

**MINUTE ITEM**

This Calendar Item No. 49 was approved as  
Minute Item No. 49 by the California State Lands  
Commission by a vote of 3 to 0 at its  
1-30-02 meeting.

CALENDAR ITEM

**49**

A 67

01/30/02

W 25306

W 30122

S 35

J. Trout

D. Sanders

L. Kiley

J. Clark

**CONSIDER CERTIFICATION OF BOLSA CHICA LOWLANDS  
RESTORATION PROJECT FINAL EIR AND ADOPTION OF THE  
PROPOSED PROJECT**

**SUMMARY**

Staff is presenting the proposed Bolsa Chica Lowlands Restoration Project (Proposed Project) to the Commission and is recommending two actions: 1) certification of the final EIR as provided within the California Environmental Quality Act (CEQA), and 2) adoption of the Proposed Project identified in the final environmental document. The U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers, the federal lead agencies, will each issue a Record of Decision (ROD) on the final EIS as provided by the National Environmental Policy Act (NEPA).

**BACKGROUND**

In October 1996, eight state and federal agencies, including the California State Lands Commission (CSLC), the U.S. Environmental Protection Agency (EPA), the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), the State Coastal Conservancy (SCC), the National Marine Fisheries Service (NMFS), the California Resources Agency and the US Army Corps of Engineers (Corps), entered into an interagency agreement (Agreement) to establish a project for wetlands acquisition and restoration at the Bolsa Chica Lowlands, Orange County. The Commission approved the Agreement at its meeting of February 12, 1997.

Under a separate agreement by which the property came to the State, the Ports of Los Angeles and Long Beach provided \$25 million in funding to acquire the privately held Bolsa Chica lowlands. Additionally, \$54.6 million was provided by the Ports to undertake restoration of the land as a tidal marsh, purchase remaining oil production and abandon oil operations, provide for a future full tidal area, and carry on long term operation of the restored wetlands. In exchange, the Ports received environmental mitigation credits necessary to undertake fill in

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San Pedro Bay for expansion of their multi-modal cargo facilities. This work has proceeded under the Agreement.

Restoration of the Bolsa Chica wetlands is directed by a federal/state interagency Steering Committee of representatives of each of the above listed agencies.

### **THE PROPOSED PROJECT**

The Proposed Project has several features discussed below (see Exhibit "E"). One is the creation of approximately 366.5 acres of habitat that would receive a full tidal range through an ocean inlet near Huntington Mesa. The Proposed Project would not change the existing full tidal part of the Ecological Reserve (Outer Bolsa Bay) or the muted tidal portion of the Ecological Reserve (Inner Bolsa Bay). The edges of Rabbit Island would be tidal. The full tidal area would be created by:

1. buying out and abandoning the oil wells located on a portion of the acquired property and on the adjacent State Ecological Reserve,
2. dredging approximately 2.7 million cubic yards (cy) of material to create a basin,
3. constructing a berm around the perimeter of the basin except adjacent to the flood control levee,
4. constructing an ocean inlet into the basin, and
5. constructing a bridge for Pacific Coast Highway (PCH) over the inlet channel.

Approximately 200 acres of the project area would be muted tidal. Muted tidal flow means that the area would experience regular tidal ebb and flow, but would not be exposed to the full range of the tides. The muted tidal area would be connected to the full tidal basin by culverts through the levee.

The new ocean inlet would be approximately 360 feet wide between the crest of the jetties, and these short jetties would extend approximately to the mean low tide line. The jetties would prevent the entrance channel from migrating. A new bridge would be constructed for PCH to cross the entrance channel.

The ocean inlet would be large enough to pass tidal flows sufficient to permit the future restoration of an additional 252 acres to tidal influence. This area is referred to as the future full tidal area. This area would not be restored until oil and gas field operations cease upon depletion of the oil field currently anticipated to be within 15 to 20 years. Upon depletion of the oil field and removal of the wells and contamination, it may be feasible to simply breach the dike and allow a large portion of the area to become slough, tidal flats, and saltmarsh without extensive earthwork.

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Dredged material would be incorporated into levee and road fills, used to construct nesting islands, or placed on or near the south end of Bolsa Chica State Beach for nearshore disposal or beach re-nourishment. Oil wells, water injection wells, well pads, and access roads would all be removed from within the tidal area. To protect homes inland of the Lowlands from any groundwater impacts resulting from the introduction of tidal flows to the Lowlands, a French drain would be constructed between the wetlands and the housing development.

An area of approximately 120 acres in the southeastern corner of the Bolsa Chica Lowlands would be left unchanged as seasonal ponds. Enhancement of the suitable nesting areas for Belding's savannah sparrow would be achieved in the muted tidal areas, while other valuable areas would be retained intact in the seasonal pond area and in the Inner Bolsa Bay. Enhancement of suitable nesting habitat for the light-footed clapper rail would be achieved in the cordgrass expansion of the full tidal area. Nesting area for the California least tern and western snowy plover would be achieved through the creation and retention of sparsely vegetated sandflat and saltflat areas protected from disturbance or water inundation.

Seven alternatives, including the No Project Alternative, were analyzed to the same level of detail as the Proposed Project and seven additional alternatives were examined, but eliminated from further analysis.

The Proposed Project creates a self-contained wetlands system without any inflows of flood water discharge from the adjacent East Garden Grove/Wintersburg Flood Control Channel. The flood flows will continue, as they do now, to pass through Huntington Harbour.

## **PUBLIC AND ENVIRONMENTAL PROCESSES**

Opportunities for public participation in project planning/design and in the environmental process have been provided at public workshops, public hearings and public briefings to the City of Huntington Beach.

Public workshops on project design/environmental issues were held in the City of Huntington Beach on –

- May 14, 1997
- July 9, 1997
- August 21, 1997
- September 11, 1997
- October 15, 1997

The public's involvement in the CEQA/NEPA environmental process began on December 5, 1997, with the public release of the Notice of Preparation/Notice of Intent for the initiation of the EIR/EIS. Comments were received during a 30 day

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public comment period. During this period, a complementary public scoping hearing was conducted on December 11, 1997, in the City of Huntington Beach.

Another public meeting occurred in the City on October 27, 1998, to provide the public with an update on all aspects of the project, including descriptions of various project-related studies that had begun.

The Draft EIR/EIS (DEIR/EIS) was released July 28, 2000, and a two part public hearing to receive comments on the document was held in the City of Huntington Beach on August 30, 2000. The DEIR/EIS was originally to circulate for a 45 day review period. However, in response to requests from the public (e.g., the Surfrider Foundation) and the Department of Parks and Recreation, the review period was extended to October 16, 2000, a period of eighty (80) days. The Final EIR/EIS (FEIR/EIS) was released on April 19, 2001.

The City of Huntington Beach City Council was briefed on the Proposed Project both before and after the release of the Draft and FEIR/EIS. Presentations were made by members of the Steering Committee on October 4, 1999, and March 3, 2001. Briefings were also held specifically with the City's Environmental Committee, which advises the Council on environmental matters, on February 1, 2001, and again on July 7, 2001. The Committee recommended the City's endorsement of the Proposed Project and, in particular, the construction of the ocean outlet.

**CALIFORNIA COASTAL COMMISSION'S (CCC) CONSISTENCY DETERMINATION**

On June 28, 2001, the USFWS submitted a consistency determination (CD), a process to determine whether a proposed federal action is consistent with the federally approved California Coastal Zone Management Program, to the CCC. The submission was the second phase of a consistency process that began in 1996 when the USFWS initially sought approval for the wetland restoration at Bolsa Chica. The CCC concurred with the USFWS on the Bolsa Chica Lowland Acquisition and Conceptual Wetland Restoration Plan. The CCC held a workshop on the CD for the Proposed Project on August 9, 2001, at its meeting in the City of Redondo Beach.

The CCC, at its meeting of November 13, 2001, in Los Angeles, unanimously determined that the Proposed Project, as amended, "...is fully consistent, and thus is consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program (CCMP)." The major amendment to the Proposed Project was the reduction, with the support of Caltrans, of the bridge over the proposed ocean inlet from six to four lanes, the present width of the Pacific Coast Highway. The CCC concluded that, "The proposed project appears to be the most environmentally beneficial and, overall,

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least environmentally damaging feasible alternative to restore the Bolsa Chica Lowlands to tidal wetland function.....”

**OTHER PERTINENT INFORMATION**

Pursuant to the Commission’s delegation of authority and the State CEQA Guidelines (Title 14, California Code of Regulations, section 15025), the staff has prepared an EIR/EIS identified as CSLC EIR/EIS No. 712, State Clearinghouse No. 2000071068. Such EIR/EIS was prepared and circulated for public review pursuant to the provisions of the CEQA. A Mitigation Monitoring Program (Exhibit C, attached hereto) has been prepared in conformance with the provisions of the CEQA (Public Resources Code section 21081.6).

Findings made in conformance with the State CEQA Guidelines (Title 14, California Code of Regulations, section 15091) are contained in Exhibit B, attached hereto.

A Statement of Overriding Considerations made in conformance with the State CEQA Guidelines (Title 14, California Code of Regulations, section 15093) is contained in Exhibit D, attached hereto.

**PROJECT ENDORSEMENTS/REMAINING ISSUES**

The Amigos de Bolsa Chica, the Bolsa Chica Conservancy and the City of Huntington Beach support the Proposed Project. The Surfrider Foundation (Foundation) has indicated its concerns regarding the effects of the ocean inlet on: 1) beach erosion, or 2) water quality, specifically whether contamination from wildlife would increase the number of beach closures. The FEIR/EIS concludes that, with mitigation and monitoring, there are no significant adverse effects of the inlet on beach or down coast erosion. It also concludes that the ocean inlet would not contribute to additional beach closures. This conclusion was reinforced by the results of an additional engineering/scientific study that was circulated to the public for review and comment. The Foundation did not appear in opposition to the item at the CCC’s November 13th meeting.

