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Energy, Ocean Resources and Technical Services Unit
Staff: LE and AD/SF
Staff Report: November 3, 1995
Hearing Date: November 15, 1995
Item No: 4-C
No Commission Action Required

DRAFT EMERGENCY PERMIT E-95-15

BRIEFING ON PROPOSED ISSUANCE OF AN EMERGENCY PERMIT TO THE UNION OIL COMPANY OF CALIFORNIA (UNOCAL) FOR REMOVAL OF RIP-RAP AND CONSTRUCTION OF A SHEET PILE WALL SYSTEM AT GUADALUPE OIL FIELD IN SAN LUIS OBISPO COUNTY (EXHIBITS 1 AND 2)

SYNOPSIS

Project Site Description

The Guadalupe Oil Field is bordered on the west by the Pacific Ocean and on the south by the Santa Maria River and Santa Barbara County (Exhibit 1). UNOCAL has operated in the Guadalupe Oil Field since 1953 and has a long-term lease for approximately 2,000 acres of land. Large portions of the groundwater and soil within the field are now contaminated from releases of petroleum products. Approximately 35 distinct plumes have been identified on the property, and a site assessment is continuing to characterize these fully. One of the major contaminants is generically called diluent and was used to thin the heavy crude that was produced from this field. One plume, called either the Beach Plume or Leroy 5-X is close to the active beach and has been identified as a source of diluent releases to the marine environment. This plume extends from the beach back under acres of established dune.

Earlier Permit Activity at Guadalupe Dunes

In 1994, the US Coast Guard declared a federal interest in the clean-up of the portion of this beach plume closest to the ocean. At that time, UNOCAL developed a plan to excavate and treat the diluent contaminated sand on the active beach and to install some type of barrier which would prevent diluent in the rest of the plume from migrating into this cleaned area. On August 23, 1994, the executive director of the Coastal Commission issued emergency permit E-94-12 which addressed the activities which were part of the clean-up plan. E-94-12 covered the "Installation of temporary sheetpile coffer dam, excavation of diluent-containing sand within the coffer dam, removal and remediation of contaminated sand and mobile diluent, installation of temporary HDPE (high density polyethylene) retaining wall, restoration of beach site to its natural state, and other related project operations ... ." The diluent contaminated sands were excavated, treated by thermal

desorption and returned to the beach to fill in the excavated area. The temporary sheet pile coffer dam was removed. However, since only a small portion of this diluent plume was remediated through work associated with E-94-12, the temporary HDPE wall was left on site to act as a barrier to diluent migration. This temporary HDPE wall is an impermeable plastic wall that is buried on the beach. It is intended to block the flow or migration of diluent into the active beach area where the diluent could be released into the marine environment.

Threat to the Temporary HDPE Wall from River Migration

The temporary HDPE wall has no structural strength and is held in place by the sand on each side. It was located sufficiently far landward on the beach that it was thought to be protected from erosion by ocean waves. During the 1994/95 winter, storm waves and river flood conditions caused an unsteady but progressive northward movement of the Santa Maria River outlet. The river location was surveyed regularly (Exhibit 3) and by the end of March 1995 (the beginning of the snowy plover nesting season), the river edge was within 50 feet of the southern edge of the HDPE wall. Over the summer the river moved to within 40 feet of the HDPE wall and it is the persistence of the river in this location through the summer and early fall that has precipitated the need for this Emergency Permit. Based on an analysis of river migration[1], there is approximately an 80% chance that the Santa Maria River will continue to migrate northward and damage the temporary HDPE wall sometime this coming winter.

The Proposed Emergency Permit

This Emergency Permit[2] will authorize the removal of rip-rap (left from construction of the coffer dam) and the construction of a 370 foot long temporary sheet pile wall with tie-back system to protect the temporary HDPE wall from river and wave damage (Exhibit 2). The normal procedure for an Emergency Permit is approval by the executive director, without a public hearing (See 14 CCR Sec. 13143(c)). However, after issuance of Emergency Permit E-94-12 for, among other activities, installation of the temporary HDPE wall, the Commission voiced strong interest that it be involved in future projects at Guadalupe. Also, the executive director wants to insure that lack of timely project information will not jeopardize the public review process. Therefore, the executive director is bringing this Emergency Permit to the Commission and interested public for input.

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[1] Everts Coastal, "Final Report Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan," prepared for Levine-Fricke, 21 September 1995.

[2] 14 CCR Section 13009 states: "Emergency" used in Public Resources Code Section 30624, and these regulations means: a sudden unexpected occurrence demanding immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 CCR Section 13139 states that the information to be reported during the emergency shall include the following: (a) the nature of the emergency; (b) the cause of the emergency, insofar as this can be established; (c) the location of the emergency; (d) the remedial, protective, or preventative work required to deal with the emergency; and (e) the circumstances during the emergency that appeared to justify course(s) of action taken, including the probable consequences of failing to take action.

Project Information was Not Available for Timely Review

UNOCAL has identified a temporary sheet pile wall with some type of river management as the preferred protection for the temporary HDPE wall. Detailed plans for a protective sheet pile wall were not provided to Commission staff until a meeting held October 24, 1995 and there were major revisions to these plans as recently as October 31, 1995. In March 1995, UNOCAL identified the need for a river management plan to encourage the re-establishment of a southern river outlet, several thousand feet from the HDPE wall. Commission staff recognized that a river management plan could be a complex undertaking and advised UNOCAL to begin development of a plan quickly. UNOCAL has provided a general framework for a river management plan but has not not yet submitted any details. There is not sufficient time to develop a detailed river management plan, undertake local reviews, submit an application for a Coastal Development Permit and implement a detailed river management plan before possible 1995/96 winter flows and storms. The executive director does not have adequate information to accept this project for filing as a regular permit item, or the necessary local government approvals. These concerns prevent the executive director from filing a regular permit application at this time.

Conditions for This Emergency Permit

This emergency permit is conditioned to require that UNOCAL submit an application for a regular Coastal Development Permit (CDP) within 60 days of issuance of this Emergency Permit and at the time of application for a regular CDP, to submit verification that applications have been made for all necessary local permits. Conditions for this permit include, among others, requirements for an independent on-site monitor, notifications to the public about all work efforts, limitations on site disturbance, and details for the minimum information that would be required in an acceptable river management program.

Conclusion: Need for Quick Action

The Coastal Act and Administrative Regulations specify the circumstances under which an emergency permit is warranted. In deciding to issue this emergency permit, the executive director has carefully considered the current conditions at the site and the past actions by the executive director and other agencies to halt a marine release of oil from this site. There is a high risk of oil entering the marine waters once winter storms begin and the natural processes of river scour and winter beach erosion damage the temporary HDPE wall and carry hydrocarbon contaminated sands and diluent into marine waters.

