County Air Pollution Control District (APCD) has permit authority over direct emission sources, such as the operating marine terminal. Indirect emission sources or short term emissions from project construction or other temporary activities are evaluated and mitigated, if necessary, under the California Environmental Quality Act (CEQA) process. The APCD has established construction activity emission thresholds which, if exceeded, are considered significant impacts and require mitigation.

Combustion emissions from onshore and offshore abandonment activities will temporarily reduce local air quality. Chevron identified emission sources for offshore and onshore abandonment activities and estimated projected emissions. Emissions for the project were calculated by multiplying emission factors for each type of equipment by equipment operating parameters for the expected length of use. The emissions for the offshore and onshore activities are not added together because the offshore and onshore activities are scheduled to occur in separate quarters and, therefore, do not fall into the same threshold.

The APCD has reviewed the estimated project emissions and the mitigation measures proposed by Chevron, and has determined that air quality impacts will be adequately mitigated through the CEQA mitigations. The APCD has indicated that no permit is required for the project under the California Clean Air Act *(pers. comm. LaJoie 1999).*

Offshore Activities

The emissions for offshore activities exceed the daily nitrogen oxides (NOx) threshold established by the APCD. Because the NOx emissions exceed the APCD threshold, offshore abandonment results in a significant but mitigable impact. The APCD requires construction activities with reactive organic gases (ROG) or NOx emissions above 185 pounds per day to implement Best Available Control Technology for construction equipment. One of the measures

suggested by the mitigated negative declaration is the use of reformulated fuel (CARB diesel). This fuel provides the following reductions in emissions compared with conventional diesel fuel: 82% reduction for SO_2, 25% reduction for respirable particulates (PM10), and 7% reduction for NOx.

Chevron proposes to use CARB diesel to power all marine vessel engines and auxiliary equipment itemized as emission sources for project activity. If CARB diesel cannot be used for any specific pieces of equipment, Chevron shall indicate to the APCD which equipment cannot use CARB diesel, and application of emission reduction credits (discussed below) shall be adjusted. CARB diesel for marine vessel engines shall be obtained from marine vessel fuel suppliers in Port Hueneme, or an alternative source proposed by Chevron.

The 7% reduction in NOx, from the use of CARB diesel is not sufficient to lower emissions below the APCD threshold, and therefore, emission offsets shall be applied to mitigate the remainder of the exceedance. Chevron has adequate emission credits banked with the APCD from prior emission reduction measures that can be used for project mitigation.

Onshore Activities

The emissions for onshore activities are all below the threshold in both pounds per day and tons per quarter. Although the emissions generated during onshore abandonment activities do not exceed significance thresholds, Chevron proposes to use CARB diesel fuel to reduce NOx, SO_2 and PM10 emissions.

Conclusion – Air Quality

The Commission finds that, with the inclusion of the mitigation measures incorporated into the proposed project, the project is consistent with the air quality protection requirements of Coastal Act Section 30253(3).

4.2.4 Commercial and Recreational Fishing

Coastal Act Section 30234.5 states:

> *The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

Estero Bay, stretching from Point Buchon to Point Estero, supports a variety of commercial and recreational fishing. The majority of fishing vessels working from Estero Bay is home-ported in Morro Bay, which accommodates approximately 200 fishing vessels. Trawling, gillnetting, long-lining, trolling, and crabbing all occur in the area. Recreational fishing in Estero Bay consists of commercial sport fishing operations and individual sport fishermen. Sports fishing generally targets rockfish and salmon using both trolling and drift fishing techniques. Some shoreline fishing occurs along Morro Strand State Beach.

Abandonment of Chevron's Estero Bay Marine Terminal will entail removing buoys, anchors, chains, and other features from the marine environment. The offshore work will require approximately two weeks to complete, and a support boat and derrick barge will be present during abandonment. Work in the shoreline area will also take approximately two weeks. The

proposed project has the following potential effects to commercial and recreational fishing activities:

- Damage to set gear, including crab pots and nets, from work vessel traffic;
- Preclusion of fishing during abandonment activity; and
- Increased accessibility from mooring buoy removal.

Because the offshore work is scheduled to last approximately two weeks, the opportunity for work vessels to damage gear is low. The potential area affected is less than 10 percent of the available area for crabbing. In addition, Chevron has stated that it will issue a Notice to Mariners two weeks prior to commencing the project to alert mariners in the area and reduce the potential for interference with the work vessels.

During operation of the marine terminal, crabbers lost gear due to terminal-related vessel traffic. To address this issue, local fishers and Chevron participated in a corridor program through the Joint Oil/Fisheries Liaison Office. The intent of the corridor program was to reduce interference through establishment of voluntary vessel corridors. The agreement provided for compensation by vessel operators for gear loss by vessels travelling outside of the voluntary traffic corridor. Chevron has indicated that work vessels for the proposed project will adhere to the corridor agreement.

Shore fishing will be precluded in the immediate project area on Morro Strand State Beach for approximately two weeks, although adjacent beach areas along the beach will be available for shore fishing. The impact of project activities on commercial and recreational fishing is adverse but short term and localized. The MND concludes that abandonment operations will not cause significant impacts to commercial fishing.

The cessation of marine terminal operations at Estero Bay has significantly reduced vessel traffic and associated interference with commercial and recreational fishing activities in the region. After the moorings are removed, the project area will be less obstructed for boaters. There will be less likelihood of line entanglement in the area after the buoys, anchors, and chains have been removed. The spar buoys will remain temporarily to mark the ends of the loading lines; the exact amount of time they will remain has not yet been determined, but it will not exceed the five-year period of the proposed interim lease. Because the area will be more accessible, compared to baseline conditions, to boaters, this is a beneficial impact. The proposed project includes measures to minimize conflicts with commercial and recreational activities and will benefit fishing by reducing existing conflicts associated with the operation of the marine terminal. In accordance with **Special Condition 7**, the Commission may require Chevron to remove facilities approved to be abandoned in place (as further described in Section 4.1.5) if unanticipated impacts to commercial or recreational fishing are later discovered. Therefore, the Commission finds that the project as proposed is consistent with Coastal Act Section 30234.5.

4.2.5 Public Access/Recreation

Coastal Act Section 30211 states:

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

Coastal Act Section 30212 states in relevant part:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(1) it is inconsistent with public safety....