The Commission should be aware of other Project issues that it will need to address in the future. The certification of the FEIR/EIS and approval of the Proposed Project alternative are the first steps of a multi-phased effort that will restore the Bolsa Chica Lowlands and provide for their long term management. These issues include:

1. Additional Funding

The funds provided by the Ports are inadequate, under current estimates, to complete the restoration effort. The results of the public workshops and design studies contributed to features being added to the Project that were unanticipated

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in 1997. Construction costs also have increased more than expected. Based on the latest construction and operation cost estimates made in July 2001, the Proposed Project will require an additional \$30-50 million. Efforts are underway by all members of the Steering Committee to identify and obtain this needed funding. For example, the staff of the CSLC forwarded a Capital Outlay Budget Change Proposal to the State Department of Finance as part of the normal state budgeting process.

Sufficient funds exist to purchase the remaining oil field production in the Phase I area, abandon the oil infrastructure, do final detailed engineering design and site cleanup. The actual construction cost will not be known until bids are opened. It is expected that the USFWS will supervise the final design, bidding and construction of the Proposed Project.

2. Operation and Maintenance

Following completion of construction, an agency or organization will be selected to operate and maintain the restored wetlands. The 1997 Agreement contemplates that either the USFWS or the CDFG will be the operator. Provisions also exist for a non-profit group to fulfill this function if desired. The CSLC will later be asked to approve a long-term lease to one of these entities.

3. Site Cleanup

Apart from the construction and operation, the site must be cleaned up to a standard suitable for the intended use as a wetland. The previous owners (called the Responsible Parties, RP's) are required to do the cleanup as a condition attendant to their ownership and operations. Negotiations are underway with the RPs to agree on cleanup goals and commence the clean-up effort. An Ecological Risk Assessment of the site is near completion. No unusual or unexpected contaminants have been identified during the evaluation of the site and cleanup is expected to be routine for such a site, i.e., an area with a long history of oil and gas exploration and production activities.

**EXHIBITS**

- A. Site Map
- B. Findings
- C. Mitigation Monitoring Program
- D. Statement Of Overriding Considerations
- E. Area Summary

**IT IS RECOMMENDED THAT THE COMMISSION:**

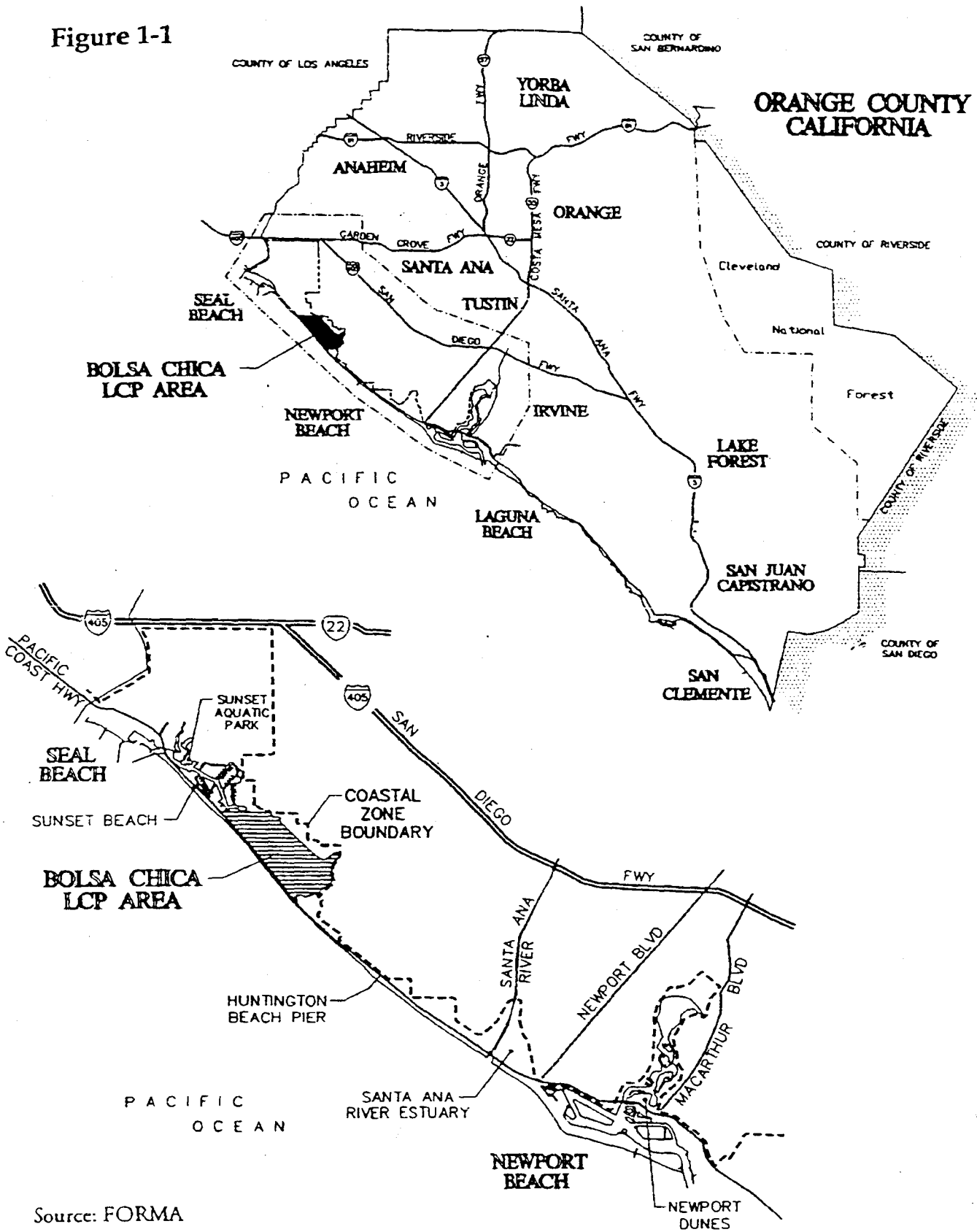
1. CERTIFY THAT AN EIR/EIS NO. 712, STATE CLEARINGHOUSE NO. 2000071068, WAS PREPARED FOR THE PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA , THAT THE COMMISSION HAS

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CONSIDERED THE INFORMATION CONTAINED THEREIN AND THAT THE EIR REFLECTS THE COMMISSION'S INDEPENDENT JUDGEMENT AND ANALYSIS.

2. ADOPT THE FINDINGS, MADE IN CONFORMANCE WITH TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15091, AS CONTAINED IN EXHIBIT B, ATTACHED HERETO.
3. ADOPT THE MITIGATION MONITORING PROGRAM, AS CONTAINED IN EXHIBIT C, ATTACHED HERETO.
4. ADOPT THE STATEMENT OF OVERRIDING CONSIDERATIONS MADE IN CONFORMANCE WITH TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15093, AS CONTAINED IN EXHIBIT D, ATTACHED HERETO.
5. APPROVE THE PROPOSED PROJECT TO RESTORE THE BOLSA CHICA LOWLANDS.
6. AUTHORIZE THE EXECUTIVE OFFICER OR HIS DESIGNEE TO SIGN ON BEHALF OF THE COMMISSION, APPLICATIONS FOR PERMITS FOR THE PROJECT AS A CO-APPLICANT WITH OTHER STATE AND FEDERAL AGENCIES.
7. AUTHORIZE THE LEGAL STAFF OF THE COMMISSION AND THE ATTORNEY GENERAL'S OFFICE TO TAKE ANY OTHER ACTIONS, INCLUDING LITIGATION, CONSISTANT WITH THIS AUTHORIZATION.
8. AUTHORIZE THE EXECUTIVE OFFICER TO EXECUTE ALL OTHER DOCUMENTS AND TO TAKE SUCH OTHER ACTIONS AS ARE REASONABLY NECESSARY.

Figure 1-1



Source: FORMA



Vicinity Map

Wetland Restoration Calendar Page

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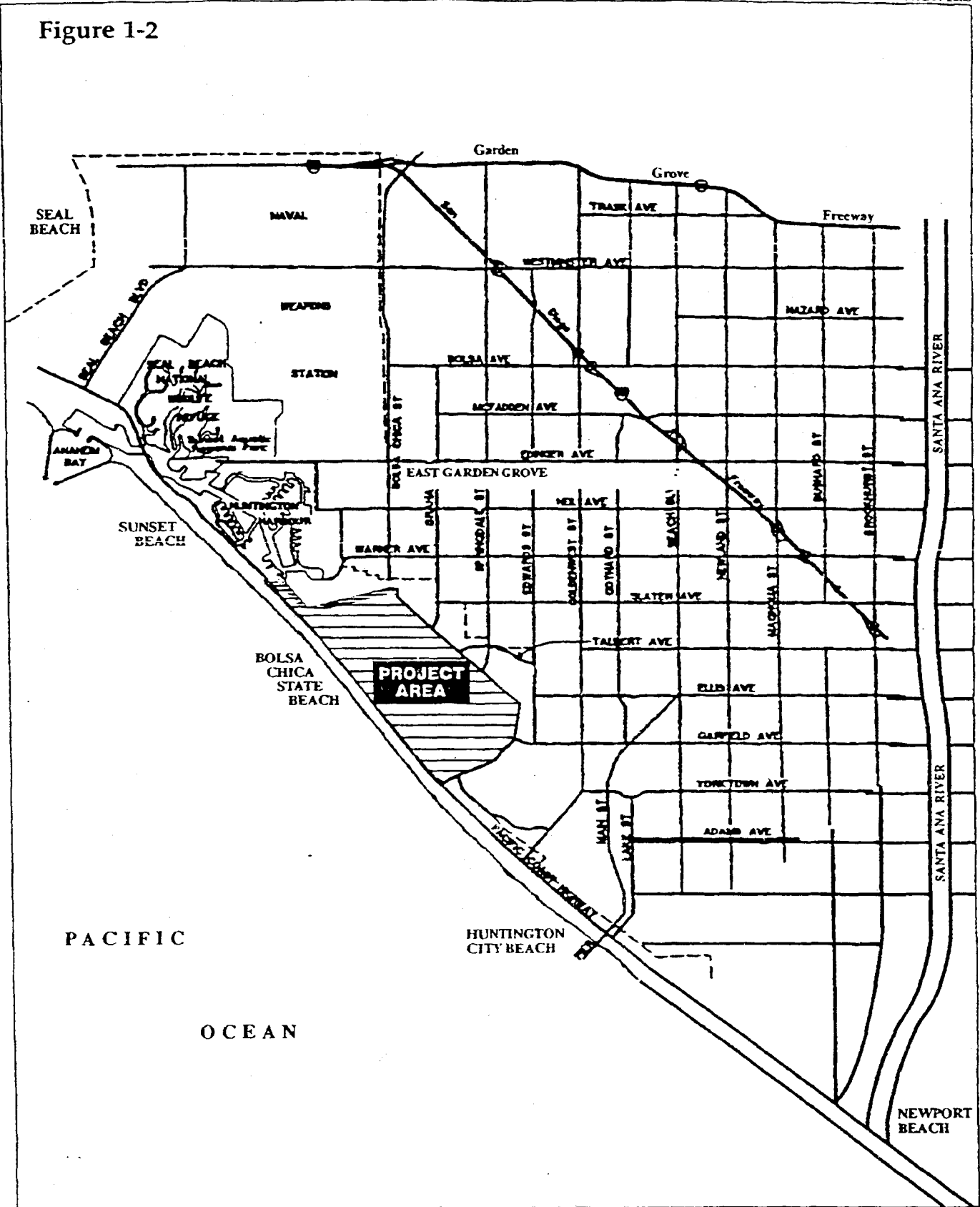
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EXHIBIT A-1