It has been the executive director's practice in special circumstances to issue emergency permits to prevent a future emergency from occurring, thereby protecting coastal resources. As previously explained, it is not now possible to proceed with a regular permit in time for project commencement. The sheet pile wall must be installed immediately and will take several weeks to complete to prevent an oil spill to marine waters when winter storms begin and the beach is eroded. Therefore, because of the imminent threat of an oil spill this winter if no protective devise is installed, a conditioned emergency permit is warranted to prevent a spill from occurring.

A. BACKGROUND: COASTAL PERMIT ACTIONS AT GUADALUPE OIL FIELD

Characteristics of the Guadalupe Oil Field and On-Going Studies

The proposed construction will be located near the meandering mouth of the Santa Maria River, on the active beach in the Guadalupe Dunes (Exhibit 1). The general area of the Guadalupe-Nipomo Dune complex has been described as the largest, most scenic and most ecologically diverse coastal dune wetland system in California. UNOCAL has operated the oil field since 1953, and has a long-term lease for approximately 2,000 acres. Large portions of the groundwater and soil in this field have been contaminated by releases of a petroleum product generically called diluent and other petroleum products. There are approximately 35 distinct plumes on the site. The total number of plumes continues to change as the site characterization continues and as possible plumes are found to have been erroneous records or as areas thought to be contaminated by separate plumes are found to be part of one large contaminant plume. Much of the site is being studied by the US Fish and Wildlife Service and California Department of Fish and Game in order to prepare a Natural Resource Damage Assessment (NRDA). In addition, the County of San Luis Obispo is overseeing the preparation of an Environmental Impact Report on the clean-up and remediation of the entire field. Both the NRDA effort and the eventual site clean-up and remediation will be long-term efforts.

Endangered Species at Guadalupe Dunes

The Guadalupe Dunes and Santa Maria River provide habitat for a vast array of flora and fauna and several species listed as threatened or endangered by the Federal government. Tidewater gobies, a federally listed species, are in the lagoon of the Santa Maria River, and both threatened snowy plover and endangered California Least tern use the beach area from late March till mid-September. Protection efforts for the plovers and terns normally requires that little if any activity occur on the site when they are nesting or foraging, since noise or human interference may jeopardize the survival of eggs and hatchlings. Any activities which must occur during nesting season could result in a "take" and would require Section 7 consultation with the US Fish and Wildlife Service.

Previous Emergency Actions at Guadalupe Dunes

Due to the proximity of several identified plumes to the open ocean, some areas have required clean-up in advance of the overall EIR and clean-up plan for the entire field. The most significant marine release had come from an area identified as the Beach Plume (Leroy 5-X) and in the fall of 1994, the US Coast Guard and the Oil Spill Prevention and Response Office of the California Department of Fish and Game ordered emergency clean-up of the portion of this plume which encroached onto active beach. It was in cooperation with this effort that the executive director of the California Coastal Commission issued Emergency Permit E-94-12, for the "Installation of temporary sheetpile coffer dam, excavation of diluent-containing sand within the coffer dam, removal and remediation of contaminated sand and mobile diluent, installation of temporary HDPE retaining wall, restoration of beach site to its natural state, and other related project operations ... ."

On-Going Need to Protect the Temporary HDPE Wall

The beach plume is a diluent contaminated area that extends from the active beach inland under approximately 12 acres of established dunes. The clean-up authorized by E-94-12 only treated a small portion of the diluent plume which was under the active beach. There are at least 500,000 gallons of diluent still in the plume and the temporary HDPE wall was installed as a barrier to keep the remaining diluent from migrating seaward and recontamination the beach area. Extraction wells have been installed upgradient of the HDPE wall to recover trapped mobile diluent. Destruction or unplanned removal of the temporary HDPE wall could reinitiate the marine release of diluent.

Migration of the Santa Maria River is a Threat to the HDPE Wall

At the time the temporary HDPE wall was installed, the mouth of the Santa Maria River was approximately 3,000 feet south of the HDPE wall at its closest point. In the 56 year period prior to the installation of the temporary HDPE wall, the river migrated significantly from this southern outlet location only once. During the wet period in 1941, the river migrated north, to the vicinity of the HDPE wall, and stayed in this general location for several years. In 1994, UNOCAL considered the possibility that the Santa Maria River could threaten the HDPE wall and a report by Dr. Howard Chang found that there was little, if any, threat from river avulsion, channel migration or channel widening[3]. However, during the 1994/95 winter, storm waves and river flood conditions caused an unsteady but progressive northward movement of the Santa Maria River. The river location was surveyed regularly (Exhibit 3) and by the end of March 1995 (the beginning of snowy plover nesting season), the river edge was within 50 feet of the southern edge of the HDPE wall. It was believed that further northern migration of the Santa Maria River would destroy all or part of the HDPE wall and allow diluent to migrate through the active beach to the ocean.

Earlier Proposals for Emergency Protection - April and September 1995

UNOCAL twice alerted staff of the Commission, the Regional Water Quality Control Board, Oil Spill Prevention and Response and San Luis Obispo County that the HDPE wall was in eminent danger and requested permission to take emergency measures to protect the wall. In early April 1995, when the Santa Maria River first migrated close to the temporary HDPE wall, UNOCAL prepared to place rip-rap in front of the HDPE wall if necessary. Eventually a sand spit formed across the river outlet, the lagoon and river channel maintained its position south of the HDPE wall, and no rock was ever added to the area. River migration exposed rock that had been left on site after the coffer dam was removed; removal of this rock is part of the current Emergency Permit.

At the end of September 1995, water levels in the lagoon rose and threatened to overtop the bank in the direction of the HDPE wall. As an emergency response to the high water condition, UNOCAL proposed to breach the spit at a location either 1,500 feet or 3,000 feet south of the HDPE wall, using shovels to dig a pilot channel. US Fish and Wildlife Service determined that this action could result in a taking of tidewater gobies and before this issue could be resolved, the spit breached naturally on the night of October 15, 1995.

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[3] Chang, Howard, "Erosion Potential and Protection for Hydrocarbon Remedial Site near Beach of Guadalupe, California."

B. HISTORY OF PRESENT PROJECT AND APPLICATION

River Migration Alerted UNOCAL to the need to Protect the HDPE Wall

During the first identified threat to the temporary HDPE wall, in spring 1995, UNOCAL identified the need for long-term protection of the HDPE wall from future storm driven river migration. While no non-emergency construction could take place at Guadalupe until the endangered species left the site in September, Commission staff advised UNOCAL in April to begin identifying possible long-term protection measures which could be brought to the Commission in a regular Coastal Development Permit. A submittal entitled, "Final Report Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan,"[4] strongly suggests that the most preferable option for protecting the HDPE wall would be a wall structure, such as the sheet pile wall, combined with river management. Based on this report and prior discussions about options for protection of the temporary HDPE wall, UNOCAL made a preliminary determination that a combination of structural protection and river management could be the preferred alternative for protecting the temporary HDPE wall.