Coastal Act Section 30220 states:

Coastal areas suited for water-oriented recreational activities that cannot be readily provided at inland water areas shall be protected for such uses.

Chevron owns approximately 1 mile of beach frontage between the northern and southern units of Morro Strand State Beach. No aboveground facilities are on this strip of beach. The two loading lines for the terminal offshore berths and the treated wastewater outfall, as well as cathodes and anodes, are buried beneath this section of beach.

The public formally accesses this beach via the State park units north and south of the Chevron property. The nearest formal vertical access way to the south is through the North Point subdivision in north Morro Bay into the southern unit of Morro Strand State Beach, approximately 0.5 mile south of Toro Creek. The nearest formal vertical access way to the north is off Studio Drive at Cody Drive in Cayucos into the northern unit of Morro Strand State Beach, approximately 0.5 mile north of Toro Creek. From Cayucos to Morro Bay, there are approximately 30 vertical access points from public streets into the 6.1 miles of beach. Although there are no formal vertical access ways from Highway 1 directly across Chevron property to the beach, people cross Chevron property to the beach through several informal parking areas and vertical access ways along Highway 1. Beachgoers most frequently use the area across from Toro Creek Road and the area near the bluff. Chevron facilities do not obstruct informal vertical access, but the Caltrans fence along Highway 1 impedes access. People access the beach through holes in the fence.

In 1983, Chevron received Coastal Development Permit E-83-17 to replace an existing 18-inch-diameter submarine crude oil loading line with a 20-inch-diameter line, subject to several conditions. Special Condition No. 1 required Chevron to make an offer-to-dedicate a surface easement for public access and recreation over the Chevron property extending from the mean high-tide line at least 25 feet landward at all times of the year, or the entire width of the dry sand beach if the beach is less than 25 feet wide. In October 1983, Chevron made the required offer to dedicate the beach segments in front of the terminal. The San Luis Obispo County Department of Parks and Recreation accepted the easement offer in late 1996.

Lateral access across the beach frontage adjacent to the terminal is formally open to the public since San Luis Obispo County accepted the Chevron offer-to-dedicate for an access easement.

Removal of terminal components in the beach area could affect the safety of people on the beach. Shoreline removal activities will involve heavy construction equipment, such as a crane,

excavator, front loader, and backhoe. Excavating the anodes from the sand will leave holes in the sand. While work is in progress, temporary barriers and signs will be erected around the work area, and Chevron and contractor personnel will keep unauthorized personnel from entering the work area. Construction zone, hazardous work area, and "keep out" signs will be placed on the temporary barriers when workers are not present (at night). Work will only occur during daylight hours. No excavations will be left open overnight.

Beach disruption will last up to two weeks. The shoreline work is scheduled to occur during the winter months and will, therefore, avoid peak beach season. Chevron anticipates that, in the case where an intact anode is being pulled from the surf, lateral access may be limited to the areas above the high tide line to avoid exposing the public to a potential hazard.

If Chevron is unable to completely remove all remnant pier pilings and anodes, these materials could become exposed in the future, creating a hazard to the public. **Special Condition 5** requires Chevron to monitor the shoreline for two years following abandonment, and shall remove any exposed materials that are discovered. Under **Special Condition 7,** the Commission may require Chevron to remove facilities approved to be abandoned in place (as further described in Section 4.1.5) if unanticipated impacts to public access and recreation are later discovered.

Vessel traffic and removal activity will preclude recreational boating near the marine terminal for approximately two weeks. The area precluded from boating would be less than 1 percent of the area available to boating in Estero Bay. Removal of the buoys and chains will benefit recreational boating and fishing by opening access to this previously occupied area.

Conclusion – Public Access/Recreation

Removal work will result in a minor, short-term disturbance to coastal access and recreation in the immediate project area, but will benefit public access in the long-term. Therefore, the Commission finds that as conditioned the proposed project is consistent with Coastal Act Sections 30211, 30212 and 30220.

4.2.6 Cultural Resources

Coastal Act Section 30244 states:

> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

There are no known shipwrecks near the marine terminal. However, in 1993, Chevron conducted a cultural resources study of the shore facility prior to replacing a berm. The study identified three archaeological sites, designated CA-SLO-181, CA-SLO-879, and CA-SLO-1187 in the California Archaeological Inventory. Following the cultural resources study, Chevron prepared a draft Cultural Resources Management Plan (CRMP). The draft CRMP presented recommendations for the management and protection of cultural resources that could be adversely affected by the operation of the marine terminal. It recommended avoiding impacts on archaeological resources, monitoring to protect sites and resources associated with traditional Native American (Chumash) cultural beliefs and practices, and evaluating and recording

potentially significant architectural resources. The CRMP covers the beach area of the terminal, but not the offshore area.

The proposed project has the following potential effects on cultural resources:

- Excavation of anodes and pier pilings in the shoreline area could disturb cultural resources; and
- Offshore activity could disturb submerged cultural resources.

Chevron's CRMP states that Chevron shall retain a Native American (Chumash) monitor to be present during any ground-disturbing activities in the area. Also, according to the CRMP, if human remains are found, Chevron will notify the county coroner and take appropriate steps to facilitate reburial of the remains according to the wishes of the Chumash people. By following the policies of the CRMP, Chevron's disturbance of cultural resources found during shoreline excavation activities would be appropriately mitigated.

Removal of offshore components would not affect submerged cultural resources because the minor jetting of sediments that may be needed to remove some components would not affect undocumented or undisturbed offshore cultural artifacts. The area was already disturbed when the components were installed on the seafloor.

Conclusion – Cultural Resources

Because Chevron will implement reasonable mitigation measures to minimize potential impacts to cultural resources, the Commission finds that the proposed project is consistent with Coastal Act Section 30244.

4.2.7 Cumulative Impacts

Coastal Act Section 30250(a) states in relevant part:

> *New... industrial development... shall be located... where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. ...*

Historically, Estero Bay had four marine terminals between Morro Rock and Cayucos. In addition to Chevron's facility, the Morro Bay power plant (previously operated by Pacific Gas and Electric Company) had a marine terminal that was used to transfer fuel oil from tankers to onshore tanks for use as backup fuel. The power plant's marine terminal is currently in caretaker status, meaning that it is currently not in use and could not be placed back in service without some action by the California State Lands Commission and the U.S. Coast Guard. The U.S. Navy had a jet fuel storage facility with an offshore terminal that has been decommissioned for several years. Two subsea pipelines that were part of a marine terminal operated by Texaco were abandoned in place in 1985 by constructing an artificial reef out of quarry rock placed over the lines.