Figure 1-2

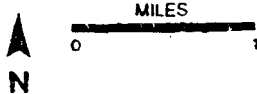


PACIFIC

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NEWPORT BEACH

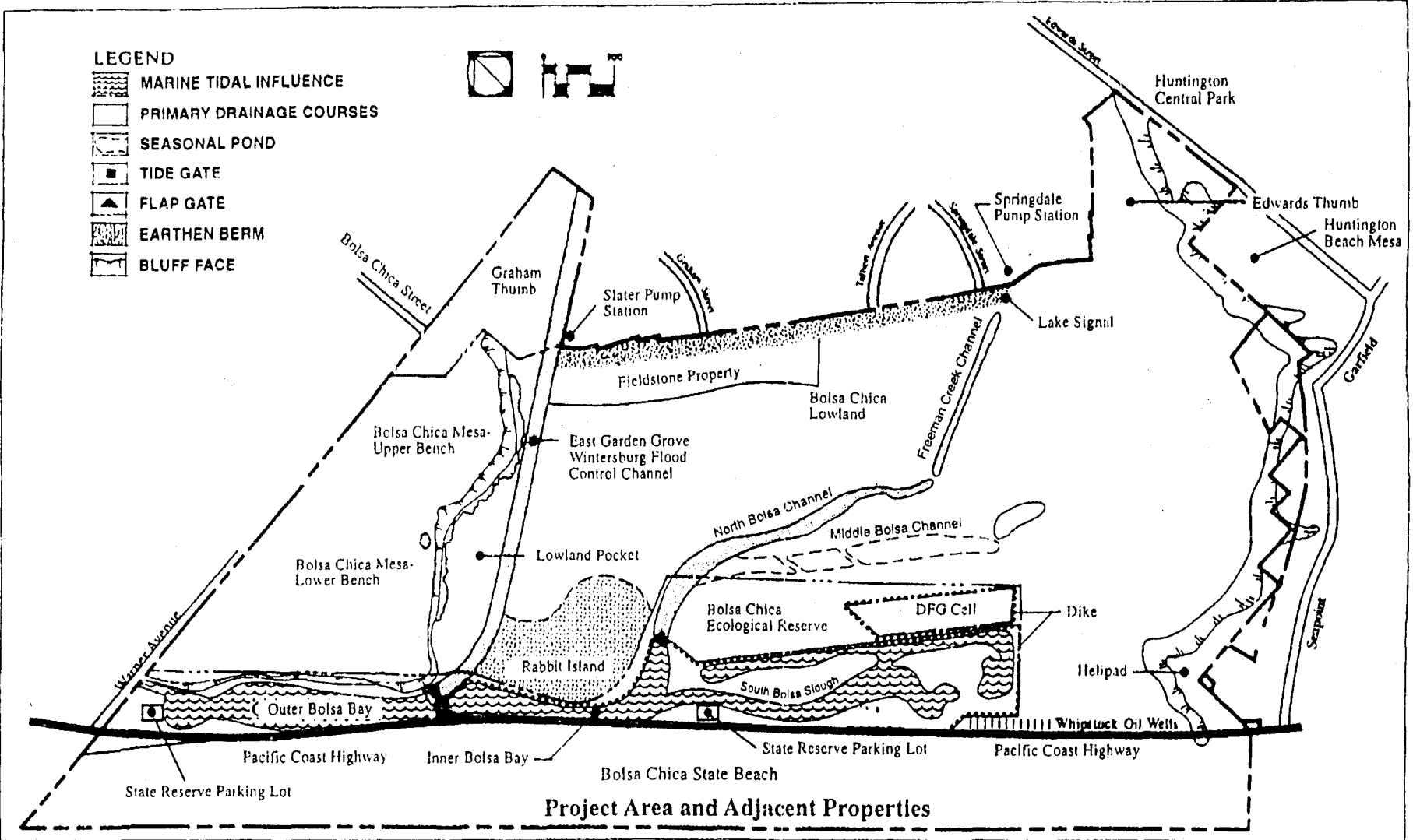
PROJECT VICINITY



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Figure 1-3

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 Exhibit 1-3



Source: County of Orange, 1993

**BOLSA CHICA EXISTING PHYSICAL FEATURES AND PLACE NAMES**



## EXHIBIT B

### Findings Regarding The Environmental Effects of the Bolsa Chica Lowlands Restoration Project

#### INTRODUCTION

The findings made by the California State Lands Commission (CSLC), pursuant to Section 15901, Title 14, California Administrative Code, on the proposed Bolsa Chica Lowlands Restoration Project are presented below. All significant adverse impacts of the Project identified in the Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) are included herein and organized according to the resource affected.

For each significant impact, i.e., Class I or II, a finding has been made as to one or more of the following, as appropriate:

- A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.
- B. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

A narrative of the facts supporting them follows the findings.

Whenever Finding B occurs, agencies with jurisdiction have been specified. It is these agencies, within their respective spheres of influence, that would have the ultimate responsibility to adopt, implement, and enforce the mitigation discussed within each type of impact that could result from Project implementation. However, under California statutory legislation (AB3180, Cortese) the CEQA Lead Agency has the responsibility to ensure that mitigation measures contained in an EIR are effectively implemented.

Whenever Finding C is made, the CSLC has determined that sufficient mitigation is not practicable to reduce the impact to a level of insignificance and there will be, even after implementation of all feasible mitigation measures, an unavoidable significant adverse impact due to the Project. These impacts are specifically identified in the supporting discussions. The Statement of Overriding

Considerations applies to all such unavoidable impacts as required by Sections 15902 and 15903, Title 14, California Administrative Code.

For discussion of impacts, significance was classified according to the following definitions:

- Class I – A significant adverse impact that cannot be mitigated to insignificant.
- Class II – A significant, adverse impact that can be mitigated to insignificant.
- Class III – Adverse but insignificant impact.
- Class IV – Beneficial impact.

Class III and Class IV impacts require neither mitigation nor findings.

## **PROJECT BACKGROUND**

The Bolsa Chica Lowlands Restoration Project (Project) is located in an unincorporated area of northwestern Orange County. The Project area consists of 1,247 acres of the Bolsa Chica Lowlands in the Bolsa Gap between Bolsa Chica Mesa on the northwest and Huntington Mesa on the southeast.

The purpose of the Project is to restore wetland and aquatic functions at the Bolsa Chica Lowlands following the abandonment and removal of oil extraction activities and after contamination is removed. The Proposed Project is the restoration of 880 acres of the Lowlands to create wetland and habitat areas, including 366.5 acres of full tidal and 200 acres of muted tidal habitat. The Project is designed to implement a comprehensive wetland habitat plan to benefit shorebirds, waterfowl, coastal seabirds, marine fishes, and a full spectrum of coastal ecosystem biota. The major components of the Project are:

1. restoration of a full tidal influence to portions of the site through dredging and the creation of a new ocean inlet accompanied by construction of a highway bridge;
2. creation and enhancement of aquatic habitats and intertidal wetlands;
3. creation of nesting and feeding areas for Threatened and Endangered species;
4. preservation of non-tidal wetlands; and
5. removal of oil extraction facilities and contamination from the Project area.

## **SURFACE AND GROUNDWATER HYDROLOGY: Impacts to Residential Area from Rising Groundwater**

Impact: Introduction of tidal flows to the Lowlands could cause groundwater levels in the adjacent residential area to rise and the groundwater to become more saline, resulting in a significant adverse impact (Class II).

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

### **Facts Supporting the Finding**

The Project includes the installation of a dewatering trench (French Drain) to prevent adverse impacts to groundwater in the adjacent neighborhood. The use of a dewatering trench to alleviate the effects of rising groundwater is an established technology. The trench would intercept groundwater flow in the upper portion of the shallow water-bearing zone. The intercepted water probably would be pumped and discharged to the East Garden Grove Wintersberg Flood Control Channel. The purpose of the drainage system is to prevent significant changes in groundwater elevation and quality by controlling both seasonal fluctuations and changes expected from wetland restoration. Groundwater levels would not be drawn below current elevations to avoid possible subsidence. However, additional studies are needed to design a system that will address the specific groundwater situation that would occur from restoration of tidal flows to the Bolsa Chica Lowlands. With implementation of the following mitigation, impacts on groundwater hydrology would be reduced to insignificant.