Protection for HDPE Wall should be in place before winter storms

The major threat to the temporary HDPE wall is from further migration of the Santa Maria River. The river migration study by Everts Coastal[5] estimates that there is an 80% chance that the river will damage the HDPE wall, based on the current channel and outlet location. If the river migrates through the location of the temporary HDPE wall, it can scour the wall and remove the barrier protecting the ocean from further marine releases of diluent. If the river outlet migrates northeast, seaward of the temporary HDPE wall, the HDPE wall can be exposed to direct wave attack and scour which would likely remove portions of the HDPE material and also result in further marine releases of diluent. Exhibit 4 shows the proposed construction schedule. To avoid construction during storm activity or while snowy plovers are nesting on the site, installation of the sheet pile wall must begin in November.

River Management

UNOCAL has been examining ways to encourage the Santa Maria River to halt its northward migration and reestablish a channel and outlet at its historic southerly location. The range of efforts to redirect the river are included in the general idea of river management. River management has been discussed both as an emergency response and as a long-term protection technique. Some of the methods that have been presented for river management included (1) reopening the southern outlet using dynamite, bulldozers or a crew of laborers with shovels; (2) closing the northern

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[4] Everts Coastal, "Final Report Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan," prepared for Levine-Fricke, 21 September 1995.

[5] Everts Coastal, "Final Report Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan," prepared for Levine-Fricke, 21 September 1995.

opening with bulldozers; and, (3) building a large sand dike across the northern river channel and letting the ocean waves naturally close the northern opening.

Submittals for Current Permit Action

On August 10, 1995, UNOCAL submitted a minor use permit application to San Luis Obispo County for the construction of a 370 foot long sheet pile protection wall. On September 5, 1995, the Commission staff provided comments to the County on UNOCAL's application. The Commission staff suggested that UNOCAL provide more specific information on the project proposal, including the siting criteria used for the proposed wall, a discussion of alternatives and a river management proposal, which staff had been told in April would be UNOCAL's primary emphasis for protection of the temporary HDPE wall.

Available Information on the Sheet Pile Wall and River Management Option

On October 24, 1995 Commission staff held a meeting with UNOCAL and staff of both San Luis Obispo and Santa Barbara Counties to discuss UNOCAL's plans to protect the temporary HDPE wall. At this meeting UNOCAL provided a relatively complete review of the protection wall portion of this total project, although there have been further project revisions as recently as October 31, 1995. San Luis Obispo County has received a Minor Use Permit Application for this sheet pile wall and tie-back project, but cannot complete its review in time to let the project be installed prior to the possible start of winter storms.

On October 27, 1995, UNOCAL submitted a quick overview of a possible river management plan for the Santa Maria River. This initial plan does not consider impacts to recreational resources, natural resources or threatened or endangered species. There has been no local government review of this plan and at present there is insufficient information on the river management component to determine the environmental consequences of such activity. Based on available evidence, the combined project is believed to be the least environmentally damaging alternative; however, environmental review has not been conducted on the river management component. As a result, while there is available information in the sheet pile wall component, the Commission does not yet have a complete project and cannot entertain at this time a regular Coastal Development Permit for protection of the temporary HDPE wall.

Summary of Current Situation

The outlet of the Santa Maria River and river channel continue to threaten the HDPE wall, and some protection needs to be provided prior to the anticipated start of this year's winter storms. At this time, UNOCAL has not developed a detailed river management plan, nor have the environmental impacts and benefits from long-term river management been analyzed. Lacking information to the contrary, the executive director believes the preferred action at Guadalupe would involve the proposed wall with some form of river management. The executive director lacks sufficient information on strategies for management of the Santa Maria River to present this option to the Commission for a regular Coastal Development Permit. The potential need for winter protection necessitates the installation of the least disruptive hard structure. This action must be

followed by the thorough and detailed review of river management. As conditioned, this Emergency Permit details the elements that would form a minimally acceptable river management plan, and develops a schedule for submittal of such a plan and a review process.

C. ACTIVITIES ALLOWED BY THIS EMERGENCY PERMIT

1. RIP-RAP REMOVAL

Why there is Rip-Rap on the Guadalupe Beach

When the Coast Guard ordered UNOCAL to clean up the diluent on the active beach and install the temporary HDPE wall, not all the work was completed before the start of the 1994 winter storms. In early January, the coffer dam was still in place and treated sand was still being placed in the excavation to return the beach to its natural condition. As reported by Scientific Applications International Corporation and Fugro West, Inc. in their monitoring report for the period from December 12 to January 13[6], "On January 11 and 12, 1995, the winter storms caused much erosion on the south wall of the remaining cofferdam. ... The ocean was also removing the sand from inside the cofferdam around the south sheet pile wall. On January 12, 1995, granite boulders (36" to 48" diameter) were placed in the affected area to stop the beach erosion. UNOCAL states that these were placed temporarily and they intend to remove them." The subsequent summary for the period from January 13 to February 14[7] stated that, "Thursday, February 2, 1995 ..... Boulders were removed from the site." The installation and removal of the boulder rip-rap was undertaken as a very temporary effort and was monitored by County representatives. Commission staff was notified about the rip-rap after it had been installed. Use of this temporary protection was part of the overall effort to remediate the beach plume rapidly, and all rock should have been removed in February 1995.

How this Rip-Rap was Discovered

In March 1995, when the Santa Maria River migrated north, rock rip-rap was exposed where the south sheet pile wall of the cofferdam had been located. UNOCAL estimates that approximately 125 tons of rip-rap were left on or under the beach, in the area which is now the northern bank of the Santa Maria River Lagoon (see Exhibit 2). This rock is close to the location for the sheet pile protection wall and must be removed both to finish clean-up of the site from beach plume remediation activities (E-94-12), and because sheet pile cannot be installed though the rip-rap.

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[6] Science Applicaitons International Corporation and Fugro West Inc., "Summary of Geoenvironmental and Biological Monitoring at the Guadalupe Beach Remediation Project Site, from December 12 to January 13" prepared for San Luis Obispo County, January 13, 1994 (sic.).

[7] Science Applicaitons International Corporation and Fugro West Inc., "Summary of Geoenvironmental and Biological Monitoring at the Guadalupe Beach Remediation Project Site, from January 13 to February 14" prepared for San Luis Obispo County, February 14, 1995.