The only planned or reasonably foreseeable projects within Estero Bay are Chevron's proposed conversion of the loading lines and wastewater outfall to the fiber optic cable conduit, and landing fiber optic cable landings proposed at Montana de Oro State Park and near the Chevron facility.

The cumulative impact evaluation consists of two potential cumulative effects:

- Abandonment activities, combined with planned or foreseeable projects, could have a significant cumulative impact on the environment;
- By abandoning structures in place, the partial abandonment contributes to the inventory of artificial features on the seafloor in Estero Bay, resulting in a significant cumulative impact.

Disturbance of the seafloor from partial abandonment is a one-time activity, and it is expected to take two to three weeks to complete.

As noted above, the foreseeable projects in the vicinity are Chevron's proposed reuse of the marine terminal and other proposed cable landings. The proposed reuse of the marine terminal would involve some disturbance to the seabed in the same area as the partial abandonment activity. However, the combined activities would not be conducted concurrently, or intensify disturbance to the seabed resulting from partial abandonment. Work vessel anchoring for reuse would cause similar impacts. The affected habitats are not biologically unique and are expected to recover within five years. There are cable landings proposed at Montana de Oro and in the vicinity of the Chevron marine terminal that would entail some seabed disturbance and short-term marine activity during their installation. The proposed cable landings in Estero Bay are not geographically close enough to the partial abandonment project area to have cumulative effects. The short-term effects on marine uses and seabed disturbance associated with partial abandonment are localized and would not be intensified by future cable landings in Estero Bay.

Partial abandonment will add to the inventory of structures remaining from other abandoned marine terminals in Estero Bay. The cumulative impact of leaving these features on the seafloor is not significant because:

- The abandoned lines on the Estero Bay seafloor do not affect the movement of sediment along the seafloor, and do not affect sediment transport at abandoned features elsewhere in Estero Bay.
- If pipelines are buried in sediment, they do not have an impact on biological resources. If they are exposed on top of sediment or low relief hard substrate, artificial features evaluated in this project provide higher quality habitat than would be present naturally. These effects are localized and would not adversely affect overall habitat quality.
- Abandoned marine terminal features do not preclude marine uses that would otherwise be possible in Estero Bay (e.g., trawling).
- The abandoned lines will be tested, and their contents will not exceed 15 parts per million total petroleum hydrocarbons, so the project would not add to an existing or increasing oil spill risk.

Under **Special Condition 7,** the Commission may require Chevron to remove facilities approved to be abandoned in place (as further described in Section 4.1.5) if unanticipated cumulative impacts to coastal resources are later discovered. Therefore, the Commission finds that the proposed project will not have significant cumulative adverse effects to coastal resources.

4.4 The California Environmental Quality Act (CEQA)

Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of the CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment.

As noted in Section 4.2.2 above, on June 14, 1999, the State Lands Commission (SLC) certified a mitigated negative declaration for the proposed project in accordance with the requirements of CEQA. The project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives. Therefore, the Commission finds that the proposed project is consistent with the resource protection policies of the Coastal Act and with the CEQA.

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

Applied Marine Sciences, 1998, *A Marine Biological Survey of Structure Proposed for Abandonment at the Chevron Estero Marine Terminal,* October 1998.

Bosch Ray, 1999, U.S. Fish and Wildlife Service, personal communication with K. Johnson, Ecology and Environment Inc., January 22, 1999.

Chambers Group, 1998, *Marine Biological Reconaissance Survey of the Chevron Estero Marine Terminal,* January 1998.

Fugro West Inc., 1995, *Western Snowy Plover Survey of the Vicinity of the Estero Marine Terminal,* July 14, 1995.

_____, 1996, *Bathymetry and Seafloor Features Estero Marine Terminal,* January 1996.

_____, 1997, *Bathymetry and Seafloor Features Estero Marine Terminal,* October 1997.

_____, 1998, *Bathymetry and Seafloor Features Estero Marine Terminal,* August 1998.

LaJoie, Barry, 1999, San Luis Obispo County Air Pollution Control District, personnel communication with C. Kern, California Coastal Commission, August 26, 1999.

State Lands Commission, 1999, *Mitigated Negative Declaration for the Estero Marine Terminal Partial Abandonment & Interim Lease,* June 1999.

APPENDIX B
STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the executive director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