- The ability of a dewatering trench to effectively manage high groundwater levels shall be evaluated by a groundwater engineer prior to selecting a dewatering system design. Specifically, the design shall consider the exact locations and dimensions of the full and muted tidal basins relative to the adjacent community, the hydraulic properties of the shallow water-bearing zone, the actual elevation range of water levels in the basins, and the final ground surface elevation grade along the inland edge of the wetland. (Mitigation Measure 1)
  
- A groundwater monitoring, action, and maintenance plan shall be developed by a groundwater engineer, based on the specific dewatering design, prior to construction. The plan shall provide monitoring measures and actions to be taken (if any) if severe flooding alters the amount or pattern of sediment deposition and surface elevations within the wetland, and/or adversely affects the ability of the dewatering trench to perform its functions. This plan shall address measures, such as a supplemental pumping system, that could be implemented if monitoring data indicate potential problems with the drainage system. (Mitigation Measure 1)

**WATER QUALITY: Turbidity in the Nearshore Zone During Prefill of the Ebb Bar**

Impact: During construction, deposition of material at the ebb bar, initially and for the future full tidal area, would result in generation of turbid plumes resulting in a temporary significant adverse impact (Class I) on water quality.

Finding: C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

**Facts Supporting the Finding**

To prevent the loss of beach sand, suitable material from excavation of the full tidal basin would be placed in the nearshore zone to prefill the ebb bar. Discharge of sand at the ebb bar could have a temporary significant adverse impact (Class I) on water quality because at times extensive turbidity plumes may occur.

Turbidity impacts could be mitigated to insignificance by only using material with less than 10 percent fine material content for ebb bar prefill. Other potential methods, such as silt curtains, would not likely be effective in reducing turbidity in open ocean waters. Although prefilling the ebb bar with material with less than a ten percent fines content is technically feasible to implement, sand with less than 10 percent fines content is difficult to find offshore from the project site. Land-based sources of clean, coarse sand are in high demand for beach fill, construction, and other uses, and the Proposed Project would unlikely be able to compete, on a cost basis, with such desirable material. The cost of transporting the material to the site would be in addition to the costs of acquisition. Although prefilling the ebb bar with sand from an offshore borrow site with about 10 to 15 percent fines content would reduce the amount of turbidity, impacts from prefilling the ebb bar would remain significant. In addition, dredging of material from an offshore borrow site would create turbidity impacts (Class III) at that site. Therefore, mitigation for this temporary water quality impact in the nearshore zone may not be either practical from a cost basis or warranted as the turbidity impacts of prefilling the ebb bar would remain significant. Intermittent turbidity during filling of the ebb bar is therefore considered an unavoidable significant impact.

The primary adverse impact of the turbidity would be a visual impact to beach goers. The turbid water may deter beach goers from swimming or surfing, although the discharged material would not be harmful to swimmers.

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**WATER QUALITY: Increased Risk of Exposure of Wetlands to an Offshore Oil Spill**

Impact: The tidal inlet would expose the Bolsa Chica wetlands to risk of oiling from an offshore oil spill, resulting in a significant adverse impact (Class I).

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

**Facts Supporting the Findings**

The new tidal inlet could expose the wetlands to additional risk in the event of an offshore oil spill. If oil were to enter the wetlands, impacts to water quality would be significant (Class I). No feasible mitigation is available to reduce this impact to insignificant.

Implementation of the following mitigation reduces the impact to the extent feasible, however the potential impact remains significant.

- An oil spill contingency plan shall be prepared specifying detailed measures to be taken to protect the Bolsa Chica wetlands in the event of an offshore oil spill. The plan shall identify the necessary equipment, such as a boom to block the tidal inlet, to be readily available, its storage and deployment. Such plan shall be coordinated with existing plans of area oil and gas generators and may consider equipment available under such plans. (Mitigation Measure 2)

With a detailed oil spill contingency plan and the ability to obtain booms and other protective material rapidly, oil could better be prevented from entering the wetlands.

**BIOLOGICAL RESOURCES: Impacts to California Grunion from Beach Nourishment**

Impact: The Project would include regular beach nourishment at approximately two-year intervals. Placement of sand in the surf zone during maintenance dredging may interfere with the spawning of California grunion, resulting in a significant adverse impact (Class II).



Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Finding**

Placement of sand in the surf zone may interfere with the spawning of California grunion. Spawning takes place during nighttime high tides between March and August. Eggs are deposited into the sand and then hatch ten days later following exposure during the next high tide. Project-related deposition of sediments along the beach after eggs are in place could bury the eggs or change the beach profile to conditions where successful hatching would not occur, resulting in a significant (Class II) impact. With implementation of the following mitigation, impacts to California grunion would be reduced to insignificant.

- During flood shoal maintenance dredging, no sand shall be placed on the wave-washed beach face during the grunion spawning season (March through August) to avoid interference with spawning or damage to grunion eggs. (Mitigation Measure 3)

This timing restriction ensures that sand placement on the beach will not affect grunion spawning.

**BIOLOGICAL RESOURCES: Loss of Coastal Woolly-Heads on Rabbit Island**

Impact: Tidal inundation around the edges of Rabbit Island could result in a loss of coastal woolly-heads. The Rabbit Island population of coastal woolly-heads is sensitive, thus the potential loss is considered a significant adverse impact (Class II).

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

B. Such changes or alterations are within the responsibility and jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

**Facts Supporting the Finding**

Although this plant is not on federal or state lists of protected species, the Rabbit Island population of coastal woolly-heads is sensitive because it is one of only ten populations known to occur in the mainland United States. The species is on List 2 of the California Native Plant Society (CNPS), which means that the CNPS

considers the species to be threatened, endangered, or rare in California. Most of the coastal woolly-heads have been observed in the interior dunes part of Rabbit Island and would not be affected by tidal flows from the Project. However, some plants near the edges of the dunes may be lost as a result of the Project.

The loss of individual plants may result in a gradual decline and eventual disappearance of the Rabbit Island population of coastal woolly-heads due to loss of reproductive capability and suitable habitat, and is considered a potentially significant and adverse (Class II) impact.

- Coastal woolly-heads is an annual species whose distribution and abundance can change from year to year. Therefore, to salvage as many seeds as possible from plants that might be flooded within the tidal margins of Rabbit Island, an updated map of the coastal woolly-heads population shall be prepared. This map will specifically identify the areas that would be potentially affected under full tidal conditions, as well as identify other areas of potentially suitable habitat on Rabbit Island. (Mitigation Measure 4)
- To compensate for the loss of the Coastal woolly-heads population on Rabbit Island due to the introduction of tidal flows around its edges, seed shall be salvaged from the affected areas prior to construction in the first year, and redistributed across the non-affected, occupied portions of the habitat. If sufficient seed appears to be available, a portion of the seed supply shall be set aside for viability tests and possible redistribution after construction. Data regarding viability of seeds kept in storage are typically required for any kind of management plan for rare plant species. (Mitigation Measure 5)
- If the affected margins of Rabbit Island occupied by coastal woolly-heads do not support a substantial non-native weed population, the top 3 inches of sand shall also be salvaged in the expectation that a seed bank of coastal woolly-heads may be present. This salvaged sand shall be redistributed across other parts of Rabbit Island that are not occupied by coastal woolly-heads but is potentially suitable habitat. (Mitigation Measure 6)
- A management and monitoring plan shall be prepared to address the long-term viability of the Rabbit Island population of coastal woolly-heads. The plan shall include identification of sites elsewhere in coastal Orange County, preferably within existing preserves, that might serve as translocation sites for the species, or at least be restored as such, in the event that monitoring of the Rabbit Island population indicates population decline and possible extirpation. (Mitigation Measure 7)

- If coastal woolly-heads are found to occur within the area that would become tidally influenced and if seed from affected plants cannot be successfully propagated at an alternate site prior to opening of the tidal inlet, the area where plants occur that would be affected by tidal inundation shall be protected from tidal flow by a dike or other barrier. (Mitigation Measure 8)

Implementation of the above mitigation would reduce impacts to coastal woolly-heads to insignificant because the species would be propagated with indigenous seeds either onsite or offsite or would be protected from inundation by a dike or other barrier.

The plans and maps required by mitigation measures 4 through 8 must be reviewed and approved by the CSLC, USFWS, and California Department of Fish and Game (CDFG).

### **BIOLOGICAL RESOURCES: Temporary Loss of Beldings Savannah Sparrow Breeding Territories During Construction**

Impact: During construction there would be a temporary loss of Belding's savannah sparrow territories resulting in a significant adverse impact (Class I).

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

B. Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

### **Facts Supporting the Findings**

The removal of nontidal pickleweed to construct the full tidal basin could result in the temporary loss of between 118 and 138 Belding's savannah sparrow territories. This loss represents approximately 60 percent of the 213 total territories in the Bolsa Chica Lowlands, resulting in a significant adverse impact (Class I). The Project would include water management in the non-tidal pickleweed area and in the future muted tidal area to increase the availability and quality of habitat for Belding's savannah sparrow in the back lowlands. Irrigation

would be introduced to, and/or excess water would be removed from, nontidal pickleweed prior to grading of the full tidal area. The water management would increase Belding's savannah sparrow density in the Lowlands outside the full tidal basin and partially offset temporary losses. However, the impact may remain significant during and immediately following construction. Over the long term, the introduction of tidal flow to the Bolsa Chica Lowlands is expected to greatly increase the quality of habitat for Belding's savannah sparrow.

Implementation of the following measure would reduce temporary impacts to the extent feasible, but no feasible mitigation is available which would reduce this impact to insignificant.

- To compensate for the potential interim loss of the State endangered Belding's savannah sparrow, breeding territories at Bolsa Chica, staging areas, temporary access roads, and all other construction activities shall avoid pickleweed habitat to the greatest extent possible, in addition to the water management of pickleweed habitat proposed as part of the Project. (Mitigation Measure 9)

The pickleweed avoidance plan required by Mitigation Measure 9 must be reviewed and approved by the CSLC, USFWS, and CDFG.