Techniques for Removing the Rip-Rap

The rip-rap is at the edge of the Santa Maria River Lagoon. It was surveyed on April 24, 1995, and this survey can be used to locate the rip-rap for removal. When the water level in the lagoon is low, the rocks are exposed and visible. When the river mouth closes and upstream releases flood the lagoon, the water level rises and the rocks are submerged. At the time that the rip-rap is removed, the water level in the lagoon must be low enough that the rocks are visible. A sheet pile driver with a rock tong attachment will be used to extract the remaining rip-rap. If the rip-rap is covered by sand, this cover will be removed first, using a perforated bucket attachment. UNOCAL estimates it will take three days to remove all remaining rip-rap.

Breaching the Lagoon

If the water level in the lagoon is high enough to cover the rip-rap, UNOCAL will manually breach the sand spit, south of the temporary HDPE wall, either 3,000 feet or 1,400 feet south. A pilot channel will be excavated with shovels; no mechanized equipment will be used. The US Army Corps of Engineers has issued a Nationwide Permit for this possible breaching effort, provided, among other conditions, that:

a) the activities authorized under this permit are conducted between October 6 and November 17, 1995;

b) breaching is initiated during high tide to minimize the take of tidewater gobies that may be washed into the ocean; and

c) a written record of the date, time and amount of material removed be submitted to the Corps' Regulatory Branch by December 1, 1995.

Health and Safety Plan for Breaching

In addition to the conditions required by the Corps, UNOCAL had developed a health and safety program for breaching which requires that all personnel wear personal floatation devices and other safety gear such as tether lines. A guard will be posted south of the proposed channel to prevent beach walkers from being either injured by the sudden flow from the breach or stranded north of the opening and someone will be posted at the exposed sump area (on the eastern edge of the lagoon) to monitor the boom and ensure that the change in water level does not jeopardize the boom placement or result in a marine release for the sump.

2. SHEET PILE WALL

Design of Proposed Temporary Sheet Pile Wall and Tie-Back System

The proposed temporary sheet pile wall will be installed between the northern bank of the Santa Maria River and the temporary HDPE wall. As shown on Exhibit 2, it will follow the general location of the temporary HDPE wall. The sheet pile wall starts at a location south east of the southern edge of the temporary HDPE wall and goes 104 feet west, somewhat parallel to the

northern bank of the Santa Maria River. The sheet pile wall will angle to the north for 266 feet, positioned landward of the river outlet and approximately 40 to 75 feet west of the temporary HDPE wall. This wall configuration provides erosion protection from river scour as well as possible wave erosion if the river outlet migrates west of the temporary HDPE wall and removes the existing sand beach which provides natural protection for the back beach. The proposed sheet pile wall will be 370 feet long and 40 feet deep. The top elevation of the proposed sheet pile wall will be + 15 feet, mean sea level, based on a maximum wave run-up of 15 feet. The beach elevation at this location is approximately +18 feet, mean sea level, and the temporary sheet pile wall will be below the existing grade.

Tie-Back System for Sheet Pile Wall

With a top elevation of +15 feet, the temporary sheet pile wall will be embedded to a depth of -25 feet, mean sea level. The maximum scour depth for the sheet pile wall is predicted to be 0' mean sea level, which would expose the top 15 feet of the sheet pile wall. In such a situation the sheet pile wall would be supporting at least 15 feet of sand and the embedded depth is not sufficient to support this as a cantilever without tilting seaward. A second row of sheet piles will be installed approximately 27 feet behind the main sheet pile wall as a tie-back system and epoxy coated cables will connect the main sheet pile wall to this anchoring system. The tie-back wall and connecting cables will be below grade and will be covered by sand during normal conditions.

Installation of the Sheet Pile Wall and Tie-Back System

The sheet pile wall and tie-back system will be installed below existing grade. In the construction area, approximately 820 cubic yards of beach sand will be excavated to expose the working depth. All sand will be stockpiled on site and returned to the excavation area after the sheet piles are driven and the cables are installed between the main wall and the tie-back system. UNOCAL estimates that it will take 3 work days to prepare the site for sheet pile installation, 10 work days to drive all the sheet pile and install the tie-back system, 2 work days to demobilize and 2 work days to do site clean-up and initial restoration.

Condition Cover the Sheet Pile Wall and Tie-Back System with Sand

The temporary sheet pile wall and tie-back system will both be installed below the existing sand level. If the sand level drops and the wall is uncovered or exposed, the wall may function as a perch for raptors. Since the Guadalupe Dunes beach area is used by threatened snowy plover and endangered California Least tern, a perch area for raptors could increase the chance of predation and California Department of Fish and Game may require that a regular permit for a sheet pile wall at this location be conditioned to require at least two feet of sand cover be maintained over the sheet pile wall. A condition of the proposed Emergency Permit requires that UNOCAL prepare a plan for providing sand cover in a manner which does not disturb these nesting birds.

Removal of the Sheet Pile Wall and Tie-Back System

The sheet pile wall and tie-back system have been designed to be removed easily once the sheet pile wall is no longer needed to protect the temporary HDPE wall. The useful life of this structure will depend upon the success of the river management program and the speed and effectiveness of the clean-up efforts for the remaining "Beach Plume" (Leroy 5-X). Based on corrosion estimates, the sheet pile thickness may be reduced by 0.123 inches after 10 years and by 0.185 inches after 15 years. Given these predicted losses, the sheet piles should had sufficient strength to allow the entire pile to be pulled when they are no longer needed. The most severe corrosion would be localized in the upper portion of the sheet pile. If the upper portion of any sheet pile is not strong enough to pull the entire section, the top will be cut and the lower section will be pulled. If the joints are corroded, the piles will be removed using vibratory equipment. These various options for removal guarantee that the sheet pile system can be completely removed when it is no longer needed.

3. RIVER MANAGEMENT

Benefits of River Management

In 1994, when the temporary HDPE wall was installed, it was installed in a location where it was expected to be protected from damage for the foreseeable future. The migration of the Santa Maria River to within 40 feet of the southern edge of the temporary HDPE wall changed this situation. Based on analysis in "Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan"[8], if the river channel were to return to its historic southern location, there would be only a 5% chance that, in any year, the river would reach the temporary HDPE wall. However, when the channel is within 40 feet of the temporary HDPE wall, there is an 80% chance that in any year the river will reach the HDPE wall. This analysis does not take into account the placement of the sheet pile wall; but makes clear how critical the river location is to the protection of the temporary HDPE wall and the prevention of a marine release from the "Beach Plume" (Leroy 5-X).

If the river returns to a more southerly location, the wall should be covered by sand and should not be exposed. If the wall is exposed it may serve as a perch for raptors, as discussed previously, and also it will be visible to visitors using the public beaches in Santa Barbara County, immediately to the south of Guadalupe Dunes. Effective relocation of the river channel to the south may prevent either of these situations from occurring.