APPENDIX C
ANCHORING PLAN

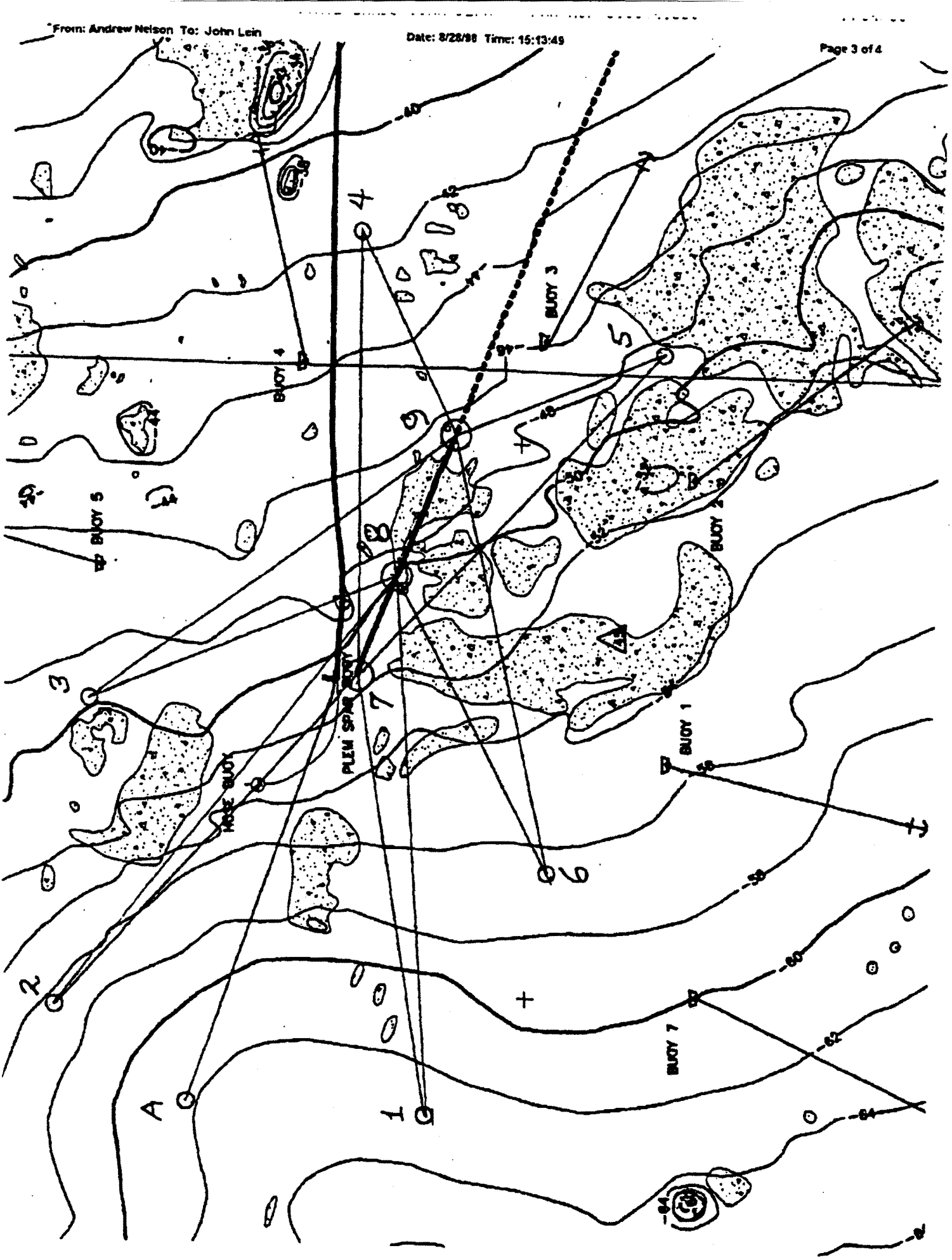
All anchors will be tethered to a trip line and buoy.

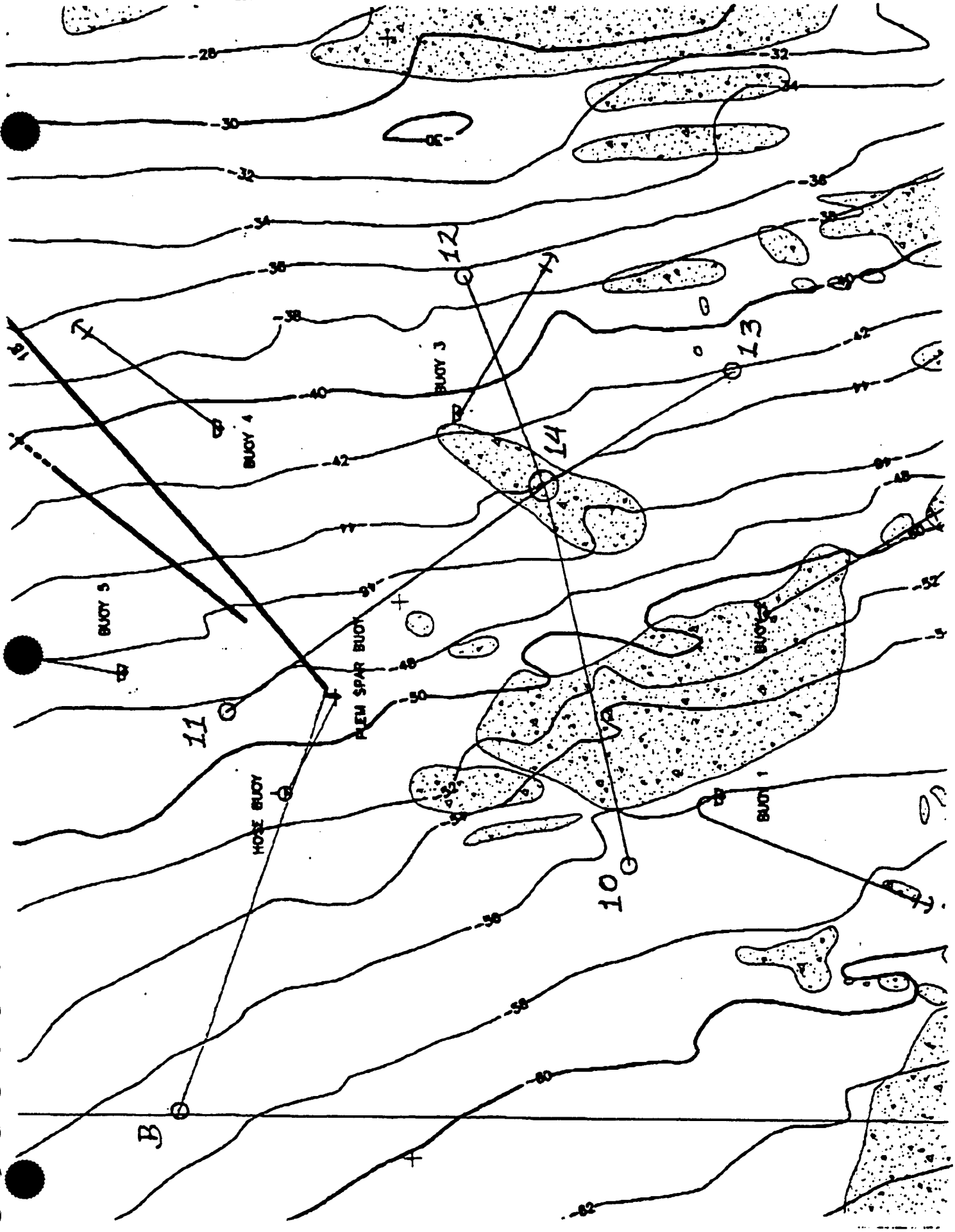
- Work vessel anchors will be deployed using the support vessel (except for the first anchor, which will be deployed from the work vessel). The work vessel anchor will be taken aboard the support vessel, which will proceed to the designated anchor location. While maintaining position with its engines, the support vessel will lower the anchor over the side vertically via the trip line until it reaches the seafloor.
- The trip line will be attached to a buoy to mark the anchor location and facilitate its recovery.
- The support vessel will note the Global Positioning System location of the anchor as deployed.
- The work vessel will then winch in the slack in the anchor cable to set the anchor.
- The support vessel will moor alongside the work vessel or to one of the work vessel marker buoys but will not deploy an anchor.