#### **LAND OWNERSHIP/LAND USE: PCH Bridge and Tidal Inlet Construction**

Impact: All beach areas approximately 800 feet north and south of the proposed tidal inlet would be closed to public access during construction of the PCH bridge and tidal inlet. This closure would result in long-term, temporary, significant adverse (Class II) land use impacts affecting use of the beach.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

#### **Facts Supporting the Finding**

To accommodate the PCH bridge detour and new bridge work, demolition of structures and utilities on Bolsa Chica State Beach for the staging area would include 78,000 square feet of asphalt area used for pedestrian and emergency access and block wall windbreaks. For safety purposes, all beach areas approximately 800 feet north and south of the tidal inlet would be closed to public access during construction. A small portion of an existing parking area may be used to provide temporary ingress and egress to beach parking north and south of the construction activity. In addition, the restroom facilities at this location would be closed during construction. These areas would be closed for the duration of the 3-year construction period, resulting in a temporary, significant

adverse impact (Class II) that may affect recreational beach use only during summer holidays and weekends. Sufficient beach areas and parking exist to accommodate users during other periods. Implementation of the following mitigation would reduce land use impacts to insignificant.

- For the temporary loss of Bolsa Chica State Beach parking area and beach area used during construction: Identify available parking area(s) within the city of Huntington Beach, develop agreements to use such parking, and operate a shuttle system between the parking and beach areas. This parking and shuttle arrangement shall be subject to the same fees charged by the California Department of Parks and Recreation (DPR) and be used during summer holidays and weekends during construction of the inlet. (Mitigation Measure 10)

Parking lots that are otherwise used on holidays and weekends could be used for beach parking. A bus/shuttle system running during these periods could alleviate the temporary loss of beach parking during the construction period.

- For any temporary loss of restroom facilities on either side of the beach staging/inlet construction area: Provide temporary public restroom facilities during the peak season on both sides of the inlet construction area. Provide access to the beach area to the south of the staging area and provide user access to sewer, water, and electrical utilities for campers. (Mitigation Measure 11)

Temporary restroom and other facilities during construction would minimize crowding at other restrooms. Provision of facility hookups for campers would minimize impacts and still offer camping facilities during construction.

**RECREATION: Construction of PCH Bridge and Tidal Inlet**

Impact: The temporary loss of beach use at the location of the PCH bridge and tidal inlet would be a significant adverse (Class I) impact during summer holidays and weekends.

Finding: C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

**Facts Supporting the Finding**

All beach areas approximately 800 feet north and south of the proposed tidal inlet would be closed to public access during construction of the PCH bridge and tidal inlet. This closure would result in long-term, temporary, significant adverse

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(Class I) impacts to recreation, affecting use of the beach during summer holidays and weekends.

No mitigation is available for the loss of beach use for heavy use days during construction.

**RECREATION: Surfing Use During Construction**

Impact: Inlet construction would result in a temporary loss of surfing use at Lots 14 and 15 at Bolsa Chica State Beach and has the potential to further constrain the already heavily used surfing areas at Lots 23 and 24, resulting in a significant, adverse (Class I) impact to surfing.

Finding: C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS. ;

**Facts Supporting the Finding**

Inlet construction would result in a temporary loss of surfing use at Lots 14 and 15, which are heavily used and considered to be the best surfing areas at Bolsa Chica State Beach. Those surfers displaced would likely move to the other good surfing area at Lots 23 and 24, which would affect surfing at those locations. Impacts are considered to be significant and adverse (Class I) during all four seasons.

No mitigation is available for the long-term, temporary loss of surfing area during inlet and ebb bar construction and resultant increase in surfing use in other beach locations.

**RECREATION: Jetty Hazard**

Impact: A potentially significant (Class II) safety hazard may result if persons stray too close to the jetties. Situations that may result in injuries include persons being washed off of or falling from the jetties, or becoming swept into the inlet.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

B. Such changes or alterations are within the responsibility and jurisdiction of the Department of Parks and Recreation and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

### **Facts Supporting the Finding**

The inlet jetties would extend to the Mean Lower Water Level (MLLW) and would be shoreward of the water zone within which most wave breaking occurs. Surfers and beachgoers are expected to stay away from the jetties and the inlet to avoid injury; however, a safety hazard related to the jetties would occur if persons stray close to the jetty area and place themselves in a situation which may result in injury, such as being swept into the inlet, washed off or for fall from the jetties, or washed against the jetties. Human unawareness is the greatest factor contributing to the potential recreational safety issues near the tidal inlet and may result in a significant adverse (Class II) impact to recreation. Implementation of the following mitigation would reduce recreational safety impacts to insignificant.

- Provide signage to warn and increase public awareness of the need to avoid the jetties and inlet and provide lifeguard stations on the beach in the area adjacent to the jetties to monitor and manage beach user behavior. These measures will address the public safety issues related to the jetties and the tidal inlet. (Mitigation Measure 12)

The implementation of Mitigation Measure 12 should be addressed within the permit with the State Department of Parks and Recreation.

### **VISUAL RESOURCES/LIGHT AND GLARE: PCH Bridge and Tidal Inlet Construction**

Impact: Construction of the PCH bridge and tidal inlet would result in temporary degradation of the visual character of the site, alter the existing viewshed, and change viewer expectations of PCH and the beach, resulting in a temporary, significant adverse (Class I) impact.

Finding: C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

### **Facts Supporting the Finding**

Heavy equipment working in the Lowlands would be visible during construction. The most prominently visual activity would be the work at Staging Area 1a for construction of the PCH bridge and tidal inlet. Viewers would include travelers along PCH, visitors to the Ecological Reserve, and State Beach users in the vicinity of the construction. This construction effort would result in a temporary degradation of the character of the site, alter the existing viewshed and change

viewer expectations of PCH and the beach, resulting in a temporary, significant, adverse (Class I) impact.

No effective mitigation is available for the temporary significant visual impact that would occur along the beach during PCH Bridge and tidal inlet construction.

**TRAFFIC/CIRCULATION: Access**

Impact: Project construction involves potentially significant (Class II) traffic impacts from possible conflicts and safety concerns between construction traffic and local traffic using Seapoint Avenue and conflicting turning movements at the PCH staging area.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Finding**

The primary construction access would be at the entrance to Aera Oil Facilities on Seapoint Avenue. During the peak construction effort (Phase 2), more than 200 vehicles would exit and enter at this point in the a.m. and p.m. peak hours, resulting in potentially significant (Class II) impacts due to possible conflicts and safety concerns between construction traffic and local traffic.

Additional construction traffic access points would be located at the staging area for inlet construction (Staging Area 1a). During construction, potentially significant adverse (Class II) impacts may result due to conflicting turning movements at this location.

With implementation of the following mitigation, traffic access impacts would be reduced to insignificant.

- Project construction shall employ an access plan consisting of flaggers and/or temporary signalization to compensate for public safety issues that could occur due to conflicts between construction traffic and local residents at Seapoint Avenue. (Mitigation Measure 13)

Either of these measures will enable vehicles to enter and exit the flow of traffic without creating a hazard for through traffic on the roadway.

- A traffic control plan, to compensate for traffic conflicts due to construction vehicle turning movements at the PCH staging area, shall be developed and implemented to provide signage and/or flaggers alerting motorists to trucks entering PCH. The use of flaggers may be appropriate to handle trucks entering the site during daytime hours. (Mitigation Measure 14)



This plan will control turning movements to reduce/avoid accidents and traffic congestion.

**AIR QUALITY: Construction-Related Exhaust Emissions**

Impact: NO<sub>x</sub> has the potential to exceed both daily and quarterly limitations during construction, producing a potentially significant (Class I) impact.

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

B. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

**: Construction-Related Dust Emissions**

Impact: Demolition of existing structures and soil disturbance would create dust emissions. Dust emissions would exceed daily and quarterly thresholds for PM<sub>10</sub>, considered a significant, adverse (Class II) impact.

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Findings**

Construction-related exhaust emissions would be produced by heavy equipment, truck haul trips, and worker commutes. NO<sub>x</sub> from exhaust emissions is expected to exceed both the daily and quarterly criteria during construction, resulting in a significant, adverse (Class I) air quality impact.

The following mitigation measures reduce NO<sub>x</sub> emissions to the extent reasonably feasible. Residual NO<sub>x</sub> emissions could still exceed the SCAQMD daily and quarterly criteria; therefore the impact remains significant during construction.

- A construction plan shall be submitted denoting the proposed schedule and projected equipment use. The construction contractor will provide evidence that low-emissions mobile construction equipment would be used to reduce NO<sub>x</sub> and PM<sub>10</sub> construction emissions, or that their use was investigated and found to be infeasible for the Project. The contractor shall also conform to any construction measures imposed by the SCAQMD. (Mitigation Measure 15)
- The Fugitive Dust (PM<sub>10</sub>) Mitigation Plan to reduce impacts related to PM<sub>10</sub> emissions shall be completed to comply with Rule 403. The plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line to the adjacent residents. Provisions of the plan shall include, but not be limited to, the stipulation that all areas of active earth movement shall be maintained at a soil moisture content of at least 12 percent as determined by ASTM Method D-2216. This stipulation shall not be applied to any areas requiring compaction where a less than 12 percent moisture content would be required. The required moisture content may be achieved through regular site watering or through natural means such as excavation in wet areas. (Mitigation Measure 16)
- The need for emission offset credits to compensate for excess construction emissions shall be determined. (Mitigation Measure 17)
- All construction equipment shall be maintained in good operating condition to reduce operational emissions. The contractor shall ensure that all construction equipment is properly serviced and maintained in accordance with the manufacturers' specifications. (Mitigation Measure 18)
- Where applicable, equipment and trucks shall not be left idling for prolonged periods (i.e., in excess of 5 minutes) to reduce emissions associated with construction equipment. (Mitigation Measure 19)
- To the extent feasible, truck deliveries both to and from the site shall be limited to off-peak hours to reduce concentration of construction emissions. (Mitigation Measure 20)
- The use of an electric hydraulic dredge for excavation of the full tidal basin is preferred to reduce construction emissions. (Mitigation Measure 21)
- To the extent reasonably feasible, the contractor shall use available sources of onsite electrical power to operate any required small-scale equipment. (Mitigation Measure 22)

- Where appropriate, the disturbed areas above the mean high tide line shall be revegetated within 30 days of the cessation of disturbance activities to reduce impacts related to PM<sub>10</sub> emissions. Nesting areas and roads will be left unvegetated. This action shall be coordinated through biological resources specialists. (Mitigation Measure 23)
- When land-based equipment is used for excavation, the area of active construction shall be limited to 25 acres at any one time unless existing soil moisture is present. (Mitigation Measure 24)

Site clearing, grading, and equipment travel on unpaved surfaces would generate fugitive dust during Project development. Removal of structures would create minimal dust emissions, far less than created from soil disturbance.