Possible River Management Techniques

River management can encompass a number of different strategies. When UNOCAL first became aware of the migration of the Santa Maria River, it considered and rejected using dynamite to reopen the southern outlet. Other options which were examined included using bulldozers to open a new channel; building a large sand dike across the northern opening or river channel and cutting a

[8] Everts Coastal, "Santa Maria River Migration at the Coast: Channel Migration Estimates and Channel Management Plan," prepared for Levine-Fricke, Inc. 21 September 1995.

new outlet further south; blocking the northern outlet to the ocean and opening a new outlet further south; and, careful surveillance of river and ocean conditions. While not considered at the time, river management can also include control of upstream flows, development of a small pilot channel, flow diversion through establishment of bank or in-stream vegetation, and many others. Each process brings with it possible impacts which must be weighed against their possible benefits. UNOCAL is in the process of preparing a plan for river management which will have the long-term scope and flexibility to function in concert with the sheet pile wall and provide protection for the temporary HDPE wall. Minimum requirements for such a plan are provided in conditions to the proposed Emergency Permit.

Regulatory Aspects of River Management at Guadalupe Dunes

The Santa Maria River flows along the boundary between San Luis Obispo County and Santa Barbara County. In its current northern location, the river outlet is in San Luis Obispo County, but in its southern location, the outlet was in Santa Barbara County. River management thus involves coordination between both counties. Other agencies that could be involved in the review or permitting of a river management program include, but are not limited to: US Army Corps of Engineers, US Fish and Wildlife Service, California Department of Fish and Game, State Lands Department, Regional Water Quality Control Board and the Coastal Commission.

D. POSSIBLE FUTURE CONCERNS AT GUADALUPE

This proposed Emergency Permit only addresses the need for immediate protection of the temporary HDPE wall from possible winter storms and river flows. The regular permit action will address the continued reliance upon this temporary sheet pile wall system in conjunction with a river management program. While this may conclude the near term Commission action with respect to the Beach Plume (Leroy 5-X), the Commission will be involved in the long-term restoration and clean-up of portion of the Guadalupe Oil Field. It is very likely that the executive director or the Commission may review other actions at this site prior to completion of the EIR for restoration and clean-up.

The recent northern channel of the Santa Maria River cut into the beach and foredunes and exposed a sump area which had not been identified in earlier site characterizations. When the water levels are high, this sump is emitting a sheen. Boom is now containing this sheen and preventing a marine release. The executive director has received a preliminary work plan to remediate this site in advance of the EIR completion. Recent site characterization identified several plumes other that "The Beach Plume" (Leroy 5-X) which terminate at the beach. While the executive director will make every effort to provide normal review of such actions, complete with local government approvals, a regular Coastal Development Permit and public hearing, it may be necessary to issue other emergency permits to protect marine resources.

DRAFT EMERGENCY PERMIT

Emergency Permit E-95-15

Guadalupe Beach area of the Guadalupe Oil field, San Luis Obispo County, approximately 4 miles west of the town of Guadalupe, adjacent to the northern bank of the Santa Maria River (Exhibit 1).

Location of Emergency Work

Removal of approximately 125 tons of rip-rap from Guadalupe Dunes and installation of a temporary sheet pile wall system adjacent to the southern end of the temporary high density polyethylene (HDPE) wall (constructed under Emergency Permit E-94-12). The sheet pile wall system will consist of a primary wall, approximately 370 feet long and 40 feet deep, with a sheet pile tie-back wall 27 feet landward of the primary wall, approximately 370 feet long and 8 to 10 feet deep that will be connected to the primary wall with steel cables, 20 feet on center. The purpose of this project is to protect the HDPE wall from further northward migration of the Santa Maria River and possible scour and undercutting of the HDPE wall. The sheet pile wall will be placed in the location shown in Exhibit 1 and in the manner specified in the design package (work plan) prepared by Applied Engineering and Earth Systems Consultants, dated October 13, 1995, and amended October 31, 1995. As planned, the sheet pile wall will be covered by sand; however, river or wave scour may remove the sand cover, possibly exposing the top 15 feet of the sheet pile.

Work Proposed

This letter constitutes approval of emergency work you or your representative have requested to undertake at the location listed above. I understand from your information that an unexpected occurrence in the form of northerly migration of the Santa Maria River to within 45 feet of the temporary HDPE retaining wall requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. (14 Cal. Admin. Code Section 13009) The executive director hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 45 days, unless otherwise specified by the terms of the permit;

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

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

The work is hereby approved, subject to the conditions attached.

The natural migration of the Santa Maria River has posed an emergency situation only because of the temporary HDPE retaining wall. The activities surrounding this emergency permit underscore the need for expedient treatment of the Guadalupe Dunes site, as addressed in Emergency Permit E-94-12.

Very Truly Yours,

Peter M. Douglas
Executive Director

By:_____

Title:_____

Attachment: Emergency Permit Acceptance Form

CONDITIONS OF APPROVAL

1. When Permit Will Take Effect

This emergency permit shall not become effective unless and until the enclosed Emergency Permit Acceptance Form is signed by UNOCAL and returned to the executive director of the California Coastal Commission [executive director].

2. Work Authorized By This Emergency Permit

This emergency permit authorizes only those project operations specifically described in the Grading Plan Site Details (Exhibit 2) and the design package (work plan) prepared by Applied Engineering Earth Systems Consultants dated October 13, 1995, and amended October 31, 1995. UNOCAL shall not deviate from the specified operations, timing, sequence of operations, or locations unless and until authorized by the executive director.

3. Schedule For Completing All Emergency Work

All emergency work authorized by this permit shall be completed 45 days after issuance of this permit. In the event an extension to this deadline appears necessary, UNOCAL shall submit for approval by the executive director, no later than 30 days after issuance of this permit, a written request for an extension that includes reasons for the extension and a revised timeline for completion of all work.

4. Schedule and Contents For Regular Coastal Development Permit

(A) Within 60 days of issuance of this emergency permit, UNOCAL shall submit an application for a regular Coastal Development Permit (CDP) from the California Coastal Commission (the Commission) for all emergency work conducted under this permit.

(B) The regular CDP application shall include, but not be limited to:

(1) Detailed plans for a river outlet management effort, including but not limited to:

a. Locations for a new outlet.

b. Conditions which would trigger the need for a new outlet when the mouth is completely closed.

c. Conditions which would trigger the need for a new outlet when there is an existing open outlet.

d. Techniques used to make a new outlet, including, but not limited to, timing, equipment, safety procedures, access routes, and evacuation routes.

e. Treatment of existing outlets, if the new outlet is to replace an existing one. (For example, will this outlet be closed off artificially or will it remain open?)

f. Identification of all upstream information necessary to provide for effective river management, such as sources of water, estimates of monthly or seasonal flows, measured or recorded water levels, flow rates, release periods, etc., and plans for the acquisition and operation of all gauges, monitoring wells, current meters, staves, stilling basins, etc. to provide this information for a period of time at least as long as either the sheet pile wall or HDPE wall are in place.

g. The River Management Plan should include an analysis of the effects of river management techniques on coastal resources including, but not limited to, each of the Federally listed species that use the site (western snowy plover, California Least terns, and tidewater gobies), on local recreation, such as surfing, horse back riding, beach walking, and others.

h. Notification procedures to inform agencies, neighboring land owners and the public about management efforts and new outlets, recognizing that different groups may need different information.

i. Post-outlet follow-up and documentation of work.