Anchors will be recovered using the following procedures:

- Work vessel anchors (except for the last anchor) will be recovered by the support vessel. The support vessel will recover the trip line buoy and maintain position with its engines.
- The anchor will be lifted free of the seafloor vertically by the trip line.
- The support vessel will hoist the anchor and follow the mooring line to the work vessel as the mooring line is winched aboard the work vessel. Tension will be maintained to reduce cable movement on the seafloor.
- The anchor will be transferred to the work vessel, and all lines and buoys will be secured aboard the work vessel.
- Similar procedures will be repeated for the remaining temporary mooring anchors.
- The work vessel will recover its last anchor by hauling in on the cable until the work vessel is directly over the anchor, and then hoisting it vertically aboard the vessel.

Location Number	Latitude	Longitude
Abandonment Anchor and Vessel Locations		
Berth 2 Return Line		
1 Anchor	35° 24' 43.033"N	120° 53' 17.213"W
2 Anchor	35° 24' 49.869"N	120° 53' 15.168"W
3 Anchor	35° 24' 49.066"N	120° 53' 8.094"W
4 Anchor	35° 24' 44.409"N	120° 52' 57.814"W
5 Anchor	35° 24' 39.037"N	120° 53' 0.309"W
6 Anchor	35° 24' 40.995"N	120° 53' 11.751"W
7 Vessel	35° 24' 44.420"N	120° 53' 7.460"W
8 Vessel	35° 24' 43.768"N	120° 53' 5.309"W
9 Vessel	35° 24' 42.801"N	120° 53' 2.278"W
Broken Anchor		
10 Anchor	35° 24' 17.954"N	120° 52' 55.196"W
11 Anchor	35° 24' 25.065"N	120° 52' 51.952"W
12 Anchor	35° 24' 21.131"N	120° 52' 42.509"W
13 Anchor	35° 24' 16.156"N	120° 52' 44.510"W
14 Vessel	35° 24' 19.659"N	120° 52' 47.037"W
Maintenance Anchor Locations		
A Berth 2 Anchor	35° 24' 47.368"N	120° 53' 17.184"W
B Berth 1 Anchor	35° 24' 25.887"N	120° 53' 0.780"W


BUOY 4
BUOY 3
BUOY 5
BUOY 2
BUOY 1
BUOY 7
PLEM SPAR BUOY
HOSE BUOY


BUOY 5
BUOY 4
BUOY 3
FLEM SPAR BUOY
HOSE BUOY
BUOY 1
11
12
13
14
10
B
-28
-30
-32
-34
-36
-38
-40
-42
-44
-46
-48
-50
-52
-54
-56
-58
-60
-62

APPENDIX D
SUBTIDAL HABITAT CHARACTERIZATION

Table 3-7 Subtidal Habitat Characterizations in the Immediate Project Area

Habitat Code	Habitat Type	Water Depth	Habitat Description	Biological Community Description
M	Mixed	35-65 ft.	Pebble, cobble, shell hash	Generally depauperate of visible biota. *Asterina miniata* and *Pisaster brevispinus* were dominant epibiota with estimates of less than 1/m^2. No algae were observed on the cobble/pebble substrates, although some red algae covered up to 10% of the higher-relief boulders. Occasional small patches (< 1.0 m^2) of red algae were observed growing through the sediments, indicating recent burial of the underlying hard substrate.
S	Soft	All depths	Thin sediment (<10 cm depth)	Generally depauperate of visible infauna, although the crabs, *Heterocrypta* spp. and pagurids (hermit) are found, with the latter occurring in densities that occasionally exceed 200/m^2. The seastars *Asterina miniata*, *Pisaster brevispinus*, and *Astropecten armatus* are present in densities of generally less than 0.1/m^2. Occasional small patches (< 1.0 m^2) of red algae were observed growing through the sediments, indicating recent burial of the underlying hard substrate.
S-1	Soft	<50 ft.	Thick sediment (>10 cm depth)	Patchy densities of the polychaete *Diopatra ornata* occur, exceeding 50/m^2 in some areas, especially near moderate- and high-relief, hard-substrate habitat. Crabs *(Heterocrypta* spp. and *Pagurus* spp.) are also found, the latter occurring in densities that occasionally exceed 200/m^2. Seastars (*Asterina miniata*, *Pisaster brevispinus*, and *Astropecten armatus)* are present in densities of generally less than 0.1/m^2. The sand dollar *Dendraster excentricus* is occasionally present in densities of less than 100/m^2.
S-2	Soft	>50 ft.	Thick sediment (>10 cm depth)	Patchy densities of the polychaete *Diopatra ornata* occur, generally less than 25/m^2 in most areas. Crabs (*Heterocrypta* spp. and *Pagurus* spp.) are also found, the latter occurring in densities that occasionally exceed 200/m^2. Seastars *(Asterina miniata*, *Pisaster brevispinus*, and *Astropecten armatus)* are present in densities of generally less than 0.1/m^2. Sea pen *(Stylatula elongata)* is often present, but rarely exceeds densities of 5/m^2.
LR-1	Hard	<45 ft.	Low-relief rock outcrop (<0.3 m relief)	Seastars *(Asterina miniata*, *Pisaster brevispinus*, and *P. ochraceus)* generally are present in densities of less than 1/m^2, but may exceed 10/m^2 locally. The orange solitary cup coral *Balanophyllia elegans* is sometimes present in densities of up to 10/m^2. Near the maximum relief height in this category, various sponges, compound ascidians, and the anemone *Urticinia piscivora* are present at densities of less than 0.1/m^2. Colonies of the polychaete *Dodecaceria fewkesi* occur up to approximately 0.4 m across and occasionally exceeding 1 colony/m^2. Various species of red algae may cover up to 50% of the hard-substrate habitat.