The Final EIR/EIS estimates that the Project would generate approximately 495 pounds per day of PM<sub>10</sub> emissions during construction. This level of grading would create both daily and quarterly emissions in excess of criteria values, and the above mitigation is necessary to reduce these impacts to the extent reasonably feasible.

PM<sub>10</sub> emissions impacts are reduced to insignificant with implementation of the mitigation measures listed above under Construction-Related Exhaust Emissions (Mitigation Measures 15-24).

The presented mitigation measures represent the best available control technology methods that are commercially feasible.

The construction plan and Fugitive Dust Emissions Plan required by Mitigation Measures 15 and 16 shall be reviewed and approved by CSLC, the County of Orange and the SCAQMD.

**AIR QUALITY: Maintenance Dredging**

Impact: Emissions associated with maintenance dredging may result in NO<sub>x</sub> emissions which would exceed the daily criterion, resulting in a significant, adverse (Class II) air quality impact.

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Findings**

Maintenance dredging may be required biennially to keep the inlet clear. The resulting sand would be placed on the beach. The Final EIR/EIS used a reasonable worst-case scenario to predict emissions from maintenance dredging

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operations and determined that emissions would exceed the daily criterion for NO<sub>x</sub> emissions, resulting in a significant adverse (Class II) impact. NO<sub>x</sub> emissions will be reduced to insignificant levels with implementation of the following mitigation measure.

- If a diesel dredge is to be used for maintenance dredging, dredge activities shall include fuel injection retardation and selective catalytic reduction, operations shall be restricted to no more than 9 hours per day (Mitigation Measure 25). See also Mitigation Measure 21, above.

### **AIR QUALITY: Future Full Tidal Area (Phase II) Construction**

Impact: Phase II construction would involve removal of ocean bottom sediments to the ebb bar. This construction effort may result in NO<sub>x</sub> emissions that would exceed the daily and quarterly thresholds set for construction emissions, resulting in a significant, adverse (Class I) air quality impact.

Findings: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

C. Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR/EIS.

### **Facts Supporting the Finding**

Phase II construction would involve removal of ocean bottom sediments to the ebb bar. The Final EIR/EIS used a reasonable worst-case scenario to predict emissions from Phase II construction and determined that emissions would exceed the daily and quarterly thresholds for NO<sub>x</sub> emissions, resulting in a significant adverse (Class I) impact.

The following mitigation measure reduces NO<sub>x</sub> emissions to the extent reasonably feasible. Residual NO<sub>x</sub> emissions could still exceed the SCAQMD daily and quarterly threshold criteria, therefore the impact remains significant during Phase II construction.

- NO<sub>x</sub> emissions shall be mitigated to the extent feasible by use of fuel injection retardation and selective catalytic reduction applied to the tug, the dredge, all generators, and any necessary diesel powered pumps. (Mitigation Measure 26)

The presented mitigation measures represent the best available control technology methods that are commercially feasible.

**NOISE: Transport of Workers and Construction Equipment on Major Routes**

Impact: Traffic noise from haul trucks may cause significant, adverse (Class II) impacts to local residences along access roads immediately adjacent to the site.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Finding**

The transport of workers, construction equipment, and materials to the site would incrementally increase noise levels on access roads surrounding the site. Haul trucks could access the Project site through the local residential areas via Graham Street, Talbert Avenue, Springdale Street, and/or Seapoint Avenue. These routes carry relatively small volumes of traffic where they access the Project site. Trucks do not normally use these routes, and even if the resultant noise does not increase noise levels by the 5 dBA CNEL criterion, their presence would create an unnecessary nuisance to the local residents. Therefore, this impact is considered potentially significant (Class II). Implementation of the following mitigation measures will reduce construction-related noise impacts to insignificant.

- Haul trucks shall not enter the site at Graham Street, Talbert Avenue, or Springdale Street in order to protect local residents from excessive noise. (Mitigation Measure 27)
- Haul truck traffic shall be restricted to those hours designated for site construction, i.e., 7:00 a.m. to 8:00 p.m. Monday through Saturday. (Mitigation Measure 28)

The included measures will ensure that construction does not cause a nuisance to local residences nor disturb the evening and “quiet time”.

**NOISE: Maintenance Dredging Operations**

Impact: Noise from maintenance dredging operations may affect local residents, resulting in a significant adverse (Class II) impact.

Finding: A. Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR/EIS.

**Facts Supporting the Finding**

Maintenance dredging, when performed, could run for as long as one month at a time. If dredging were performed 24 hours per day, the 60 dBA CNEL would fall at a distance of about 500 to 700 feet, potentially affecting local residents and resulting in a potentially significant (Class II) impact. With implementation of the following mitigation, noise impacts from maintenance dredging operations are reduced to insignificant.

- If an internal combustion dredge is used for maintenance dredging of the flood shoal, no dredging shall be performed within 700 feet of any residential unit between the hours of 10:00 p.m. and 7:00 a.m. or on Sundays or federal holidays to protect against excessive noise intrusion. Furthermore, all dredging shall be performed outside of the breeding and nesting seasons for local fauna. If an electric dredge is used, no time limitations need be imposed. (Mitigation Measure 29) See also Mitigation Measure 21, above.

The included measures will ensure that post construction maintenance does not cause a nuisance to local residences nor disturb the evening and "quiet time".

# EXHIBIT C

## SECTION 5.0 - MITIGATION MONITORING PROGRAM





## 5.1 INTRODUCTION

This Mitigation Monitoring Program (MMP) has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA), Section 15097. The adoption ensures that the mitigation measures identified in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for the Bolsa Chica Lowlands Restoration Project (FEIR/EIS dated April 2001) are implemented. This document lists each mitigation measure and describes the methods for implementation and verification.

This Project is a joint project subject to both state and federal environmental compliance. The California State Lands Commission (CSLC) is the Lead Agency under the CEQA. The U.S. Fish and Wildlife Service (USFWS) and the U.S. Army Corps of Engineering (Corps) are co-Lead Agencies under the National Environmental Policy Act (NEPA). All mitigation measures for the project are presented in this MMP.

## 5.2 PROJECT DESCRIPTION

The Bolsa Chica Project is located in an unincorporated area of northwestern Orange County. The project area consists of 1,247 acres of the Bolsa Chica Lowlands in the Bolsa Gap between Bolsa Chica Mesa on the northwest and Huntington Mesa on the southeast.

The purpose of the Project is to restore wetland and aquatic functions at Bolsa Chica as oil extraction is phased out and after contamination is removed. The Proposed Project is the restoration of 850 acres of the Bolsa Chica Lowlands to create wetland and habitat areas, including 366.5 acres of full tidal and 200 acres of muted tidal habitat. The Project is designed to implement a comprehensive wetland habitat plan to benefit shorebirds, waterfowl, coastal seabirds, marine fishes, and a full spectrum of coastal ecosystem biota. The major components of the project are:

1. restoration of a full tidal influence to portions of the site through dredging and the creation of a new ocean inlet accompanied by construction of a highway bridge,
2. creation and enhancement of aquatic habitats and intertidal wetlands,
3. creation of nesting and feeding areas for Threatened and Endangered species,
4. preservation of non-tidal wetlands, and
5. phased removal of oil extraction facilities from the project area.

## 5.3 MONITORING AND REPORTING PROCEDURES

The CSLC shall have primary responsibility for administering and assuring compliance with the provisions of this MMP. In this capacity the CSLC shall coordinate with the USFWS and the Corps as necessary for the duration of Project actions. The CSLC may delegate monitoring activities to staff, other agencies, consultants or contractors. The CSLC shall ensure that monitoring is documented through the methods of documentation and verification provided in this MMP and that deviations are promptly corrected.

The CSLC will assign an environmental monitor(s) for various aspects of the Proposed Project. The designated environmental monitor(s) will track and document mitigation efforts, noting any problems that may result and taking the appropriate action to address them. Adherence to the mitigation measures shall be documented in a Compliance or Non-Compliance Report. A copy of each report will be submitted to the CSLC and appropriate responsible agencies.

#### 5.4 MITIGATION MONITORING PROGRAM IMPLEMENTATION

In the following MMP, each mitigation measure included in the FEIR/EIS for the Bolsa Chica Lowlands Restoration Project is listed according to resource area. In addition to the mitigation measures presented in this Program, the Project itself incorporates environmental protection measures as part of the Project. These measures shall be incorporated as conditions of Project approval and shall be carried forward and implemented in accordance with Project activities.

Certain measures require engineering evaluation and/or preparation by qualified individuals, and these are specified as needed. The time frame for implementation of each mitigation measure is also listed. The MMP identifies the agency or agencies responsible for monitoring the satisfactory implementation of mitigation measures. The MMP also includes information regarding the timing of and method of verification.

#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
<b>Surface and Groundwater Hydrology</b>					
1.	<p>Potential impacts to groundwater in residential areas located north and adjacent to the Lowlands of the project site. The following shall occur:</p> <p>1. The ability of a dewatering trench to effectively manage high groundwater levels shall be evaluated by a groundwater engineer prior to selecting a dewatering system design. Specifically, the design shall consider the exact locations and dimensions of the full and muted tidal basins relative to the adjacent community, the hydraulic properties of the shallow water-bearing zone, the actual elevation range of water levels in the basins, and the final ground surface elevation grade along the inland edge of the wetland.</p> <p>2. A groundwater monitoring, action, and maintenance plan shall be developed by a groundwater engineer prior to construction. The plan shall provide monitoring measures and actions to be taken (if any) if severe flooding alters the amount or pattern of sediment deposition and surface elevations within the wetland, and/or adversely affects the ability of the dewatering trench to perform its functions. This plan shall address measures, such as a supplemental pumping system, that could be implemented if monitoring data indicate potential problems with the drainage system.</p>	<p>Evaluation prior to selection of a dewatering system design and prior to site construction.</p> <p>Plan prepared prior to construction.</p> <p>Monitoring to be conducted in accordance with the Plan.</p>	<p>CSLC/USFWS</p> <p>CSLC/USFWS</p>	<p>Review, selection and approval of the dewatering system. Coordination with County of Orange and City of Huntington Beach as appropriate.</p> <p>Review and approval of Plan. Coordination with County of Orange and City of Huntington Beach as appropriate.</p> <p>Monitoring verification periodically as per actions presented in Plan.</p>	<p>Prior to initiation of construction.</p> <p>Prior to construction.</p> <p>Periodically as per Plan.</p>
<b>Water Quality And Aquatic Resources</b>					
2.	<p>An oil spill contingency plan shall be prepared specifying detailed measures to be taken to protect the Bolsa Chica wetlands in the event of an offshore oil spill. The plan shall identify the necessary equipment, such as a boom to block the tidal inlet, to be readily available, its storage and deployment. Such plan shall be coordinated with existing plans of area oil and gas generators and may consider equipment available under such plans.</p>	<p>Prior to construction of the ocean inlet.</p>	<p>CSLC</p>	<p>Review and approval of Plan with concurrence or approval by other agencies, as appropriate.</p> <p>Periodic inspection of equipment.</p>	<p>Prior to construction of the ocean inlet.</p> <p>Throughout period of construction.</p>

#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
<b>Biological Resources - Aquatic Resources</b>					
3.	During flood shoal maintenance dredging, no sand shall be placed on the wave-washed beach face during the grunion spawning season (between March through August) to avoid interference with spawning or damage to grunion eggs.	At beginning of inlet maintenance dredging actions.	CSLC/USFWS or CDFG	Site inspection and reporting.	During flood shoal maintenance dredging.
<b>Biological Resources - Vegetation</b>					
4.	Coastal woolly-heads is an annual species whose distribution and abundance can change from year to year. Therefore, to salvage as many seeds as possible from plants that might be flooded within the tidal margins of Rabbit Island, an updated map of the coastal woolly-heads population shall be prepared. This map will specifically identify the areas that would be potentially affected under full tidal conditions, as well as identify other areas of potentially suitable habitat on Rabbit Island.	Prior to construction of the full tidal basin	CSLC/USFWS or CDFG	Review and approval of the map and salvage plan by CSLC, USFWS and CDFG	Prior to the start of construction of the full tidal basin
5.	To compensate for the loss of the Coastal woolly-heads population on Rabbit Island due to the introduction of tidal flows around its edges, seed shall be salvaged from the affected areas prior to construction in the first year, and redistributed across the non-affected, occupied portions of the habitat. If sufficient seed appears to be available, a portion of the seed supply shall be set aside for viability tests and possible redistribution after construction. Data regarding viability of seeds kept in storage are typically required for any kind of management plan for rare plant species.	Prior to construction of the full tidal basin	CSLC/USFWS or CDFG	Verification of seed salvage and storage by CSLC, USFWS and CDFG	Prior to the start of construction of the full tidal basin
6.	If the affected margins of Rabbit Island occupied by coastal woolly-heads do not support a substantial non-native weed population, the top 3 inches of sand shall also be salvaged in the expectation that a seed bank of coastal woolly-heads may be present. This salvaged sand shall be redistributed across other parts of Rabbit Island that are not occupied by coastal woolly-heads but is potentially suitable habitat.	Prior to construction of the full tidal basin	CSLC/USFWS or CDFG	Verification of soil salvage and storage by CSLC, USFWS and CDFG	Prior to the start of construction of the full tidal basin

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#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
7.	A management and monitoring plan shall be prepared to address the long-term viability of the Rabbit Island population of coastal woolly-heads. The plan shall include identification of sites elsewhere in coastal Orange County, preferably within existing preserves, that might serve as translocation sites for the species, or at least be restored as such, in the event that monitoring of the Rabbit Island population indicates population decline and possible extirpation.	Prior to construction of the full tidal basin	CSLC/USFWS or CDFG	The plan shall be reviewed and approved by CSLC, USFWS, and CDFG	Prior to the start of construction of the full tidal basin
8.	If coastal woolly-heads are found to occur within the area that would become tidally influenced and if seed from affected plants cannot be successfully propagated at an alternate site prior to opening of the tidal inlet, then the area where plants occur that would be affected by tidal inundation shall be protected from tidal flow by a dike or other barrier.	Prior to opening of the tidal inlet	CSLC/USFWS or CDFG	The need for and construction of a protective barrier shall be determined by and verified by CSLC, USFWS and CDFG	Prior to opening of the tidal inlet
<b>Biological Resources - Birds</b>					
9.	To compensate for the potential interim loss of the State endangered Belding's savannah sparrow breeding territories at Bolsa Chica, staging areas, temporary access roads, and all other construction activities shall avoid pickleweed habitat to the greatest extent possible, in addition to the water management of pickleweed habitat proposed as part of the project.	Pickleweed shall be mapped prior to construction and an avoidance plan shall be developed prior to construction. Sensitive pickleweed areas, as determined by the USFWS, that can be feasibly avoided shall be flagged prior to construction and avoided during construction.	CSLC/USFWS	The pickleweed avoidance plan shall be reviewed by CSLC, USFWS, and CDFG. Flagging of pickleweed areas to be avoided shall be done by a biological monitor approved by CSLC, USFWS and CDFG. Avoidance shall be verified by the approved monitor who will submit monitoring reports to CSLC/USFWS.	The pickleweed avoidance plan shall be approved prior to construction. Monitoring reports shall be submitted at approved intervals during construction.

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#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
<b>Land Ownership and Land Use</b>					
10.	For the temporary loss of Bolsa Chica State Beach parking area and beach area used during construction: Identify available parking area(s) within the City of Huntington Beach, develop agreements to use such parking, and operate a shuttle system between the parking and beach areas. This parking and shuttle arrangement shall be subject to the same fees charged by the DPR and be used during summer, holidays and weekends during construction of the inlet.	At beginning of construction interference with summer beach parking and use.	CSLC/USFWS	Identify available parking area(s) within the City of Huntington Beach, develop agreements to use such parking, and operate a shuttle system between the parking and beach areas.	Periodic verification of program during summer holidays and weekends during period of inlet construction affecting beach and parking use.
11.	For any temporary loss of restroom facilities on either side of the beach staging/inlet construction area: Provide temporary public restroom facilities during the peak season on both sides of the inlet construction area. Provide access to the beach area to the south of the staging area.	At beginning of construction interference with summer beach use.	CSLC/USFWS	Rent temporary restroom facilities for placement on either side of inlet. Assure beach access to south of staging area. Provide campers with utilities.	Prior to beginning of each summer that construction affects this area.
<b>Recreation</b>					
12.	Provide safety measures consisting of warning signage to increase public awareness and provide lifeguard stations on the beach in the area adjacent to the jetties. These measures shall address public safety related to the jetties and the tidal inlet.	At beginning of inlet construction.	CSLC/USFWS	Develop agreement with State Department of Parks and Recreation for implementation.	Periodically monitor during course of construction or as per agreement.
<b>Traffic and Circulation</b>					
13.	Project construction shall employ an access plan consisting of flaggers and/or temporary signalization to compensate for public safety issues that could occur due to conflicts between construction traffic and local residents at Seapoint Avenue.	At beginning of construction actions accessing that side of the Project.	CSLC/City of Huntington Beach	Plan development, review and approval. Coordination with City of Huntington Beach as necessary.  On-site monitor to assure compliance and report violations.	Prior to construction.  Periodically for duration of project.

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#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
14.	To compensate for traffic conflicts due to construction vehicle turning movements at the PCH staging area, a traffic control plan shall be developed and implemented to provide signage and/or flaggers alerting motorists to trucks entering PCH. The use of flaggers may be appropriate to handle trucks entering the site during daytime hours.	At beginning of construction actions accessing that side of the Project.	CSLC/USFWS/ Caltrans/City of Huntington Beach	Plan development, review and approval. Coordination with City of Huntington Beach as necessary.  On-site monitor to assure compliance and report violations.	Prior to construction.  Periodically for duration of project.
<b>Air Quality - Phase I Construction</b>					
15.	To reduce NO <sub>x</sub> and PM <sub>10</sub> construction emissions, a construction plan shall be submitted denoting the proposed schedule and projected equipment use. The construction contractor will provide evidence that low-emissions mobile construction equipment would be used, or that their use was investigated and found to be infeasible for the project. The contractor shall also conform to any construction measures imposed by the SCAQMD.	Prior to the issuance of grading permits.	CSLC/USFWS	Plan review and approval by County of Orange.  On-site monitor to assure compliance with Plan. Violations to be reported to CSLC, USFWS, and County of Orange.	Prior to construction grading.  Periodically for duration of project.
16.	To reduce impacts related to PM <sub>10</sub> emissions, the Fugitive Dust (PM <sub>10</sub> ) Mitigation Plan shall be completed to comply with Rule 403. The plan shall identify methods to control fugitive dust through implementation of reasonable available control measures in sufficient frequencies and quantities to prevent visible emissions from crossing the property line to the adjacent residents. Provisions of the plan shall include, but not be limited to, the stipulation that all areas of active earth movement shall be maintained at a soil moisture content of at least 12 percent as determined by ASTM Method D-2216. This stipulation shall not be applied to any areas requiring compaction where a less than 12 percent moisture content would be required. The required moisture content may be achieved through regular site watering or through natural means such as excavation in wet areas.	Prior to the issuance of grading permits.	CSLC	Plan review and approval by County of Orange.  On-site monitor to assure compliance with Plan. Violations to be reported to CSLC, USFWS, and County of Orange. Soil moisture monitoring to be conducted by certified soil engineer.	Prior to construction grading.  Periodically for duration of project.
17.	The need for emission offset credits to compensate for excess construction emissions, shall be determined.	At time of grading plan submittal.	CSLC/USFWS	Coordination with SCAQMD.	Prior to construction.

#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
18.	All construction equipment shall be maintained in good operating condition to reduce operational emissions. The contractor shall ensure that all construction equipment is properly serviced and maintained in accordance with the manufacturers' specifications.	Prior to and during construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.
19.	Where applicable, equipment and trucks shall not be left idling for prolonged periods (i.e., in excess of 5 minutes) to reduce emissions associated with construction equipment.	During construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.
20.	To the extent feasible, truck deliveries both to and from the site shall be limited to off-peak hours to reduce concentration of construction emissions.	Prior to and during construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.
21.	The use of an electric hydraulic dredge for excavation of the full tidal basin is preferred to reduce construction emissions.	At the start of full tidal basin construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.
22.	To the extent reasonably feasible, the contractor shall use available sources of onsite electrical power to operate any required small-scale equipment.	At the beginning of and during construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.
23.	Where appropriate, the disturbed areas above the mean high tide line shall be revegetated within 30 days of the cessation of disturbance activities to reduce impacts related to PM <sub>10</sub> emissions. Nesting areas and roads will be left unvegetated. This action shall be coordinated through biological resources specialists.	Within 30 days of the cessation of disturbance activities.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Coordination with USFWS.	As necessary for duration of project.
24.	When land-based equipment is used for excavation, the area of active construction shall be limited to 25 acres at any one time unless existing soil moisture is present.	At the beginning of and during construction.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project.



#	Mitigation Measure	Time Frame For Implementation	Monitoring Agency	Verification/ Monitoring Action	Timing of Verification
<b>Air Quality - Maintenance Dredging</b>					
25.	If a diesel dredge is to be used for maintenance dredging, dredge activities shall include fuel injection retardation and selective catalytic reduction, operations shall be restricted to no more than 9 hours per day. See Mitigation Measure #21 herein.	To be implemented at the start of any use of a diesel dredge.	CSLC/USFWS or CDFG	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS/CDFG.	Periodically for duration of use of diesel dredge.
<b>Air Quality - Phase II Construction</b>					
26.	NO <sub>x</sub> emissions shall be mitigated to the extent feasible by use of fuel injection retardation and selective catalytic reduction applied to the tug, the dredge, all generators, and any necessary diesel powered pumps.	To be implemented at the beginning of Phase II.	CSLC/USFWS or CDFG	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS/CDFG.	Periodically for duration of project after Phase II begins.
<b>Noise - Construction</b>					
27.	Haul trucks shall not enter the site at Graham Street, Talbert Avenue, or Springdale Street in order to protect local residents from excessive noise.	When haul trucks begin to operate in this area.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project construction.
28.	Haul truck traffic shall be restricted to those hours designated for site construction, i.e., 7:00 a.m. to 8:00 p.m. Monday through Saturday.	At the beginning of haul truck use.	CSLC/USFWS	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS.	Periodically for duration of project construction.
<b>Noise - Post-Construction</b>					
29.	If an internal combustion dredge is used for maintenance dredging of the flood shoal, no dredging shall be performed between the hours of 10:00 p.m. and 7:00 a.m. or on Sundays or federal holidays within 700 feet of any residential unit to protect against excessive noise intrusion. Furthermore, all dredging shall be performed outside of the breeding and nesting seasons for local fauna.  If an electric dredge is used, no time limitations need be imposed. See Mitigation Measure #21 herein.	At the beginning of maintenance dredging activities when and if an internal combustion dredge is used.	CSLC/USFWS or CDFG	On-site monitor to assure compliance with Plan. Violations to be reported to CSLC and the USFWS/CDFG.	Periodically for duration of any use of an internal combustion dredge.

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## EXHIBIT D

### Statement of Overriding Considerations

The CSLC adopts this Statement of Overriding Considerations with respect to the impacts identified in the Final EIR/EIS that cannot be reduced with mitigation to a level of insignificance, or are not capable of being mitigated. These include the following impacts:

- Water Quality: Turbidity in the Nearshore Zone During Prefill of the Ebb Bar
- Water Quality: Increased Risk of Exposure of Wetlands to an Offshore Oil Spill
- Biological Resources: Temporary Loss of Beldings Savannah Sparrow Breeding Territories During Construction
- Recreation: Construction of PCH Bridge and Tidal Inlet
- Recreation: Surfing Use During Construction
- Visual Resources: PCH Bridge and Tidal Inlet Construction
- Air Quality: Construction-Related Exhaust Emissions
- Air Quality: Phase II Construction

According to the California Coastal Commission report, "Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone", the total wetland loss in California is estimated at 4.6 million acres, which represents a loss of approximately 91% of historical wetlands since 1850 when California became a state. On a percentage basis, the largest losses to coastal wetlands are thought to have occurred in San Francisco Bay (54%) and along the South Coast (75%).

The CSLC hereby finds that the Bolsa Chica Lowlands Restoration Project, which will restore wetland and aquatic functions to 880 acres, will have numerous benefits to the State of California, including the following.

- Increased quality and quantity of open water and intertidal mudflat habitats would provide overwintering habitat for migratory shorebirds, seabirds, and waterfowl.
- A healthy and diverse aquatic community of marine and estuarine invertebrates and fishes would become established in the full and muted tidal basins.
- The full tidal basin would provide nursery habitat for the California halibut.
- Nesting habitat for the state- and federal-listed endangered California least tern and the federal-listed threatened western snowy plover would be increased. Additionally, these areas would provide nesting habitat for a variety of other water-associated birds.

- Cordgrass habitat would expand and is expected to support nesting by the state- and federal-listed endangered light-footed clapper rail.
- Pickleweed saltmarsh habitat would be enhanced.
- Nesting territory for the state-listed endangered Belding's savannah sparrow would expand.
- Increased quality of saltmarsh vegetation may improve habitat value for the salt marsh shrew.
- A diverse wetlands ecosystem would result from the preservation of nontidal habitats including seasonal ponds/sand flats and perennial brackish ponds.
- Upgrades to the Lowlands would indirectly benefit surrounding land uses by providing improved passive use and visual enhancement.
- New and enhanced public access opportunities would result.
- The tidal inlet would enhance opportunities for recreational fishing.
- Addition of construction jobs and increases in visitors to the area could benefit the local economy.
- The tidal influence would reduce the potential for mosquito problems.

Furthermore, the CSLC finds that all mitigation measures identified in the EIR/EIS have been imposed to avoid or lessen impacts to the maximum extent possible.

With the exception of exposure of the wetlands to the impacts of an offshore oil spill via the ocean inlet, all unmitigable significant impacts are short-term impacts that would only occur during project construction which is anticipated to span three (3) years.

The EIR/EIS evaluated a number of alternatives to the Proposed Project. Six alternatives were selected for detailed analysis. Alternative 1 was similar to the proposed project but included diversion of all of the flows of the Wintersburg-Garden Grove Flood Control Channel into the full tidal basin. Alternative 2 included a full tidal basin with an ocean inlet near Rabbit Island. Alternative 3 had a full tidal basin with a tidal inlet near Warner Avenue. Alternative 4 had a full tidal basin with a tidal inlet near Rabbit Island and a separate outlet adjacent to the tidal inlet that would direct flows from the flood control channel to the

ocean. Alternative 5 was a managed tidal system with no ocean inlet. Finally, Alternative 6 was similar to the Proposed Project except that during high storm flows a portion of the flow from the flood control channel would be diverted into the full tidal basin.

The Proposed Project was selected based on two considerations. The first consideration was the lesser extent of significant, adverse impacts that would result from project implementation. The second consideration was the extent to which wetland function and values within the Bolsa Chica Lowlands would be improved, i.e., the ability of the selected alternative to meet the project purpose and need. Alternative 5 would have the fewest adverse impacts, but would provide by far the lowest habitat benefits of the restoration alternatives.

The CSLC therefore finds that Alternatives 1, 2, 3, 4, 6 are inferior to the Proposed Project because they (1) have more significant environmental impacts; and/or (2) transfer environmental impacts to other locations. Alternative 5 is inferior because (1) it does not meet the objectives of the project; and (2) does not provide beneficial impacts to the same degree as the Proposed Project.

Based on the above discussion, the CSLC finds that the benefits of the Proposed Project outweigh the unavoidable, largely temporary, adverse environmental effects and considers such effects acceptable.

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## AREA SUMMARY

### BOLSA CHICA LOWLAND OWNERSHIP ACREAGE

880 acres	purchased from Hearthsides
25 acres	obtained from Metropolitan Water District
300 acres	existing State Ecological Reserve
<u>42 acres</u>	potential future acquisition from Hearthsides (designed into Project)
1247 acres	

### PROPOSED PROJECT APPROXIMATE ACREAGES

Full Tidal Basin	367 acres <sup>1</sup>
Nesting Areas (3)	20 acres
Muted Tidal (w/o Fieldstone)	138 acres
Muted tidal Pocket	42 acres
Future Full Tidal*	248 acres
Seasonal Ponds*	139 acres
Flood Channel*	15 acres
Inner & Outer Bolsa*	210 acres
Fieldstone Parcel*	43 acres
Whipstock oil wells*	<u>25 acres</u>
	1247 acres

\* not physically altered by the Project

Future Full Tidal and Seasonal Ponds are actually a mixture of seasonal ponds and operating oil field that will remain indefinitely.

<sup>1</sup> 50ac. +/- cordgrass shelf, 175 ac. Subtidal, 60 ac. Intertidal mudflats, 63 ac. Intertidal saltmarsh, 19 ac. Rabbit Island uplands.

<b>Exhibit E</b>	
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