(2) Thorough analysis of impacts from rip-rap removal and of all alternatives for protecting the temporary HDPE wall. Protection options shall include, but not limited to; the proposed option of a sheet pile wall combined with a program of river management, a sheet pile wall without river management, a river management program without any hard structures, rip-rap protection, bank vegetation, and any other feasible options;

(3) All partially or fully vegetated foredune areas disturbed by construction shall be monitored and stabilized in accordance with the Interim Site Stabilization Plan, developed under Special Condition 17 of Emergency Permit E-94-12.

(4) Plans for maintaining a sand cover over the sheet pile wall and tieback system so that these man-made structures do not serve a perch sites for raptors which might prey on snowy plovers or least terns;

(5) Plans for complete removal of the sheet pile wall as soon as it is no longer needed to protect the temporary HDPE wall; criteria to be used to determine when the sheet pile wall is no long needed; information or measurement that will be used in making this decision. Final decision for removal of the sheet pile wall shall be made by the executive director, with input from the County of San Luis Obispo and UNOCAL.

(6) Verification that applications have been made for all necessary federal, state and local permits for the sheet pile wall and river management program, including, but not limited to: permits from San Luis Obispo County, Santa Barbara County, and the US Army Corps of Engineers; and

(C) If an extension to this schedule appears necessary, within 15 days of issuance of this emergency, UNOCAL shall submit to the executive director a written request for an extension that includes reasons why such an extension is necessary and a new schedule for submittal of the information.

5. Copies Of Other Approvals

Within one week of the date of issuance of this emergency permit, or as obtained subsequent to issuance, UNOCAL shall submit to the executive director copies of all orders, permits or other approvals required by other agencies and property owners, for the activities authorized by this emergency permit, including but not limited to:

- California Department of Fish and Game, Office of Oil Spill Prevention and Response;
- California Regional Water Quality Control Board, Central Coast Region;
- County of San Luis Obispo Planning Department
  Air Pollution Control District
  Environmental Health Division
- California State Lands Commission
- US Army Corps of Engineers
- US Environmental Protection Agency
- US Fish and Wildlife Service

6. Independent On-Site Monitor

UNOCAL shall fund the hiring of an independent monitor, approved by the executive director, to observe all activities associated with this emergency permit, including, but not limited to: removal of the existing rip-rap, stockpiling of materials for the sheet pile wall, excavation and installation of the sheet pile wall and tie-back system, site clean-up and demobilization. Funds for this monitoring shall be directed through the County of San Luis Obispo. The monitor shall document pre-construction conditions of the work site and adjacent areas, including the access areas for heavy equipment. In addition, the monitor shall provide to the Commission staff and to San Luis Obispo County weekly reports and visual documentation (photographs, slides, videos etc.) detailing activity on the site for the period from the start of construction through to the final occupation of the work area.

7. Public Notices During Construction

UNOCAL shall provide notices for the public which outline the type of work being done, the anticipated time schedule and any appropriate safety concerns. Notices shall be placed at points of public access to the site such as the main access gate to the site. UNOCAL shall coordinate with the Nature Conservancy, owner of the public property to the north and south of the UNOCAL lease area, to find appropriate and visible locations for public notices. UNOCAL shall bear the costs of all public noticing.

8. Coordination with Commission Staff

(a) The Commission staff or its designee shall have the right of entry at any time to any portion of the project site (within health and safety constraints) to determine permit compliance.

(b) UNOCAL shall assign a liaison person to coordinate with the Commission staff on all issues related to this permit, including condition compliance and provision of information requested by the staff. The liaison person shall respond to any request made by the staff within one working day of such request. UNOCAL may assign the same liaison person to the Commission and other federal, state or local agencies requesting a liaison.

9. Protection of Environmentally Sensitive Resources

(a) Prior to commencement of project operations, UNOCAL shall submit to the executive director an up-to-date map, at 1:240 scale, that shows all areas that will be affected by the project activities and delineating the different habitat types within the affected areas. The map shall quantify the extent of area affected and shall show the locations for all activities associated with this project, including but not limited to: equipment access, storage, maintenance, fueling, and all other equipment activities; rip-rap removal and sheet pile installation; material stockpiling, storage or laydown areas; and all other activities that will be undertaken as part of this project.

(b) All construction activities shall be limited to existing road access and designated construction areas, as mapped on Exhibit 1. The limits of access for construction equipment shall be identified on the ground by flags, temporary barriers, temporary barricades or other means which can be readily seen and recognized by all construction crews.

(c) Following construction, the sheet pile wall and tie-back system shall be covered with sand; the sheet pile wall shall be covered by a minimum of 2 feet of sand and the tieback system shall be covered by a minimum of 3 feet of sand.

(d) Within 48 hours after construction activities have been completed all flags, barriers, barricades, and other location markers shall be fully and completely removed and the site shall be returned to its pre-construction condition.

10. Commission Immunity

In addition to any immunities provide for by law, in exercising this permit, UNOCAL agrees to hold harmless and indemnify the Commission, its officers, employees, agents, successors and assigns from any claims, demands, costs, expenses and liabilities for any damage to public or private properties or personal injury that may result directly or indirectly from the project.