Table 3-7 Subtidal Habitat Characterizations in the Immediate Project Area

Habitat Code	Habitat Type	Water Depth	Habitat Description	Biological Community Description
LR-2	Hard	>45 ft.	Low-relief rock outcrop (<0.3 m relief)	Seastars *(Asterina miniata, Pisaster brevispinus*, and *P. ochraceus)* generally are present in densities of less than 1/m^2, but may exceed 10/m^2 locally. Colonies of the polychaete *Dodecaceria fewkesi* occur up to approximately 0.4 m across and occasionally exceeding 1 colony/m^2. The orange solitary cup coral *Balanophyllia elegans* is sometimes present in densities of up to 10/m^2. Near the maximum relief height in this category, various sponges, ectoprocts, and compound ascidians may cover less than 25% of the substratum, and the anemone *Urticinia piscivora* is present in densities of less than 0.1/m^2. Algae are rare, although in some areas, the encrusting coralline algal complex *Lithothamnion/Lithophyllum* covers from 1-10% of the rock surface.
MR-1	Hard	<45 ft.	Moderate-relief rock outcrop (0.3-1.0 m relief)	Sea stars *(Asterina miniata, Pisaster brevispinus, P. giganteus,* and *P. ochraceus*) generally are present in densities of less than 1/m^2, but may exceed 10/m^2 locally. The orange solitary cup coral *Balanophyllia elegans* is sometimes present in densities exceeding 50/m^2, and the strawberry anemone, *Corynactis californicus*, may exceed 200/m^2. Kellett's whelk, *Kelletia kelletii,* is common around the rock/sediment interfaces. Sponges, ectoprocts, and compound ascidians may cover more than 25% of the substratum, and the anemone *Urticinia piscivora* is present at densities of less than 0.1/m^2. Various species of red algae, including encrusting coralline algae, may cover up to 60% of the hard-substrate habitat, and a brown alga, *Desmarestia* spp., is occasionally present on the upper portions of the rock.
MR-2	Hard	>45 ft.	Moderate-relief rock outcrop (0.3-1.0 m relief)	Seastars *(Asterina miniata, Pisaster brevispinus, P. giganteus*, and *P. ochraceus*) generally are present in densities of less than 1/m^2, but may exceed 10/m^2. The orange solitary cup coral *Balanophyllia elegans* is sometimes present in densities exceeding 50/m^2, and the strawberry anemone, *Corynactis californicus*, may exceed 200/m^2. The brown cup coral *Paracyathus stearnsii* may be present in densities up to 20/m^2. Sponges, ectoprocts, and compound ascidians may cover more than 25% of the substratum, and the anemone *Urticinia piscivora* is present at densities of less than 0.1/m^2. Various species of red algae may cover up to 40% of the hard-substrate habitat.

Table 3-7 Subtidal Habitat Characterizations in the Immediate Project Area

Habitat Code	Habitat Type	Water Depth	Habitat Description	Biological Community Description
HR-1	Hard	<45 ft.	High-relief rock outcrop (>1.0 m relief)	Seastars (*Asterina miniata* and *P. ochraceus* and *P. giganteus*) generally are present in densities of less than 1/m^2, but may exceed 10/m^2 locally. The orange solitary cup coral *Balanophyllia elegans* sometimes exceeds 50/m^2, and the strawberry anemone, *Corynactis californicus*, may exceed 200/m^2. The aggregated anemone *Metridium senile* is occasionally present in densities up to 50/m^2. Sponges, ectoprocts, and compound ascidians may cover more than 25% of the substratum, and the anemone *Urticinia piscivora* is present at densities of less than 0.1/m^2. Various species of red algae may cover up to 100% of the hard-substrate habitat. *Oxylebius pictus* is the most commonly seen fish, occasionally occurring in densities up to 0.1/m^2.
HR-2	Hard	>45 ft.	High-relief rock outcrop (>1.0 m relief)	Seastars (*Asterina miniata* and *P. ochraceus* and *P. giganteus*) generally are present in densities of less than 1/m^2, but may exceed 10/m^2 locally. The orange solitary cup coral *Balanophyllia elegans* is sometimes present in densities exceeding 50/m^2, and the strawberry anemone, *Corynactis californicus*, may exceed 200/m^2. The solitary anemone *Metridium giganteum* is common on the upper portions of the rocks at these depths, often exceeding 10/m^2. Sponges, ectoprocts, and compound ascidians may cover up to 25% of the substratum, and the anemone *Urticinia piscivora* is present at densities of less than 0.1/m^2. Various species of red algae may cover up to 20% of the hard-substrate habitat shallower than 55 ft.. *Oxylebius pictus* is the most commonly seen fish, occurring in densities of less than 0.1/m^2.

Key:
cm = Centimeters.
ft. = Feet.
m = Meters.
m^2 = Square meters.

APPENDIX E
FEDERALLY AND STATE LISTED SPECIES OF CONCERN

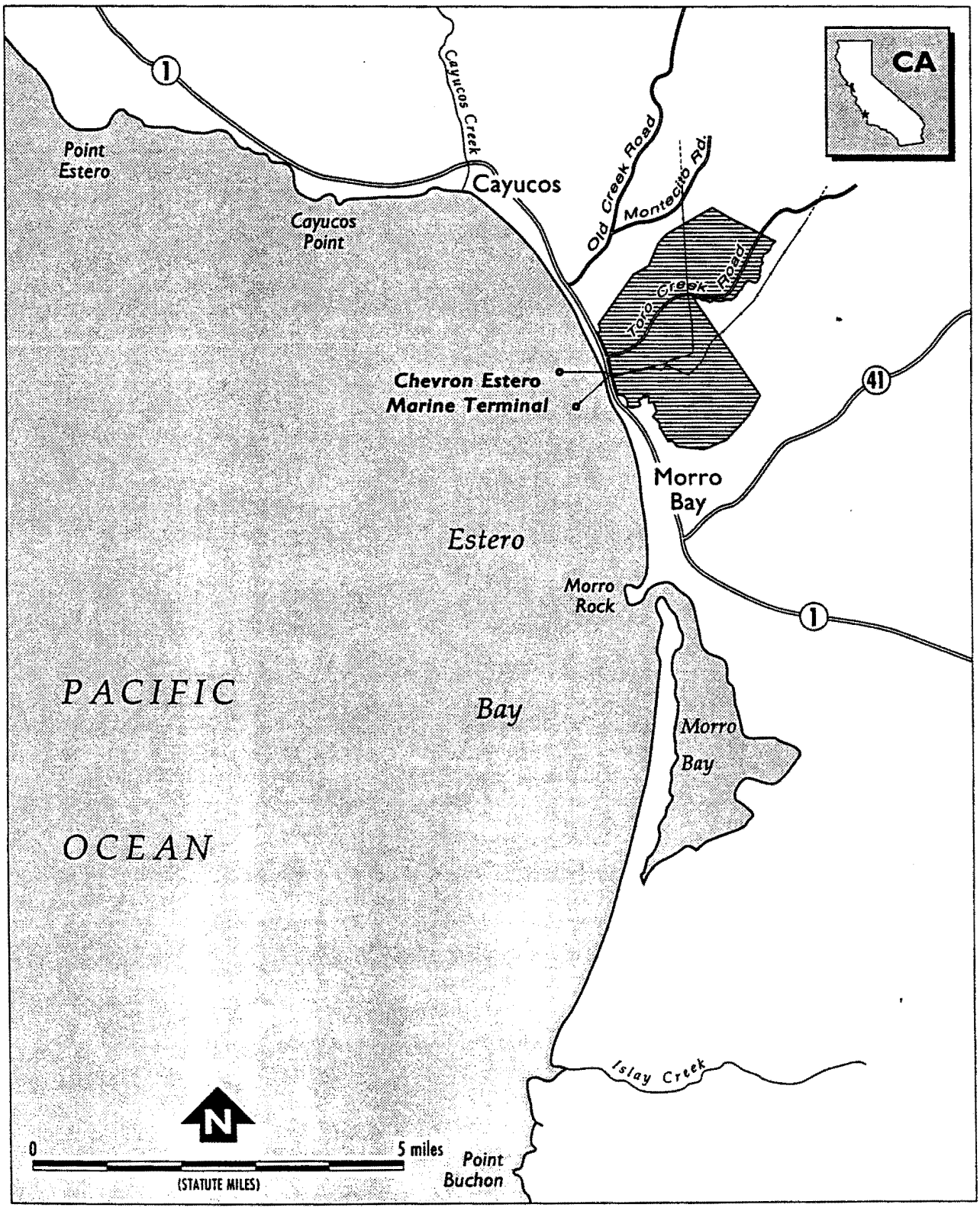
Table 3-9 Federally and State Listed Species of Concern

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Location/Habitat
Mammals				
Gray whale	*Eschrichtius robustus*	P1	P2	Migratory along seaward side of kelp beds.
Humpback whale	*Megaptera novaeangliae*	E	P2	Migratory along seaward side of kelp beds.
Harbor seal	*Phoca vitulina* spp. *richardi*	P1	P2	Morro Bay beaches, mudflats.
Southern sea otter	*Enhydra lutris nereis*	T	P2	Throughout Estero Bay, especially kelp beds.
California sea lion	*Zalophus californianus*	P1	P2	Nearshore waters, rocky beaches.
Birds				
American peregrine falcon	*Falco peregrinus anatum*	E	E	Morro Rock, nesting.
California brown pelican	*Pelecanus occidentalis californicus*	E	E	Morro and Estero Bays.
Western snowy plover	*Charadrius alexandrinus nivosus*	T	CSC	Nests on the sandy beaches of Morro Strand State Beach.
Fish				
Tidewater goby	*Eucyclogobius newberryi*	E	None	Brackish lagoons, lower stream reaches of creeks feeding Morro and Estero Bays.
Steelhead (anadromous)	*Oncorhynchus mykiss*	T	Reg	Creeks feeding Estero Bay.
California grunion	*Leuresthes tenuis*	None	Reg	Estero Bay sandy beaches during spawning.
Mollusks				
Pismo clam	*Tivela stultorum*	None	P2	Sandy beaches of Estero Bay.

[1] Definition of status as follows:

E = Endangered: a species, including subspecies, in danger of extinction throughout all or a significant portion of its range.
T = Threatened: a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
P1 = Protected under federal law: a species not to be taken or possessed at any time under the Marine Mammals Protection Act of 1972.
P2 = Protected under state law: a species not to be taken or possessed at any time unless the CDFG authorizes the collecting of such species for necessary scientific research. Such species are protected under the California Fish and Game Code, Sections 3511, 4700, 5050, and 5515.
Reg = Regulated: a hunted or fished species whose taking is regulated by the CDFG.
CSC = California species of concern.

Sources: Jones and Stokes, Inc. 1981; NDDB 1994; Chevron 1994; CDFG 1994.



000502.CP08.00.19.01.c (c100) 11/16/98

Figure 2-1

Project Location Map

Exhibit 1

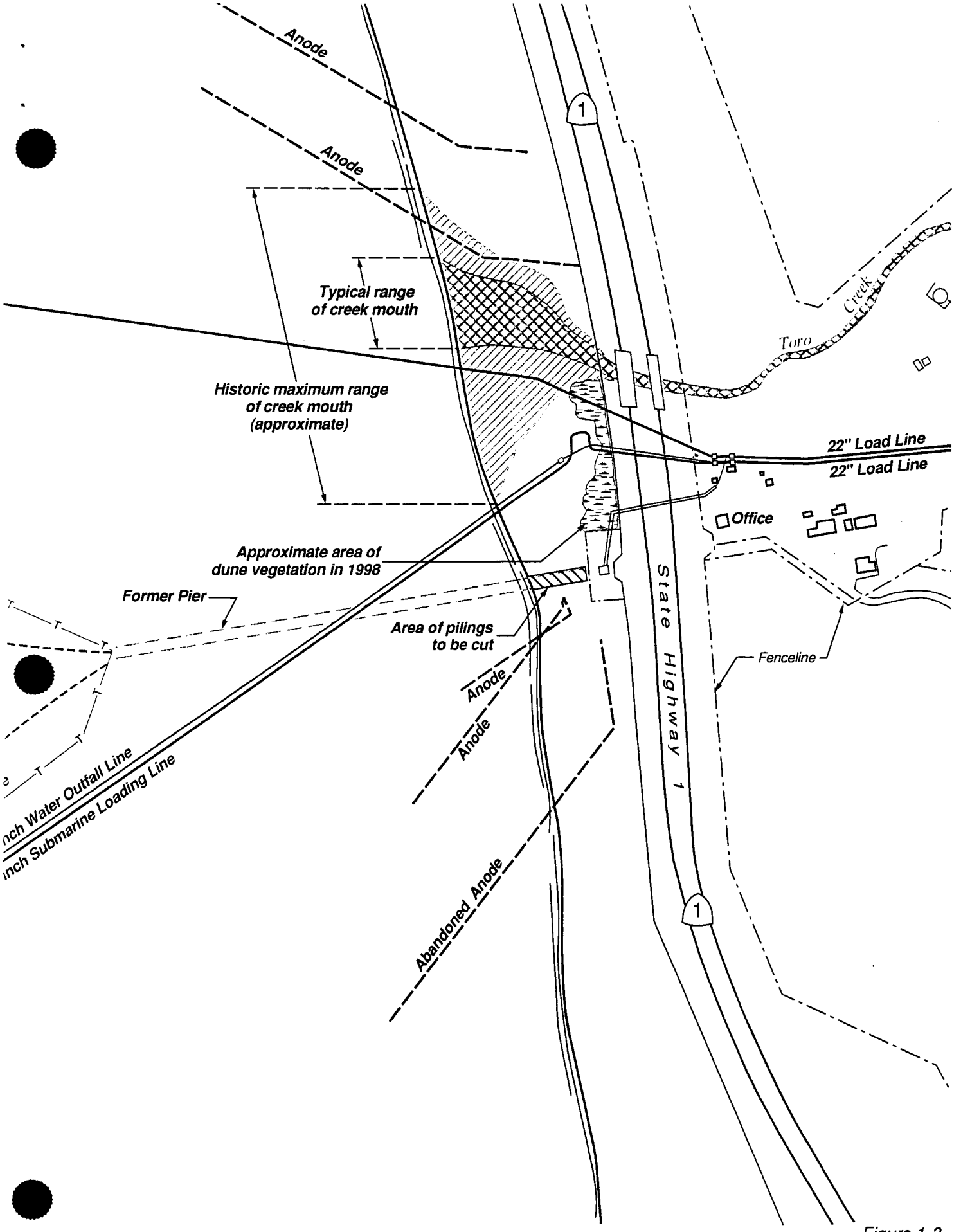
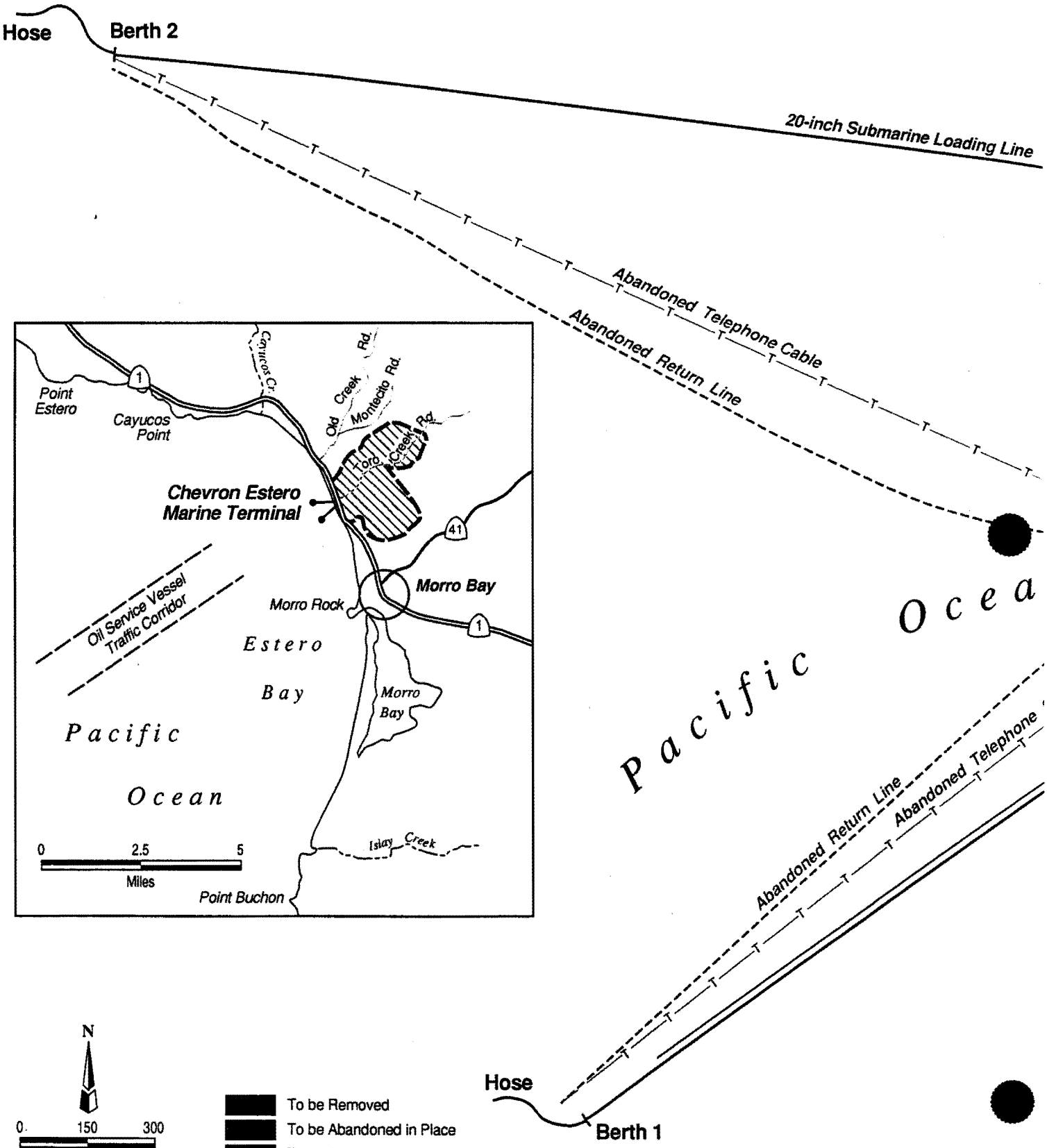


Figure 1-2

Overview of Estero Marine Terminal

Exhibit 2



Mariposa Environmental Services