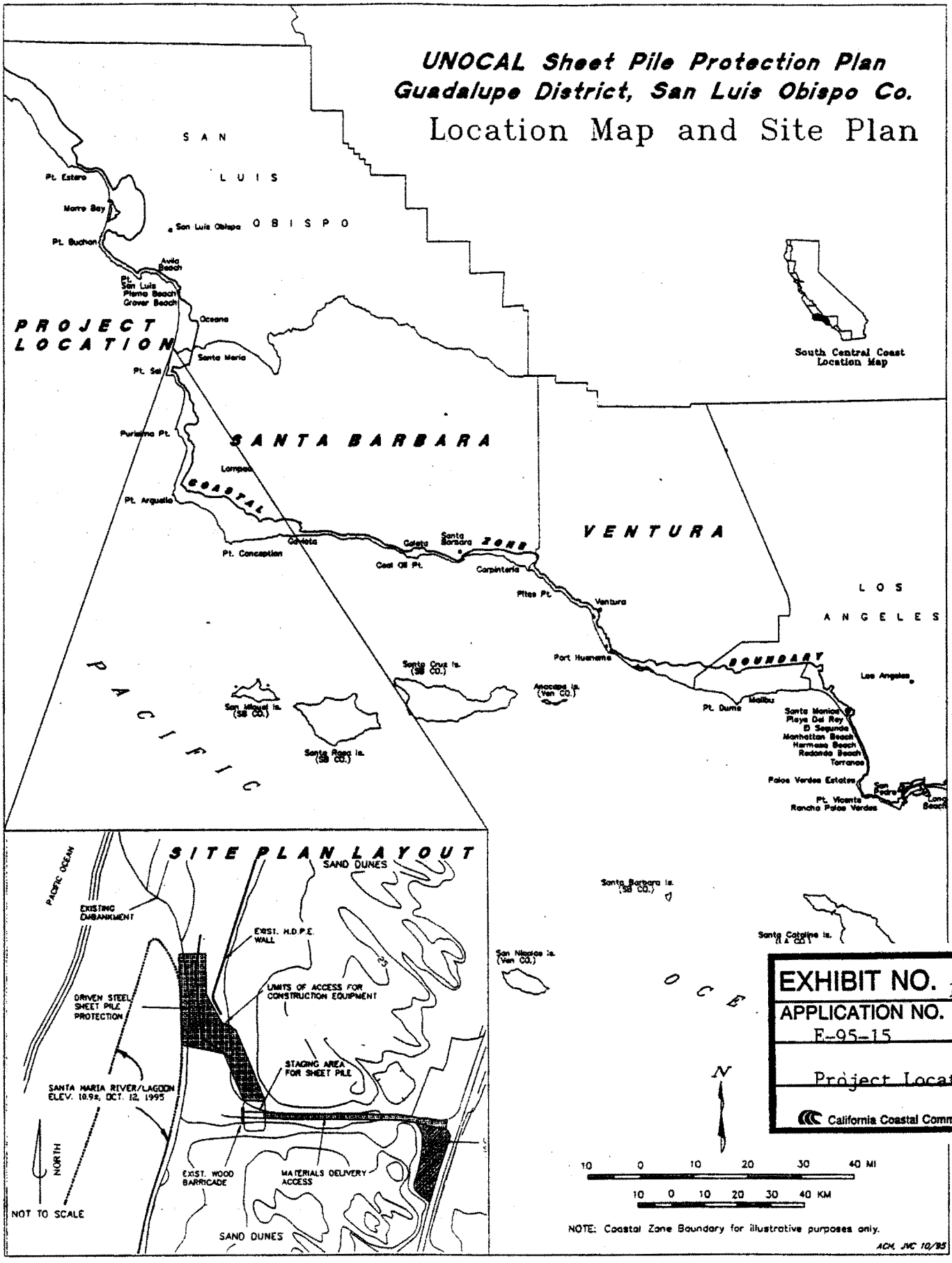
11. Reimbursement Of All Legal Fees

UNOCAL shall reimburse the California Coastal Commission in full for all costs and attorneys fees -- including (1) those charged by the Office of the Attorney General and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay--that the Coastal Commission incurs in connection with the defense of any action brought against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and /or enforcement of permit conditions, or any other matter related to this permit or its approval or issuance.

12. Acceptance Of All Permit Conditions

Acceptance of this emergency permit shall be deemed acceptance of all conditions of this permit. Authority to conduct work encompassed by this permit is contingent upon full and continuing compliance with every condition of this permit. Failure to comply fully with the requirements of any condition of this permit shall constitute grounds for a cease and desist order issued by the executive director or by the Commission (Sections 30809 and 30810 of the California Coastal Act).

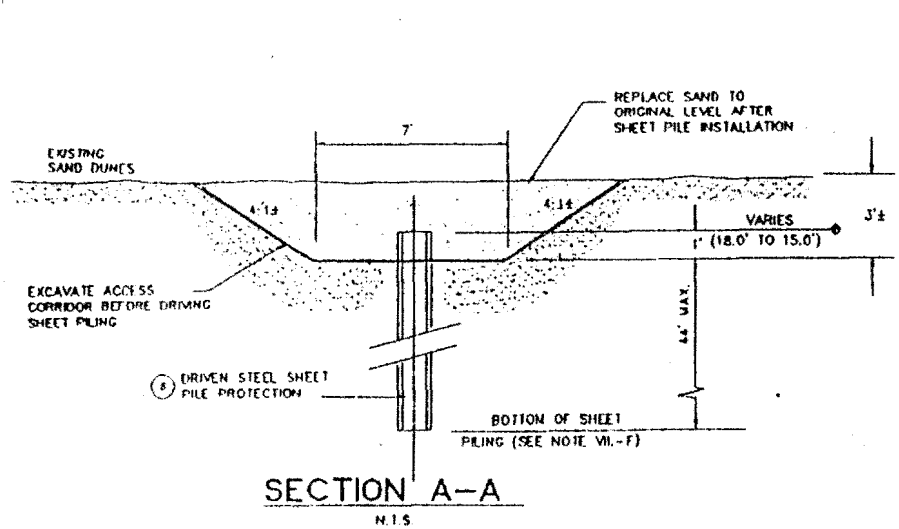
UNOCAL Sheet Pile Protection Plan
Guadalupe District, San Luis Obispo Co.
Location Map and Site Plan



NOTE: Coastal Zone Boundary for illustrative purposes only.

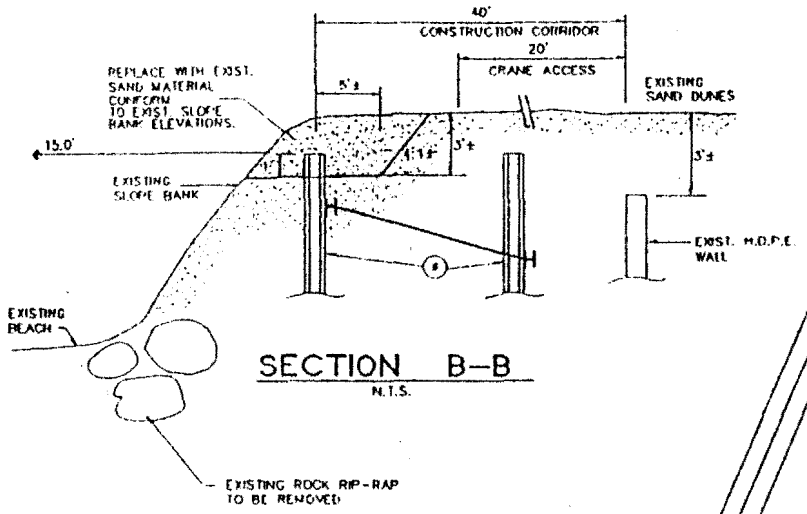
ACM, JVC 10/95

EXHIBIT NO. 1
APPLICATION NO. E-95-15
Project Location
California Coastal Commission



SECTION A–A

N.T.S.



SECTION B–B

N.T.S.

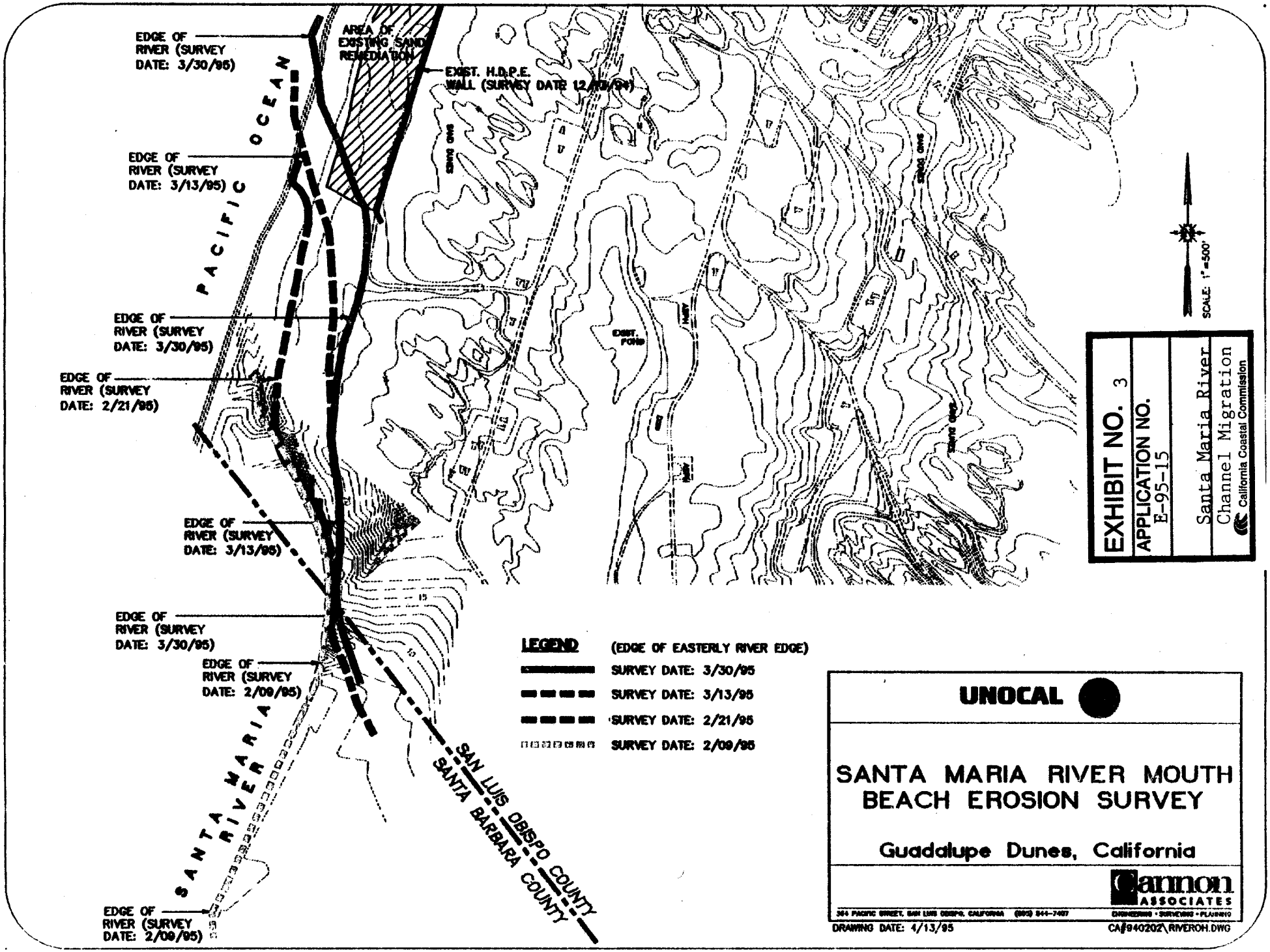


EXHIBIT NO. 3

APPLICATION NO. E-95-15

Santa Maria River Channel Migration

California Coastal Commission

UNOCAL

SANTA MARIA RIVER MOUTH BEACH EROSION SURVEY

Guadalupe Dunes, California

Cannon ASSOCIATES

364 PACIFIC STREET, SAN LUIS OBISPO, CALIFORNIA (805) 544-7407 ENGINEERING • SURVEYING • PLANNING

DRAWING DATE: 4/13/95

CA\940202\RIVEROH.DWG

UNOCAL Sheetpile Protection Wall

ID	Task Name	Duration	Start	Finish
1	Mobilize/transfer sheetpile: corrosion protection for tie-back system	3d	11/16/95	11/20/95
2	Remove rip rap	3d	11/16/95	11/20/95
3	Site preparation	3d	11/16/95	11/20/95
4	Install sheetpile	10d	11/21/95	12/4/95
5	Install tie-back system	5d	12/5/95	12/11/95
6	Demobilize	2d	12/11/95	12/12/95
7	Site cleanup/restoration	4d	12/12/95	12/15/95

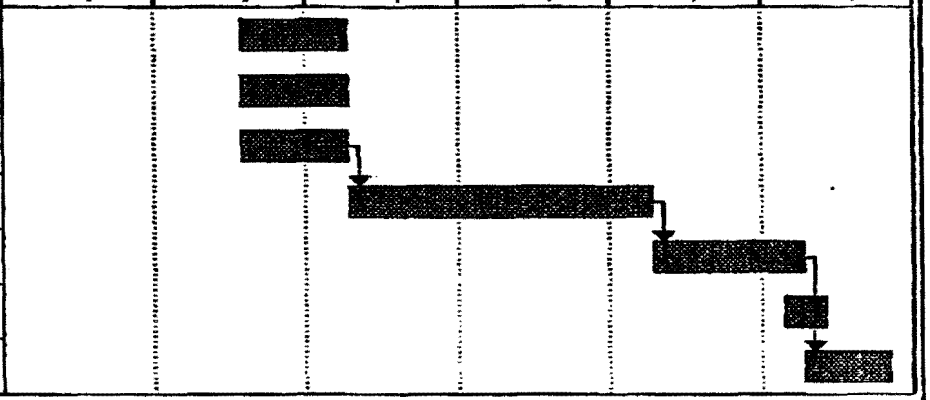


EXHIBIT NO. 4
APPLICATION NO. E-95-15
Project Schedule
California Coastal Commission

Project:UNOCAL Protection Wall
Date: 11/2/95

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress