

# **SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT FLOOD CONTROL MAINTENANCE ACTIVITIES IN THE GOLETA SLOUGH**



**Final Subsequent  
Environmental Impact Report  
SCH No. 2000031092**

**October 2010**



**SANTA BARBARA COUNTY FLOOD CONTROL AND  
WATER CONSERVATION DISTRICT  
FLOOD CONTROL MAINTENANCE ACTIVITIES IN THE  
GOLETA SLOUGH  
Final Subsequent Environmental Impact Report**

**SCH No. 2000031092**

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## LIST OF ACRONYMS AND SYMBOLS

AB-32	Assembly Bill 32, CA Global Warming Solutions Act
AD	Anno Domini ( <i>Latin</i> ), or After Death
ADT	Average Daily Traffic (volume)
AIA	Airport Influence Area
APCD	Air Pollution Control District
AQAP	Air Quality Attainment Plan
AST	Aboveground Storage Tanks
BC	Before the Christian Epoch
BEACON	Beach Erosion Authority for Clean Oceans and Nourishment
bgs	Below Ground Surface
BLM	Bureau of Land Management
BMP	Best Management Practice
BOD	Biological Oxygen Demand
BP	Before Present
C&D	Construction and Demolition
CA	Coastal Act, California
CAA	Clean Air Act
CARB	California Environmental Protection Agency Air Resources Board
CCA	California Critical Coastal Areas
CCAT	California Climate Action Team
CCC	California Coastal Commission
CCP	Conception Coast Project
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDPF	Catalyzed Diesel Particulate Filters
CE	Conservation Element
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CH <sub>4</sub>	Methane
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Board
CMP	Congestion Management Program
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CP	Coastal Plan
CRLF	California Red-legged Frog
CRWQCB	California Regional Water Quality Control Board
CWA	Clean Water Act
dBA	Decibel: A – weighted





DEIR	Draft Environmental Impact Report
DO	Dissolved Oxygen
DOC	Diesel Oxidation Catalysts
DOGGR	Division of Oil, Gas, and Geothermal Resources
DOT	Department of Transportation
DSEIR	Draft Subsequent Environmental Impact Report
EIR	Environmental Impact Report
EMFAC	California Air Resources Board Emissions Factor Model
EPA	United States Environmental Protection Agency
ERA	EcoSystems Restoration Associates
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
FEMA	Federal Emergency Management Agency
FHA	Federal Highway Administration
FEIR	Final Environmental Impact Report
FSEIR	Final Subsequent Environmental Impact Report
GGWB	Goleta Groundwater Basin
GP	General Plan
GHG	Greenhouse Gases
GLCRS	Groundwater Leachate Collection and Recovery System
GSD	Goleta Sanitation District
HCP	Habitat Conservation Plan
HDD	Horizontal Directional Drilling
HDPE	High Density Polyethylene
HMBP	Hazardous Materials Business Plan
LCP	Local Coastal Plan or Local Coastal Program
LDN	Day-Night Average Level
LEED	Leadership in Energy and Environmental Design
LEQ	Energy Equivalent Sound Level
LOS	Level of Service
LU	Land Use
LUST	Leaking Underground Tank
M	meter
MLLW	Mean Lower Low Water
MMCO2E	Metric Tons Carbon Dioxide Equivalent (greenhouse gases)
MSW	Municipal Solid Waste
N <sub>2</sub> O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NDDB	Natural Diversity Data Base
NE	Noise Element
NFIP	National Flood Insurance Program
NOP	Notice of Preparation
NO <sub>x</sub>	Oxides of Nitrogen
NO <sub>2</sub>	Nitrogen dioxide



N <sub>2</sub> O	Nitrous oxide
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	Ozone
OES	Office of Emergency Services
OFFROAD	California Air Resources Board Off-Road Model
OHWM	Ordinary High Water Mark
OPR	Governor's Office of Planning and Research
OS	Open Space
P & D	Planning and Development
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PEIR	Program Environmental Impact Report
PERP	Portable Equipment Registration Program
PM	Particulate Matter
PM <sub>2.5</sub>	Particulate Matter with an aerodynamic diameter of 2.5 microns or less
PM <sub>10</sub>	Particulate Matter with an aerodynamic diameter of 10 microns or less
Ppm	parts per million
PSD	Prevention of Significant Deterioration
PU	Public Utilities
PWD	Public Works Department
RCNM	Roadway Construction Noise Model
RMD	Resource Management District
ROC	Reactive Organic Compounds
ROG	Reactive Organic Gases
RRWMD	Santa Barbara County Public Works, Resource Recovery and Waste Management Division
RWQCB	Regional Water Quality Control Board, Central Coast Region
SAP	Sampling Analysis Plan
SBCAPCD	Santa Barbara County Air Pollution Control District
SBMA	Santa Barbara Municipal Airport
SCCAB	South Central Coast Air Basin
SEIR	Subsequent Environmental Impact Report
SEL	Sound Exposure Levels
SIP	State Implementation Plan
SLAMS	State and Local Air Monitoring Stations
SO <sub>2</sub>	Sulfur Dioxide
SPCC	Spill Prevention Control and Counter
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solid
TPH	Total Petroleum Hydrocarbons
UBC	Uniform Building Code
US	United States
USACE	United States Army Corps of Engineers
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service



USGS	United States Geological Service
VRM	Visual Resource Management
WARM	Warm Freshwater Habitat
WDR	Waste Discharge Requirement (NPDES permit)
WY	Water Years



## EXECUTIVE SUMMARY

This section provides a summary of the document, including: the purpose of this EIR, a description of the proposed Project, and the major findings of the document. It includes discussions of effects found not to be significant, those found to be significant, and the recommend mitigation measures. This section also includes brief analyses of alternatives to the proposed Project, including identification of the environmentally superior alternative. A description of any known areas of controversy surrounding the Project, and the environmental review process are provided.

### PURPOSE OF THE SEIR

This ~~Final Draft~~ Subsequent Environmental Impact Report (SEIR) is an informational document prepared in accordance with the California Environmental Quality Act, Public Resources Code Sections 21000, et seq. (CEQA). It is intended to provide to decision-makers and the public supplemental environmental information concerning the Santa Barbara County Flood Control and Water Conservation District (District) Flood Control Maintenance Activities in the Goleta Slough, which included ongoing maintenance of five creeks in the Goleta Slough.

The County of Santa Barbara Board of Supervisors (Board) is the decision-making body for the proposed Project. In early 1994, the Board certified the Final Program Environmental Impact Report/Draft Environmental Assessment for Routine Maintenance Activities in the Goleta Slough (PEIR). The PEIR was identified as 93-EIR-4, 92-CP-28. The PEIR was used by numerous resource and planning agencies in support of their decision-making concerning permits required in order for the District to implement the flood control maintenance activities in the Goleta Slough. In September 2000, a supplement to the Program EIR (SPEIR) was written to support renewal of permits for continuance of routine maintenance activities.

This SEIR has been prepared to update the analyses provided in the PEIR to assess changes in the environmental and regulatory conditions since the time the PEIR and SPEIR were prepared. The SEIR also addresses specific elements of the flood control activities in the Goleta Slough that were not addressed in the PEIR or SPEIR. These include:

- Specific proposal for the continued use of hydraulic and dragline desilting (as fully described in Section 3.2);
- Proposed minor revisions to the location of Project staging and stockpiling areas (as fully described in Section 3.2);
- Proposed minor revisions to the timing of Project operations (as fully described in Section 3.3);
- Proposed defined pre-project sediment sampling and analysis plan (SAP) (as fully described in Section 3.4.1);
- Proposed pre-project biological surveys (as fully described in Section 3.4.1);



- Proposed increase in sediment use for beach replenishment (as fully described in Section 3.5.1);
- Proposed optional use of the closed Foothill Landfill for sediment disposal (as fully described in Section 3.5.2 and 3.5.3); and
- Proposed Project enhancement location areas (as fully described in Section 3.6);

While this document updates the PEIR/EA and SPEIR, those documents remain valid and useful as further supplemented by this SEIR. A copy of these documents can be referenced within Appendices B and C, attached.

This document meets the criteria of CEQA Guidelines Section 15162. CEQA Guidelines Section 15162, Subsequent EIRs and Negative Declarations, requires the preparation of a Subsequent EIR under conditions described below.

When an EIR has been certified or a negative declaration adopted for a project, a subsequent EIR shall be prepared for that project if the lead agency determines, based on substantial evidence in the light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or ND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or ND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the ND was adopted, shows any of the following:
  - a. The project will have one or more significant effects not discussed in the previous EIR or ND;
  - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or



- d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The new information concerning the proposed Project is defined above. Additionally, the PEIR/EA was prepared over 15 years ago and the SPEIR over nine years ago. Since that time various environmental and regulatory changes in the Project setting have occurred. This SEIR considers all of these factors.

## **PROJECT ELEMENTS**

As indicated above, the District has historically been conducting routine flood control maintenance activities in the Goleta Slough inclusive of five creeks (Atascadero, San Jose, San Pedro, Los Carneros and Tecolotito creeks). The proposed Project is a continuation of these activities. The existing and proposed flood control activities include:

- Dredging of the creeks using either hydraulic or dragline methods;
- Stockpiling of sediment;
- Disposal of sediment either for beach nourishment, or at an upland reuse/disposal; and
- Enhancement of specific areas affected by flood control activities.

The original objectives of the flood control maintenance program include the following which remain objectives of the current Program.

- Removing sediments that would otherwise fill the slough and diminish the biological productivity of the marsh habitat;
- Increasing the creeks' capacity to convey flood flows, thereby decreasing the potential for frequent inundation of large areas adjacent to the slough, including the airport residences and streets;
- Increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough; and
- Replenishing a local beach, that receives heavy use through the replacement of eroded sand.

Specific additional elements and objectives of the flood control maintenance program are proposed as summarized above and described in detail in Section 3.0 - Proposed Updated Maintenance Program, of this EIR.



## **ENVIRONMENTAL IMPACTS AND MITIGATION**

This SEIR identifies and analyzes the potentially significant environmental impacts associated with the implementation of the Goleta Slough flood control maintenance activities. The impact analysis is based on information provided by District staff, as well as supplementary investigations and research conducted by the SEIR preparers.

Where the PEIR identified significant impacts and provided mitigation measures that are still appropriate, this SEIR considers the mitigation measures from the PEIR and SPEIR (that were adopted by the County) as part of the Project. Additionally, the Project as presently proposed includes specific elements that serve to avoid or reduce impacts. Therefore, for the purposes of the SEIR, the Project is considered to be self mitigating for numerous environmental issues as fully defined herein.

The SEIR analyses indicate that the proposed Project would result in certain adverse environmental impacts; however, the majority of these impacts would not be significant and are summarized below. Impacts that were determined less than significant and did not require detailed analysis based upon an initial review are identified in Section 5.11 of this EIR and include impacts under the issue areas of: agricultural resources; mineral resources; population and housing; public services; and utilities and service systems. These impacts are not summarized further in this section. Potentially significant impacts have been identified for the issue areas of: water resources, air quality, geology, biological resources, risk of upset, cultural resources, and aesthetics as summarized below. Certain impacts of the proposed Project can not be reduced to a less than significant level with the implementation of mitigation measures. These unavoidable impacts occur for the issue areas of: air quality, biological resources, and aesthetics.

Table ES-1 presents a summary of impacts and mitigation measures for the proposed Project by issue area. Within each issue area each impact is described and classified, recommended mitigation is listed. Impacts and mitigation measures are identified by an abbreviation that corresponds to the subject issue (e.g., biological impacts are identified as BIO followed by a number). Mitigation measures are also identified by the abbreviation MM followed by an identifier designating if the measure is part of the current Project Description ("Project"), from the PEIR/EA ("P"), or from the SPEIR ("S") followed by the subject abbreviation (e.g., BIO-1). If there is no "Project" or "P", or "S" designation, the mitigation measure is a new one that has been developed as part of this SEIR process.

## **CUMULATIVE IMPACTS**

A cumulative impacts analysis is provided in Section 7.0 of this SEIR and summarized below. This evaluation considers if the Project has possible environmental effects that are individually limited but cumulatively considerable when considered in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.





**Table ES-1. Summary of Environmental Impacts for the Proposed Project**

Impact Class I = Significant adverse impact that remains significant after mitigation. Only Class I impacts have residual impacts.  
 II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.  
 III = Adverse impact that does not meet or exceed an issue's significance criteria.  
 IV = Beneficial impact.

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>Section 5.1 - Water Resources/Flooding</b>			
<b>WR-1</b>	Dredging activities have the potential to adversely impact inland surface water quality on a periodic basis.	II	<b>MM Project-1:</b> Sampling and Analysis Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>WR-2</b>	Sediment stockpiling on creek banks and creek bank restoration activities will impact inland surface waters on a periodic basis.	II	<b>MM PBIO-12:</b> Spill Prevention Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>WR-3</b>	Possible leaks and spills of fuel, oil and other constituents associated with equipment use and maintenance have the potential to impact inland surface water quality.	II	<b>MM PBIO-12:</b> Spill Prevention Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>WR-4</b>	Dredging and creek restoration activities will reduce erosion and sedimentation of creeks from a long-term perspective.	IV	None required.
<b>WR-5</b>	Deposit of sediment at the closed Foothill Landfill Sediment Disposal/Restoration Site may benefit water quality by increasing the cap over landfill waste.	IV	None required.
<b>WR-6</b>	Project activities would result in less than significant impact on surface water quantity.	III	None required.
<b>WR-7</b>	Project activities would result in less than significant impact on groundwater quality.	III	None required.
<b>WR-8</b>	Project activities would result in less than significant impact on groundwater quantity.	III	None required.



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>WR-9</b>	Flooding hazards would be reduced by the Project.	IV	None required.
<b>WR-10</b>	Degradation of marine water quality would result from discharge of dredged sediment.	III	<b>MM SWR-1:</b> Post Advisories
<b>WR-11</b>	Degradation of marine water quality would result from accidental discharge of fuel or other petroleum products.	II	<b>MM Project 1:</b> Sampling and Analysis Plan <b>MM PBIO-12:</b> Spill Prevention Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>Section 5.2 - Air Quality</b>			
<b>AQ-1A</b>	Desilting Activities in the Goleta Slough may result in short-term Project-related air emissions during a "Typical Scenario."	I	<b>MM PAQ-1 A&amp;B:</b> Efforts to Reduce NO <sub>x</sub> Emissions <b>MM AQ-1 A&amp;B:</b> Additional Measures to Reduce NO <sub>x</sub>
<b>AQ-1B</b>	Desilting Activities in the Goleta Slough may result in short-term Project-related air emissions during a "Worst Case Scenario."	I	<b>MM PAQ-1 A&amp;B:</b> Efforts to Reduce NO <sub>x</sub> Emissions <b>MM AQ-1 A&amp;B:</b> Additional Measures to Reduce NO <sub>x</sub>
<b>AQ-2</b>	Project activities may result in short-term emissions of fugitive dust.	III	<b>MM PAQ-2:</b> Efforts to Reduce Fugitive Dust Emissions <b>MM AQ-2:</b> Additional Measures to Reduce Fugitive Dust Emissions
<b>AQ-3</b>	Desilting Activities in the Goleta Slough may result in short-term odor impacts.	III	None required.
<b>AQ-4</b>	The Project would contribute Greenhouse Gas emissions	III	<b>MM AQ-4:</b> Measures to reduce GHG emissions
<b>Section 5.3 - Geology</b>			
<b>GEO-1</b>	Removal of creek over-sedimentation will alter existing creek channel structure.	III	None required.
<b>GEO-2</b>	Stockpiling of desilted material along creek banks may contribute to erosion/sloughing of soils.	III	None required.
<b>GEO-3</b>	Placement of sediment at Goleta Beach compatibility of material with beach sand.	III	<b>MM Project-1:</b> Sampling and Analysis Plan
<b>GEO-4</b>	Placement of Sediment at Goleta Beach effect on beach replenishment.	IV	None required.



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>GEO-5</b>	Sediment deposition in surf zone at Goleta Beach will alter existing nearshore sediment movement.	III	None required.
<b>GEO-6</b>	Opening of the Goleta Slough mouth will alter existing nearshore sediment transport.	III	None required.
<b>GEO-7</b>	Proposed Landfill Restoration Plan will alter existing topography and surficial features.	II	<b>MM Project 2:</b> Restoration/Revegetation Plan for the Proposed Sediment Disposal Areas at the Closed Foothill Landfill.
<b>GEO-8</b>	Restoration of the landfill may result in temporary erosion of soils.	III	<b>MM Project 2:</b> Restoration/Revegetation Plan for the Proposed Sediment Disposal Areas at the Closed Foothill Landfill
<b>GEO-9</b>	Altered fish barrier would be exposed to Geologic Hazards.	III	None required.
<b>GEO-10</b>	Addition of soils to be used as fill in other development projects or within alternate landfill site.	III	None required.
<b>Section 5.4 - Biological Resources</b>			
<b>BIO-1</b>	Desilting may adversely affect steelhead migration.	III	<b>MM SBIO-1:</b> Hydraulic Dredging Schedule. <b>MM SBIO-2:</b> Hydraulic Dredging Reduced Timing
<b>BIO-2</b>	Desilting may adversely affect survival and foraging of tidewater goby.	I	<b>MM BIO-2:</b> Tidewater Goby Refuge
<b>BIO-3</b>	Breaching the berm at the mouth of the Goleta Slough may result in mortality of tidewater goby.	III	None required.
<b>BIO-4</b>	Disposal of sediment at the closed Foothill Landfill Sediment Disposal/Restoration Site would result in the loss of about one hundred coast live oak trees.	I	<b>MM BIO-4:</b> Oak Tree Replacement
<b>BIO-5</b>	Desilting in Tecolotito and Carneros creeks would adversely affect invertebrates and fish, and remove vegetation.	III	None required.
<b>BIO-6</b>	Stockpiling of materials removed from Tecolotito and Carneros creeks would result in temporary loss of upland vegetation.	III	None required.



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>BIO-7</b>	Noise and human activities associated with dragline desilting in Tecolotito and Carneros creeks would disturb wildlife near the basins.	III	None required.
<b>BIO-8</b>	Impact BIO-8: De-silting in Atascadero, San Jose, San Pedro creeks and the Goleta Slough would adversely affect invertebrates and fish.	III	None required.
<b>BIO-9</b>	Desilting in Atascadero, San Jose, San Pedro creeks and the Goleta Slough would increase habitat available to fish and water-associated birds.	IV	None required.
<b>BIO-10</b>	Hydraulic dredging in Atascadero, San Pedro creeks and the Goleta Slough would remove vegetation from the streambed.	III	None required.
<b>BIO-11</b>	Noise and human activity associated with hydraulic dredging in Atascadero, San Jose and San Pedro creeks and the Goleta Slough would impact common wildlife species.	III	None required.
<b>BIO-12</b>	Spills of fuel or hydraulic fluid would adversely affect aquatic wildlife, vegetation and birds.	I	<b>MM PBIO-12:</b> Spill Prevention Plan
<b>BIO-13</b>	Desilting would disturb raptor and heron roosts, and swallow nesting.	II	<b>MM PBIO-13:</b> Time Restrictions or Monitoring <b>MM BIO -13:</b> Breeding Bird Monitoring and Avoidance.
<b>BIO-14</b>	Dredging near the mouth of the Slough and use of the booster pump may adversely affect brown pelican and Belding's savannah sparrow.	III	<b>MM PBIO-14:</b> Avoid Native Vegetation
<b>BIO-15</b>	Disposal of dredged sediments at Goleta Beach may adversely affect grunion spawning.	II	<b>MM PBIO-15:</b> Grunion Survey and Avoidance OR <b>MM BIO-15:</b> Grunion Surveys and Avoidance
<b>BIO-16</b>	Turbidity and siltation caused by disposal of dredged sediments at Goleta Beach may adversely affect sensitive nearshore marine habitats.	II	<b>MM BIO-16:</b> Marine Turbidity Plume Monitoring
<b>BIO-17</b>	Turbidity and siltation caused by disposal of dredged sediments at Goleta Beach would degrade water quality and adversely affect marine biological resource.	III	None required.



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>Section 5.5 - Risk of Upset</b>			
<b>RU-1</b>	The use, maintenance and fueling of equipment has the potential to result in the discharge of hazardous material to the environment from leaks and accidental spills.	II	<b>MM PBIO-12:</b> Spill Prevention Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>RU-2</b>	Discharge of pesticides associated with restoration activities have the potential to significantly impact human and environmental health.	II	<b>MM PBIO-12:</b> Spill Prevention Plan <b>MM WR-1:</b> Defined Best Management Practices (BMPs)
<b>RU-3</b>	The Project would not impact school facilities.	III	None required.
<b>RU-4</b>	Impacts from upset and accident conditions from facilities proximate to the Project site on Project personnel are considered less than significant.	III	None required.
<b>RU-5</b>	Potential impacts associated with dredging effects on the pipeline supports are expected to be less than significant.	III	None required.
<b>RU-6</b>	The Project would result in less than significant impacts to human health and the environment in the event contaminated soils are identified through the sampling and analysis procedures implemented as part of the Project SAP (soil stockpiling and disposal issues only, water quality issues are addressed in Section 5.1 of this EIR).	III	<b>MM Project 1:</b> Sampling and Analysis Plan
<b>RU-7</b>	Impacts associated with airport safety (e.g., possible aircraft impact on Project operations) are considered less than significant.	III	None required.
<b>RU-8</b>	There are no elements of the Project that would adversely affect emergency response.	III	None required.
<b>RU-9</b>	The wildland fire impact of the Project is considered to be less than significant.	III	None required.



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>Section 5.6 Noise</b>			
<b>NOI-1</b>	Hydraulic desilting activities may increase noise levels during daytime hours near sensitive receptors.	III	<p>Several measures from the PEIR are incorporated into the Project.</p> <p><b>MM PNOI-1a:</b> Dredging timing limitation</p> <p><b>MM PNOI-1b:</b> Public notification</p> <p><b>MM PNOI-1c:</b> Proper equipment maintenance</p> <p><b>MM PNOI-1d:</b> Booster pump noise reduction</p> <p>Measures provided by this SEIR.</p> <p><b>MM NOI-1a:</b> Revised construction timing limitation</p> <p><b>MM NOI-1b:</b> Construction notification</p> <p><b>MM NOI-1c:</b> Booster pump noise reduction (second pump)</p>
<b>NOI-2</b>	Hydraulic desilting activities may increase noise levels during nighttime hours near sensitive receptors.	III	<p>Several measures from the PEIR are incorporated into the Project.</p> <p><b>MM PNOI-1a:</b> Dredging timing limitation</p> <p><b>MM PNOI-1b:</b> Public notification</p> <p><b>MM PNOI-1c:</b> Proper equipment maintenance</p> <p><b>MM PNOI-1d:</b> Booster pump noise reduction</p> <p>Measures provided by this SEIR. (revisions to PEIR measures)</p> <p><b>MM NOI-1a:</b> Revised construction timing limitation</p> <p><b>MM NOI-1b:</b> Construction notification</p> <p><b>MM NOI-1c:</b> Booster pump noise reduction (second pump)</p>
<b>NOI-3</b>	Dragline desilting activities may increase noise levels during daytime hours near sensitive receptors	III	<b>MM PNOI-1c :</b> Proper equipment maintenance
<b>NOI-4</b>	Closed Foothill Landfill Sediment Disposal/Restoration Site restoration activities may increase noise levels near sensitive receptors.	III	<p><b>MM PNOI-1c :</b> Proper equipment maintenance</p> <p><b>MM NOI-4a:</b> Timing Restriction.</p> <p><b>MM NOI-4b:</b> Public Notification</p>
<b>Section 5.7 - Cultural Resources</b>			
<b>CR-1</b>	Dredging activities at Atascadero Creek have the potential to impact CA-SBA-45.	III	<p><b>MM PCR-1a:</b> Avoidance of SBA-45 and Locus 2</p> <p><b>MM PCR-1b:</b> Monitoring of Archaeological Sites</p>



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>CR-2</b>	Project-related exposure of CA-SBA-45 may increase its exposure to unauthorized cultural artifact collectors.	II	<b>MM PCR-1a:</b> Avoidance of SBA-45 and Locus 2 <b>MM CR-2a:</b> Worker Cultural Orientation <b>MM CR-2b:</b> Demarcation of Archaeological Sites
<b>CR-3</b>	Dredging activities at Atascadero Creek, San Jose Creek and San Pedro Creek have the potential to impact CA-SBA-46.	III	<b>MM PCR-1a:</b> Avoidance of SBA-46 and Locus 2. <b>MM PCR-1b:</b> Monitoring of Archaeological Sites.
<b>CR-4</b>	Installation and removal of the pipeline for the Goleta Beach surf zone work associated with beach replenishment has the potential to impact CA-SBA-1695.	II	<b>MM PCR-1b:</b> Monitoring of Archaeological Sites. <b>MM CR-2a:</b> Worker Cultural Orientation.
<b>CR-5</b>	Project activities have the potential to disturb Native American human remains.	II	<b>MM CR-2a:</b> Worker Cultural Orientation <b>MM CR-5:</b> Proper Disposition of Human Remains
<b>CR-6</b>	Disposition of sediments for beach replenishment is not expected to impact significant offshore cultural resources.	III	None required.
<b>CR-7</b>	Impacts to previously unidentified cultural resources.	II	<b>MM CR-7:</b> Stop Work Order
<b>Section 5.8 - Aesthetics</b>			
<b>AEST-1</b>	Mobilization/Demobilization activities could adversely affect visual/aesthetic resources.	III	None required.
<b>AEST-2</b>	Hydraulic desilting activities could adversely affect visual/aesthetic resources.	I	No mitigation proposed.
<b>AEST-3</b>	Dragline desilting activities could adversely affect visual/aesthetic resources.	I	No mitigation proposed.
<b>AEST-4</b>	Transportation of sediment by truck to Goleta Beach could cause adverse impacts to visual/aesthetic resources.	I	No mitigation proposed.
<b>AEST-5</b>	Transportation of sediment by truck to the closed Foothill Landfill could adversely impact visual/aesthetic resources.	I	No mitigation proposed.





Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>AEST-6</b>	Desilting operations occurring during nighttime hours could adversely impact visual/aesthetic resources.	III	None required.
<b>AEST-7</b>	Restoration at the closed Foothill Landfill could affect visual/aesthetic resources within the Project area on a short-term basis prior to establishment of vegetation.	III	None required.
<b>AEST-8</b>	Restoration activities at the closed Foothill Landfill would have a positive effect on the visual and aesthetic resources of the site on a long-term basis.	IV	None required.
<b>AEST-9</b>	Maintenance activities within the Goleta Slough and its tributaries would maintain the visual quality of the Goleta Slough in the long-term.	IV	None required.
<b>Section 5.9 - Traffic/Circulation</b>			
<b>TRANS-1</b>	Hydraulic desilting operations (requiring sediment piping directly to the surf zone at Goleta Beach for beach replenishment purposes) may temporarily affect transportation roadways within the Project area.	III	<b>MM PTRANS-1:</b> For all applicable sites a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project staging areas.
<b>TRANS-2</b>	Dragline desilting operations (requiring sediment to be transferred via truck to potential replenishment and/or disposal/restoration site may temporarily affect transportation roadways within the Project area.	III	<b>MM PTRANS-1:</b> For all applicable sites a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project staging areas.
<b>Section 5.10 - Recreation</b>			
<b>REC-1</b>	Stockpiling and desilting operations may result in impacts to recreational resources within areas adjacent to the Goleta Slough.	III	The following measures address parking lot impacts as fully assessed in the PEIR. <b>MM PREC-1:</b> Repair of impacted parking lot <b>MM Project-3:</b> Timing of dredging and staging operations
<b>REC-2</b>	Beach replenishment activities may result in impacts to recreational resources.	III	The following measures address parking lot impacts as fully assessed in the PEIR. <b>MM PREC-1:</b> Repair of impacted parking lot <b>MM SWR-1:</b> Post advisories <b>MM Project 2:</b> Sampling and Analysis Plan



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
			<b>MM Project-3:</b> Timing of dredging and staging operations <b>MM Project 4:</b> Redirect public away from sediment release zone
<b>REC-3</b>	Transfer of desilted sediment by truck may interfere with recreational opportunities.	III	<b>MM Project 2:</b> Sampling and Analysis Plan <b>MM Project-3:</b> Timing of dredging and staging operations



**Table ES-2. Summary of Cumulative Environmental Impacts for the Proposed Project**

Impact Class I = Significant adverse impact that remains significant after mitigation. Only Class I impacts have residual impacts.  
 II = Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.  
 III = Adverse impact that does not meet or exceed an issue's significance criteria.  
 IV = Beneficial impact.

Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>Water Resources/Flooding</b>			
<b>CUM-1</b>	Cumulative impacts could result in flooding. The Project's effect would be beneficial.	IV	None required.
<b>CUM-2</b>	Cumulative projects could result in short-term impacts to surface water quality in stream channels	II	<b>PBIO-12:</b> Spill Prevention Plan <b>MM Project-1:</b> Sampling Analysis Plan <b>MM WR-1:</b> Defined Best Management Practices <b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.
<b>CUM-3</b>	Cumulative impacts could result in long-term impacts to water quality in stream channels.	IV	None required.
<b>CUM-4</b>	Cumulative impacts could result in turbidity of waters offshore of Goleta Beach.	III	<b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.
<b>CUM-5</b>	Cumulative offshore water quality impacts could result from construction activities within Goleta Beach	II	<b>PBIO-12:</b> Spill Prevention Plan <b>MM Project-1:</b> Sampling Analysis Plan <b>MM WR-1:</b> Defined Best Management Practices <b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.
<b>Air Quality</b>			
<b>CUM-6</b>	Cumulative air quality impacts would be less than significant	III	None required.
Cumulative impacts relating to global warming are discussed in Table ES-1			
<b>Geology</b>			



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
No cumulative impacts.			
<b>Biological Resources</b>			
<b>CUM-7</b>	Project would result in a less than significant cumulative impact on flora fauna and the Goleta Slough ecosystem in general	III	None required.
<b>CUM-8</b>	The Project would result in cumulatively significant impacts to tidewater goby	I	<b>MM BIO-2:</b> Tidewater Goby Refuge
<b>CUM-9</b>	Cumulative development may result in significant cumulative impacts to grunion, nearshore marine habitats and biota	II	<b>MM PBIO-16:</b> Grunion Survey and Avoidance, or <b>MM BIO 16:</b> Grunion Surveys and Avoidance (alternative) <b>MM BIO-17:</b> Marine Turbidity Plume Monitoring
<b>Risk of Upset</b>			
No cumulative Impacts.			
<b>Noise</b>			
<b>CUM-10</b>	Cumulative noise impacts associated with stream channel maintenance would be less than significant	III	<b>MM PNOI-1-a:</b> Dredging timing limitation <b>MM PNOI-1-b:</b> Public notification <b>MM PNOI-1-c:</b> Proper equipment maintenance <b>MM PNOI-1-d:</b> Booster pump noise reduction <b>MM NOI-1a:</b> Revised construction timing limitation <b>MM NOI1b:</b> Construction notification
<b>CUM-11</b>	Cumulative noise impacts associated with beach nourishment activities would be less than significant	III	Same as for CUM-10
<b>Cultural Resources</b>			
<b>CUM-12</b>	Cumulative development has the potential to result in significant impacts to known and presently unidentified archaeological/cultural resources	II	<b>MM PCR-1a:</b> Avoidance of SBA-45 and Locus 2 <b>MM CR-2a:</b> Worker Cultural Orientation <b>MM CR-2b:</b> Demarcation of Archaeological Sites



Impact No.	Impact	Impact Class	Recommended Mitigation Measures
<b>Aesthetic Resources</b>			
<b>CUM-13</b>	Cumulative development would result in significant, unavoidable, adverse, short-term affects to sensitive viewsheds.	I	None proposed.
<b>CUM-14</b>	Cumulative impacts would result in significant, unavoidable, adverse short-term affects to sensitive viewsheds during disposal of sediments within Goleta Beach.	I	None proposed.
<b>Traffic/Circulation</b>			
<b>CUM-15</b>	The Project contribution to cumulative impacts on transportation roadways associated with beach nourishment would be less than significant.	III	<b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.
<b>CUM-16</b>	The Project contribution to cumulative impacts on transportation roadways associated with transport of sediment to the closed Foothill Landfill would be less than significant.	III	<b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.
<b>Recreation</b>			
<b>CUM-17</b>	Cumulative development would result in less than significant impacts on recreation in the Goleta Slough and Goleta Beach areas.	III	<b>MM CUM-2:</b> District will notify appropriate agencies of Project activities and scheduling to reduce cumulatively considerable impacts.



## COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

A complete evaluation of alternatives to the Project is provided in Section 6.0 of this SEIR. The following summarizes the findings of Section 6.0 including a discussion of the alternatives and findings relating to the alternatives considered in the PEIR as well as additional alternatives considered in comparison to the Project as currently proposed.

The original PEIR considered the following alternatives:

- **Traditional Maintenance:** continuation of dragline desilting in all five creeks on an as-needed basis; with spoils deposited on creekbanks for removal by the public. The District would continue to open the mouth of the slough 1 to 3 times a year with a dozer or excavator to facilitate tidal influence. **Findings:** Mobilization and Demobilization would be as described for the proposed Project; however actual maintenance would take approximately twice as long because only 100 cubic yards of sediments per hour would be removed.
- **Beach Deposition:** Rather than being deposited in the surf zone, spoils from desilting of Atascadero, San Pedro, and San Jose creeks would be discharged directly on the beach just east of the mouth of the slough. **Findings:** A second booster pump would be needed because approximately 1,000 feet of additional pipeline would be required. The booster pump would be located in the immediate vicinity of Goleta Beach County Park.
- **Reduced Basin Size:** Reduced basin (desilting area) dimensions; factoring in a design to contain the average annual sediment load deposited over a 20 year period. Maintenance would be required yearly during typical weather conditions. **Findings:** Comparable to the proposed Project; however dredging would occur over a shorter period of time.
- **Increased Basin Size:** Increased basin (desilting area) dimensions for Atascadero, San Pedro, and San Jose creeks; based on historic records to contain approximately the heaviest sediment load expected during a year of unusually severe storms. **Findings:** Maintenance activities would be required less frequently than for the proposed action, but a larger area would be impacted and dredging would take longer than for the proposed Project.
- **Placing Discharge Pipelines on the Ground:** Placement of discharge pipelines on ground adjacent to channels rather than in the water. **Findings:** Comparable to the proposed Project; however half of the truck trips would be required due to elimination of floats.
- **No-Project Alternative (required to be considered under CEQA).** The Project activities would not be conducted. **Findings:** would avoid environmental impacts, but does not meet Project objectives to reduce flooding or maintain the Goleta Slough.



Based on the original findings, the maintenance activities proposed within the original PEIR were concluded to be the environmentally superior alternative. As such, the currently proposed Project would incorporate and improve upon the originally proposed maintenance plan.

Alternatives to the currently proposed Project and findings are summarized below.

- **No Project Alternative (required to be considered under CEQA)**: The No Project alternative would avoid all of the adverse impacts associated with the proposed Project. However, it would not provide the beneficial effects/objectives of the Project relating to flood control and environmental maintenance of the Goleta Slough and Beach.
- **Deeper Ocean Discharge Scenarios**: Deeper ocean discharge scenarios considered as alternative to the proposed Project include: 1) wastewater treatment outfall tie-in, 2) Goleta Pier pipeline alignment, and 3) Horizontal Directional Drilling (HDD) to a deeper outfall location. These scenarios would allow for sediment with a greater percentage of fines than currently proposed for beach replenishment to be discharged. **Findings**: The feasibility of the wastewater treatment outfall tie-in and Goleta Pier pipeline alignment are questionable. Construction of an ocean outfall utilizing HDD technology would require additional monitoring/contingency measures intended to protect the environment from the potential discharge of drilling fluid during installation. Because of feasibility issues, potential additional environmental impacts and the fact that under current conditions all of the sediment generated by the Goleta Slough desiltation activities that could be used for beach replenishment is not because some is needed for upland reuse, the benefit of a deeper ocean discharge alternative does not warrant detailed consideration at this time.
- **Eastern Discharge (Hydraulic Desilting Only)**. In the event that sediment testing levels are found to be in exceedance of established guidelines; the outfall discharge pipe during hydraulic desilting would be relocated to the eastern portion of Goleta Beach. By relocating the pipeline further east; the discharge point would avoid heavily utilized recreational areas. **Findings**: This alternative was determined not to substantially lessen potential impacts as compared to the proposed Project.
- **Western Discharge (Dragline Desilting Only)**. In order to replenish sand further west sediment removed during dragline desilting events may be trucked to a bluff location near the existing lift station and placed in the surf zone order to allow for greater availability of sand to the entire Goleta Beach sand cell. **Findings**: This alternative was determined not to substantially lessen potential impacts as compared to the proposed Project.
- **Upland Sediment Re-use/Disposal at the Tajiguas Landfill**. In the event that Foothill Landfill does not need the material, a second alternative would be to offer the material for re-use as cover at Tajiguas Landfill. **Findings**: Trucking of sediment to Tajiguas Landfill would result in associated increased air quality, noise, risk of upset, and traffic/circulation impacts as compared to the proposed Project option of trucking





sediment to approximately 5 miles from the Project areas to the closed Foothill Landfill for restoration.

**Environmentally Superior Alternative.** The CEQA Guidelines [section 15126.6 (d)] require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. The Guidelines [Section 15126.6 (e)(2)] further state, in part, that *"If the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."* (Emphasis added).

The alternatives considered for placement and/or disposal or reuse of desilted sediment would not substantially lessen or fulfill the objectives of the proposed Project. As such, the proposed Project would remain the environmentally superior alternative.

### **KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES**

There are no presently known areas of controversy regarding the Project.

### **ENVIRONMENTAL REVIEW PROCESS**

The County of Santa Barbara Flood Control and Water Conservation District is serving as the Lead Agency responsible for preparing this CEQA document in consultation with other agencies and the public. The County filed a Notice of Preparation (NOP) for a Draft Environmental Impact Report on the Project with the State Clearinghouse (SCH #2000031092) on January 20, 2009. The NOP review period began on January 20, 2009 and ended on February 18, 2009. The NOP was also filed at the County of Santa Barbara Clerk's Office and distributed to federal agencies, local agencies, organizations and individuals known or expected to have an interest in the Project. The NOP briefly described the Project and issue areas of concern. Communications in response to the NOP were received from 10 parties identified as follows:

- United States Department of the Interior, Fish and Wildlife Service
- United States Department of Commerce, National Oceanic and Atmospheric Administration
- Native American Heritage Commission
- California Department of Fish and Game
- Santa Barbara County Air Pollution Control District
- Goleta Slough Management Committee - Pat Saley, AICP
- Heal the Ocean
- Santa Barbara Urban Creeks Council



- Santa Barbara Audubon Society, Inc.
- Environmental Defense Center - Brian Trautwein

Comments and identification of issues received by the District were considered and incorporated as appropriate during the preparation of the Draft SEIR.

### **FINAL DRAFT SEIR CONTENT AND AVAILABILITY**

The ~~ED~~SEIR includes an introductory discussion of the Project, description of the current routine maintenance program and proposed updated maintenance program (Sections 1.0 through 3.0). A discussion and analysis of land use effects of the Project and consistency with relevant plans and policies is provided in Section 4.0. Section 5.0 includes the setting discussions, impact evaluations and mitigation measures for the potentially affected resource areas (e.g., water resources, air quality, etc.) An evaluation of alternatives to the Project is provided in Section 6.0. The cumulative effects of the Project are described in Section 7.0. Growth inducement, irreversible and irretrievable commitment of resources and beneficial effects of the Project are discussed in Sections 8.0, 9.0, and 10.0 respectively. Relevant supporting data are provided as appendices to this document.

The **DSEIR was distributed and made** ~~is~~ available for public review for a period of 45 days as identified in the Notice of Completion sent to the State Clearinghouse pursuant to CCR Title 14, Division 6, Chapter 3, Section 15085, and the Notice of Availability prepared pursuant to CCR Title 14, Division 6, Chapter 3, Section 15087. ~~During this period, the public is invited to review and comment on this draft document.~~ The comments and formal responses to comments on the DSEIR ~~are~~will be provided in **Appendix G of** the Final SEIR (FSEIR). **Comments in response to the DSEIR were received from five parties including the following:**

- **Department of Transportation - Caltrans**
- **Department of Transportation - Division of Aeronautics**
- **California Regional Water Quality Control Board**
- **State Clearinghouse**
- **Santa Barbara County Air Pollution Control District**

**Copies of the FSEIR** ~~which~~ will be **distributed and** made available to the commenting parties and general public. The FSEIR must be considered by the decision-makers for all discretionary permits and entitlements required for execution of the Project.



## 1.0 INTRODUCTION

### 1.1 BACKGROUND

The Santa Barbara County Flood Control and Water Conservation District (District) provides flood protection throughout the County by constructing flood control facilities; acquiring federal funds and assistance for capital projects; assisting other County departments regarding flood control issues; and maintaining capacity in key watercourses to protect public infrastructure, life and property. The District is governed by the Board of Supervisors, acting as the Board of Directors for the District. The District is funded through property tax assessments and benefit assessments. The proposed flood control maintenance activities in the Goleta Slough fall within the South Coast Flood Zone. Atascadero, San Jose, and San Pedro creeks are within the jurisdiction of Santa Barbara County and Los Carneros and Tecolotito Basins are within the Santa Barbara City limits (Table 1-1).

**Table 1-1. Summary of Project Background Information**

<b>Project Title</b>	Flood Control Maintenance Activities in the Goleta Slough
<b>Assessor's Parcel Numbers</b>	073-450-003 071-210-001 071-190-017, 028, 030 071-200-003, 008, 009, 011, 017, 022, 023
<b>Landowner</b>	City of Santa Barbara; County of Santa Barbara; Southern California Gas Company; Goleta Sanitary District
<b>Applicant</b>	Santa Barbara County Flood Control District 123 East Anapamu Street Santa Barbara, California 93101 (805) 568-3437 Attn: Maureen Spencer
<b>Supervisory District</b>	Second, Janet Wolf, Supervisor

The District has routinely maintained the five creeks that flow into the Goleta Slough for over 40 years. Up until 1994, all of the creeks were desilted using a crane rigged with a dragline bucket. The sediment was stockpiled adjacent to the drainages and left until a contractor needing material would come and remove it at no cost to the District. In November 1993, a Program EIR (PEIR) for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) using a hydraulic dredge was written for the District's maintenance activities. In September 2000, a supplement to the Program EIR (SPEIR) was written to support renewal of permits for continuation of routine maintenance activities. Since 1993 the Goleta Slough has been maintained several times using either hydraulic dredge or dragline desilting methodologies. In order to incorporate the experience gained over the past 15 years of maintenance activities and improve upon the existing Program, the District has determined (as further described in Section 3.0 below) that preparation of an additional Subsequent EIR (SEIR) is necessary to cover the



continued maintenance of the Goleta Slough so flood protection can be provided within this important portion of the Goleta Valley.

## **1.2 EXISTING ROUTINE MAINTENANCE PROGRAM**

The current Routine Maintenance Program within the lower Goleta Slough tributaries includes yearly analysis and as-needed maintenance (desilting) activities within Atascadero, Los Carneros, San Pedro, Tecolotito, and San Jose creeks. Stream maintenance occurs on an as-needed basis, typically after severe storm events and wildfires.

## **1.3 NEED FOR AN UPDATED MAINTENANCE PROGRAM**

In order to continue providing routine stream maintenance activities within the lower Goleta Slough tributaries in a manner that will maintain the capacity and conveyance of these watercourses while minimizing the threat of damage to life, public property and existing infrastructure; the District has committed to the development of an updated Maintenance Program and associated SEIR, herein referred to as the "Project". While the existing Maintenance Program has been successfully implemented, a greater understanding of the site conditions and operating parameters of maintenance equipment has allowed the District to develop a more comprehensive Maintenance Program.

The updated Maintenance Program will be used for routine maintenance events that will not require annual re-evaluation and permitting efforts. The methodology proposed for the Program is similar to that currently utilized; however, the updated Maintenance Program will incorporate updated project description information based on the past 15 years of sediment removal maintenance experience. The updated Program will enable the District to establish a construction working window that will minimize potential environmental impacts to sensitive resources while optimizing the efficiency of proposed desilting operations for beneficial reuse of suitable dredge materials for beach replenishment at Goleta Beach County Park.

## **1.4 SCOPE OF SUBSEQUENT EIR**

As previously noted, a PEIR was written for Routine Maintenance Activities in the Goleta Slough in November 1993 and a supplement to that PEIR was written in September 2000. The Standard Maintenance Practices from the PEIR and SPEIR for Santa Barbara County Flood Control Routine Maintenance Activities (93-EIR-4) would be applied to the proposed Project as appropriate. Specifically, measures identified to mitigate potential Class I (unavoidable) impacts to air quality, biological resources, noise, and cultural resources will be incorporated into the revised Project design as further discussed within the SEIR. Additionally, the purpose of the updated SEIR is to incorporate the experience gained through the maintenance activities since 1993.



## **2.0 CURRENT MAINTENANCE PROGRAM**

### **2.1 ORIGIN OF THE PROGRAM**

Prior to 1994, the District routinely desilted the five creeks that flow into the Goleta Slough using a crane rigged with a dragline bucket, and the sediment was stockpiled adjacent to the drainages and left until a contractor needing fill would come and remove it. In the early 1990s, a decision was made to add a hydraulic dredge component to Atascadero, San Jose and San Pedro creeks and write a supporting environmental document which would incorporate beach disposal of these sediments, define a long term Maintenance Program for the Goleta Slough to analyze project alternatives, and provide information necessary to obtain all permits and approvals required to conduct long-term maintenance within the Goleta Slough. The Final PEIR/EA for the existing Program was completed in late 1993, and the District has worked under this PEIR/EA and associated permits until 2000, when a Supplemental EIR was prepared to support renewal of applicable project permits.

### **2.2 PROGRAM OBJECTIVES**

The program objectives of the current Maintenance Program include the following:

- Removing sediments that would otherwise fill in the slough and diminish the biological productivity of the marsh as habitat;
- Increasing the creeks capacity to convey flood flows, thereby decreasing the potential for frequent inundation of large areas adjacent to the slough, including commercial areas, the airport, residences and streets;
- Increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough; and
- Replenishing a local beach, that receives heavy public use, through replacement of eroded sand.

### **2.3 PROJECT DESCRIPTION/SUMMARY**

The Project area is located within the lower reaches of the Goleta Slough. The five creeks feeding into the slough that are subject to maintenance activities are Tecolotito, Los Carneros, Atascadero, San Jose, and San Pedro. Los Carneros and Tecolotito creeks are within the Santa Barbara city limits; the remaining creeks are in the unincorporated area of Santa Barbara County. The District routinely assesses conditions within each of the creeks to determine if desilting is necessary to fulfill the program objectives of increasing biological function of the system and protecting public and private land interests. As further described below, the Tecolotito and Los Carneros Creek Basins are typically desilted utilizing dragline methodology. When dragline desilting is required, a 100-ton crane rigged as a dragline is utilized and the material is stockpiled and dewatered prior to beach replenishment or upland disposal. Atascadero, San Jose, and San Pedro creeks are primarily hydraulically desilted;



however they may also be proposed for draglining if conditions are appropriate for implementation of this methodology. During hydraulic desilting of Atascadero, San Pedro and San Jose creeks, sediment removed is directly discharged to Goleta Beach for beach replenishment.

The approximate sediment removal volumes of the five creeks are as follows (Table 2-1). It is important to note that these volumes may be exceeded during years of excess runoff or rain conditions as demonstrated below in Table 2-2 (Summary of Sediment Volumes Removed).

**Table 2-1. Approximate Sediment Removal Volumes**

Creek/Basin	Location (and dimension of basin, if applicable)	Volume (cy)	Removal Methodology
<b>Tecolotito</b>	Located on Tecolotito Creek just downstream of Hollister Avenue (8' x 100' x 550')	11,300	Dragline (Based on Proximity and Design)
<b>Los Carneros</b>	Located on Los Carneros Creek downstream of Hollister Avenue (6' x 60' x 600')	10,000	Dragline (Based on Proximity and Design)
<b>Atascadero</b>	Starting at the check structure at the end of Ward Drive	36,000	Hydraulic/Dragline
<b>San Jose</b>	Starting at the southern end of the lined channel	15,500	Hydraulic/Dragline
<b>San Pedro</b>	Starting just downstream of the bridge on James Fowler Road	19,400	Hydraulic/Dragline

**Atascadero Creek.** Atascadero Creek receives drainage from Cieneguitas Creek, Hospital Creek, San Antonio Creek, and Maria Ygnacio Creek for a total watershed of 13,231 acres, capable of generating a 13,000 cubic feet per second (cfs) flood flow during a 100-year return period event. The tidally influenced portion of Atascadero Creek begins at the check structure at the end of Ward Drive and continues to the mouth of the Slough for a length of approximately 4,900 feet. The District has routinely desilted the channel downstream of the check structure for a length of approximately 3,600 feet.

**San Jose Creek.** San Jose Creek and its main tributary, Fremont Creek, drain a 5,503-acre watershed capable of generating 5,300 cfs of flood flow during a 100-year return period event. The tidally influenced portion of San Jose Creek begins at the end of the lined section and continues downstream to its confluence with Atascadero Creek for a length of approximately 2,500 feet. The District has routinely desilted the channel just downstream of the lined section for the total length.

**San Pedro Creek.** San Pedro Creek has two smaller tributaries that join it before it enters the Slough; Encina Creek and Las Vegas Creek, for a total watershed of 4,555 acres capable of generating 6,000 cfs of flood flow during a 100-year return period event. The tidally influenced portion of San Pedro Creek begins at Matthews Street and continues downstream to the confluence with San Jose Creek. The District has routinely desilted the channel just downstream of James Fowler Road for a length of approximately 2,000 feet.





**Los Carneros Creek Basin.** The Los Carneros Basin watershed drains approximately 2,641 acres capable of generating 3,500 cfs of flood flow during a 100-year return period event. Lake Los Carneros is located within the watershed, but traps very little sediment in relation to the total watershed (approximately 1/10 of the total). The existing sediment basin (6' x 60' x 600') located on Los Carneros Creek downstream of Hollister Avenue traps most of the sediment before it enters the slough. District activities typically have been restricted to desilting this basin, although the creek has been desilted to its confluence with Tecolotito Basin after large storms.

**Tecolotito Creek Basin.** Tecolotito Basin drains the 3,858 acre Glen Annie Canyon watershed, which is capable of generating 4,600 cfs during a 100-year return period event. The existing sediment basin (8' x 100' x 550') just downstream of Hollister Avenue traps most of the sediment before entering the slough. District activities have typically been restricted to desilting this basin, although prior to the re-routing of the creek, it had been desilted to its confluence with Los Carneros Creek after large storms. With the current configuration of this basin, the 550 feet of desilting goes to just past the confluence with Los Carneros Creek.

### **2.3.1 Hydraulic Desilting (Dredging)**

Hydraulic desilting in Atascadero, San Jose, and San Pedro creeks (methodology utilized when quantities of sediment exceed 50,000 cy in the three creeks combined) is accomplished by using a hydraulic pipeline "cutterhead" dredge. A hydraulic dredge mixes large quantities of water with the excavated material to create a slurry; which is then pumped out of the three channels and is piped to Goleta Beach. A cutterhead dredge has an active rotating auger surrounding the suction line. The material is pumped up to the dredge and discharged through a pipeline onto the beach for beach nourishment purposes. The District hires dredging contractors to perform the hydraulic dredging operations and operate the dredge to pipe the excavated beach compatible material directly into the surf zone at Goleta County Beach Park. Compatible material is transported by means of a 12-inch discharge pipeline, which passes through a 24-inch diameter PVC pipe sleeve that has been permanently installed underneath the parking lot at Goleta Beach County Park.

Historically, the Program design depth has averaged approximately -3.5 feet on the Vertical Datum = NAVD88 and Horizontal Datum = NAD83. The mean lower low water (MLLW) depth is -3.59 feet. The maximum -3.5-foot dredging depth is utilized in all hydraulic dredging operations and allows for enough sediment to be removed from the three channels in order to maintain sufficient flow capacity in the creeks. The sediment that is removed from the -3.5-foot dredging depth is sandy material. Sediment that is found deeper than -3.5 feet is often found to be made up of finer sediment, which usually does not consist of beach compatible material. Also, sediment that is deeper than -3.5 feet contains more clay-like characteristics.

Staging areas are utilized to prepare and store dredging equipment for hydraulic dredging operations. There are two staging areas that have been historically utilized along the eastern parking lot at Goleta Beach County Beach Park and one staging area alongside Atascadero, San Jose, and San Pedro creeks.



In past years when the District has done hydraulic desilting the dredge has been placed in the slough by a crane at the east end of the Goleta Beach parking lot and then it begins to work upstream (Figure 2-3). A 12-inch polyurethane pipe attached to the dredge has been floated towards a point on Atascadero Creek where the pipe exits the water, runs under the bike path (in two locations), and then through a sleeve under the parking lot to the discharge point into the surf zone approximately 2,500 feet west of the Slough mouth (Figures 2-4 and 2-5). If any material is found to be unsuitable for beach disposal, then this portion of the creek would not be hydraulically dredged and instead would be dragline desilted and that sediment would be trucked to a permitted upland disposal site instead. The bike path crossings are installed each hydraulic desilting episode and repaired to pre-project conditions at the end of each season. In cases where high surf conditions threaten to cause damage to the outfall or if too much sediment builds up at the discharge point due to insufficient surf action, a loader has been utilized to relocate the end of the discharge pipeline to a better nearby location. Additional pipe is added as the dredge moves upstream.

### 2.3.2 Dragline Desilting

Until 1994, sediment was traditionally removed from all the creeks in the slough with a dragline. From 1994 until present, Tecolotito and Los Carneros Basins are the only watercourses that have continued maintenance using only dragline desilting due to the fact that it would not be economically or technically feasible to extend a pipeline from a hydraulic dredge placed in the basins to the coast. However, when desilting volumes have not reached a total of 50,000 cy and maintenance activities are still required, dragline desilting is also utilized in the Atascadero, San Jose, and San Pedro basins that are typically hydraulically desilted.

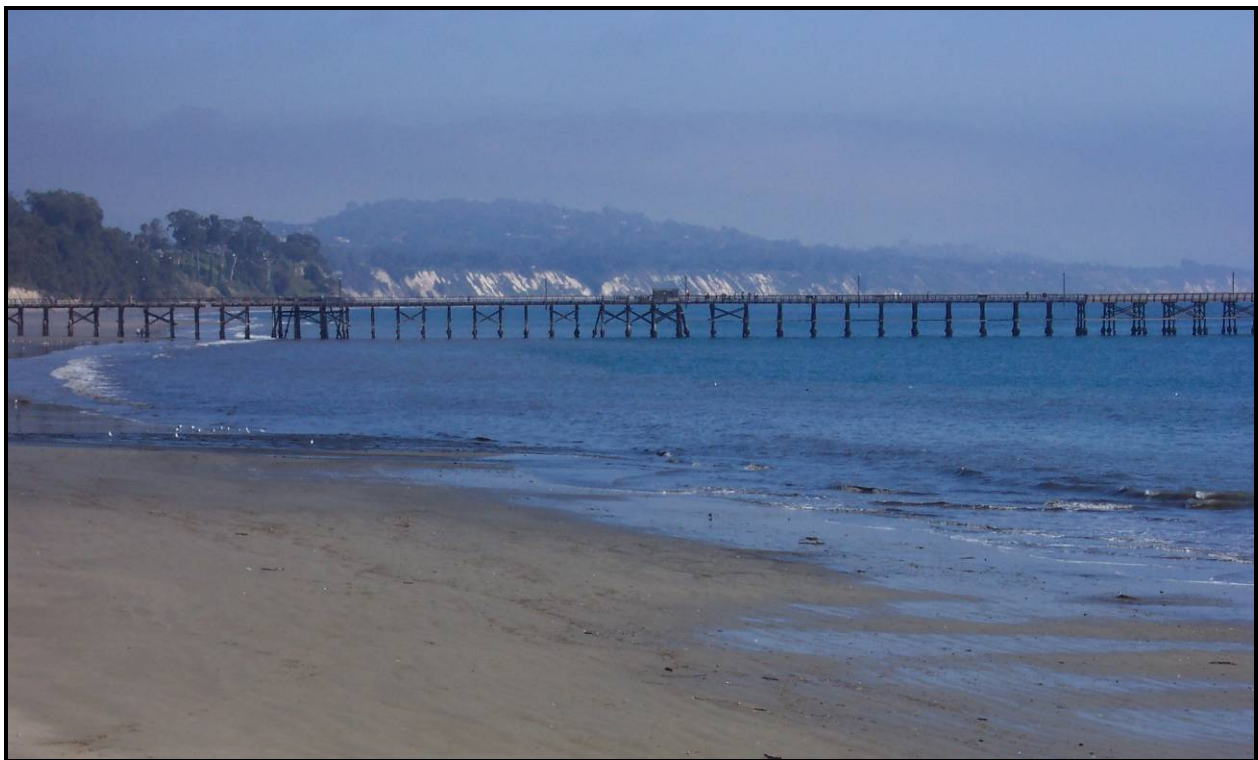


**Figure 2-3. Hydraulic Desilting (Winter 2005)**





**Figure 2-4. Discharge Pipe into Surf Zone at Goleta Beach**



**Figure 2-5. View Looking East at Discharge Pipe into Surfzone**



Access for dragline desilting Tecolotito and Los Carneros Creek Basins is via Hollister Avenue turning south on Firestone or South Los Carneros Roads. Stockpiling of soils is located along the eastern bank/access roadway to the Los Carneros Creek Basin and along both western and eastern bank/access roadways for the Tecolotito Creek Basin. If required, access to Atascadero, San Pedro, and San Jose creeks is via Hollister Avenue to South Fairview Avenue, South Kellogg Avenue, or Ward Drive. Stockpiling of sediment would be on the eastern side/access roadway of San Pedro Creek, western side/access roadway of San Jose Creek, and along the northern side/access roadway of the Atascadero Creek.

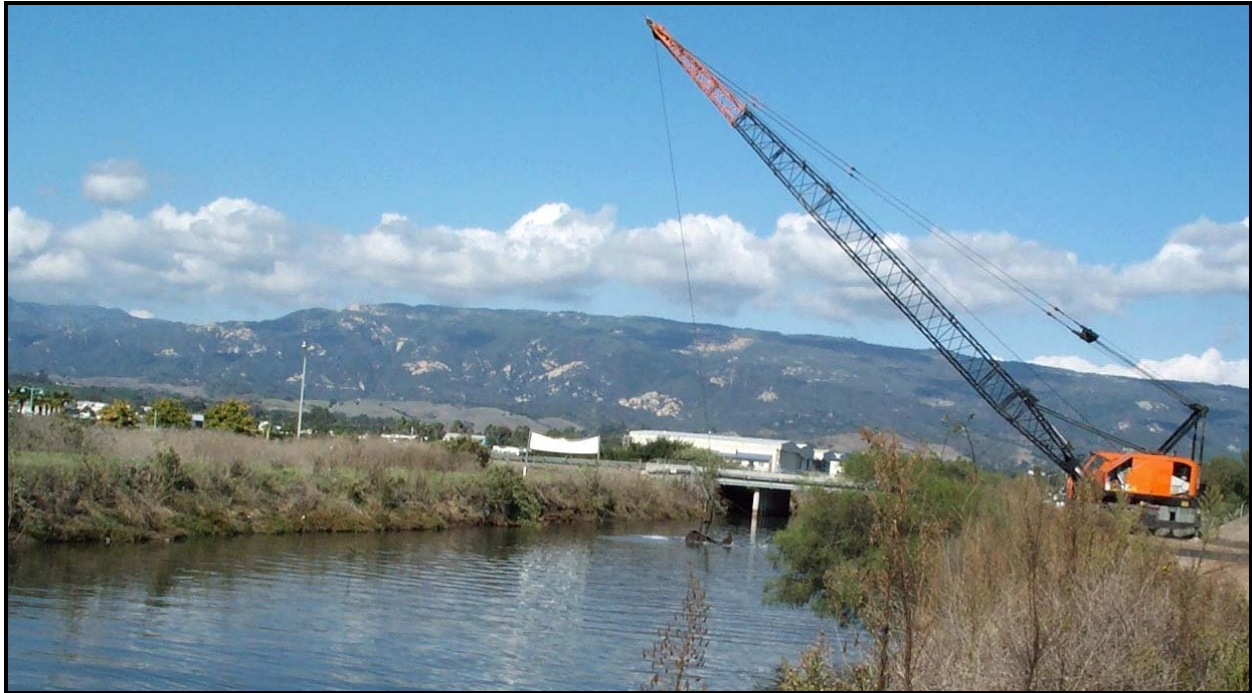
A dragline bucket system consists of a large bucket, which is suspended from a boom (a large truss-like structure) with wire ropes (refer to Figure 2-6). The bucket is maneuvered by a number of ropes and chains. The hoist rope, powered by large diesel or electric motors, supports the bucket and hoist-coupler assembly from the boom. The dragrope is used to draw the bucket assembly horizontally. In a typical cycle of excavation, the bucket is positioned above the material to be excavated. The bucket is then lowered and the dragrope is then drawn so that the bucket is dragged along the surface of the material. The bucket is then lifted by using the hoist rope. A swing operation is then performed to move the bucket to the place where the material is to be dumped. The dragrope is then released causing the bucket to tilt and empty. The bucket can also be 'thrown' by winding up to the jib and then releasing a clutch on the drag cable. This would then swing the bucket like a pendulum. Once the bucket passes the vertical, the hoist cable is released, thus throwing the bucket.

The primary limitations of draglines are their boom height and boom length, which limit the width of the channel that can be desilted and where the dragline can unload the material removed. Another primary limitation is their dig depth, which is limited by the length of rope the dragline can utilize. These limitations have not posed any problems for the District's dragline operations.

### **2.3.3 Sediment Removal Volumes**

As indicated in Table 2-2, approximately 938,796 cy of sediment have been removed to maintain the basins and channels within the Goleta Slough since 1993. Dragline desilting accounts for approximately 569,300 cy removed from the five cumulative tributaries and hydraulic dredging accounts for approximately 369,496 cy removed from Atascadero, San Jose, and San Pedro creeks. It is important to note that both dragline and hydraulic desilting methodologies can be used during any given maintenance year (as shown during the 94/95, 98/99, and 2005 maintenance seasons).

During the nine seasons that desilting activities have been performed an average of 105,000 cy have been removed per season. However, based on seasonal conditions the amount of material accumulated varies; accounting for a range of 10,000-238,000 cy removed in any given year to provide the best balance of flood protection, habitat protection, and desilting economy.



**Figure 2-6. Dragline Desilting**

## **2.4 SEDIMENT ANALYSIS AND DISPOSAL ALTERNATIVES**

### **2.4.1 Sediment Analysis**

During the past maintenance activities, prior to desilting and/or discharge; sediments within the creek have historically been sampled in accordance with a pre-approved Sampling Analysis Plan (SAP) that includes sampling for various constituents (including; but not limited to total petroleum hydrocarbons, pesticides, Polychlorinated Biphenyls (PCBs), metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (Table 2-3). The results shown in Table 2-3 and Figure 2-7 indicate that sediment removed from the Goleta Slough tributaries has predominantly been suitable (fines <25 percent) for beach replenishment. Sediment samples taken from Atascadero Creek and Tecolotito Basin have always had sediments suitable for beach replenishment. Samples taken from Los Carneros Basin and San Jose/San Pedro creeks have exceeded required percentages of fines on occasion; ranging from a slight overage up to approximately 43.5 percent in San Pedro Creek at one location along the Project length.



**Table 2-2. Summary of Sediment Volumes Removed (cy)**

Year	Atascadero		San Pedro		San Jose		Los Carneros	Tecolotito	Totals
	<i>Hydraulic</i>	<i>Dragline</i>	<i>Hydraulic</i>	<i>Dragline</i>	<i>Hydraulic</i>	<i>Dragline</i>	<i>Dragline</i>	<i>Dragline</i>	
<b>94/95 (Phase I)</b>	50,000	80,000	-	50,000	-	30,000	18,000	40,000	268,000
<b>95/96 (Phase II)</b>	63,853	-	12,134	-	18,054	-	-	-	94,041
<b>98/99</b>	51,500	40,000	4,500	30,000	13,000	20,000	10,000	30,000	199,000
<b>00/01</b>	14,800	-	6,100	-	4,100	-	6,000	-	31,000
<b>01/02</b>	33,540	-	9,565	-	17,850	-	1,400	3,000	65,355
<b>2003</b>	-	8,100	-	6,600	-	7,200	-	-	21,900
<b>2005</b>	46,520	20,000	10,790	50,000	13,190	35,000	20,000	35,000	230,500
<b>2006</b>	-	-	-	5,000	-	-	5,000	-	10,000
<b>2008</b>	-	-	-	6,500	-	3,000	2,500	7,000	19,000
<b>Totals:</b>	<b>260,213</b>	<b>148,100</b>	<b>43,089</b>	<b>148,100</b>	<b>66,194</b>	<b>95,200</b>	<b>62,900</b>	<b>115,000</b>	<b>938,796 cy</b>
<b>Added Totals:</b>	<b>408,313</b>		<b>191,189</b>		<b>161,394</b>		<b>62,900</b>	<b>115,000</b>	<b>369,496 Hydraulic</b>
									<b>569,300 Dragline</b>





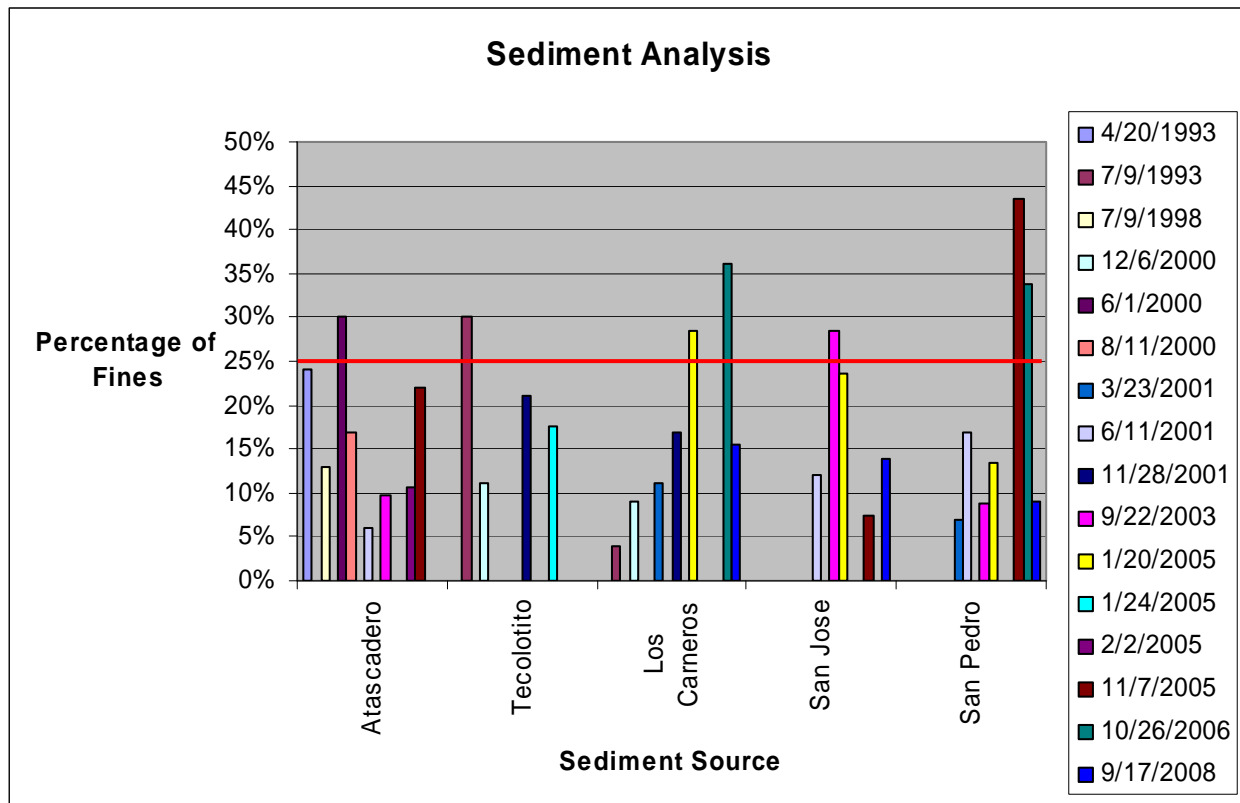
**Table 2-3. Summary of Historic Sampling Results and Disposal of Dredged Material (June 2001 - August 2008)**

Monitoring Report	Included	Desilting Methodology	Sediment Sample Results			Disposal Recommendation
			Mean Fines (passing #200 sieve)	Contaminates?	Fecal Coliform	
04/20/93	Atascadero, San Jose, and San Pedro	Hydraulic / Dragline	~24%	Below established State action level guidelines	Not Sampled	No recommendations
07/09/93	Tecolotito and Los Carneros	Dragline	Los Carneros: 4% Tecolotito: 30%	Not available	Not Sampled	No recommendations
07/09/98	Atascadero, San Jose, and San Pedro	Hydraulic / Dragline	Sediments within Planned desilting depths of the three creeks avg. 13% for 10 composite samples	Not available	Not Detected	No recommendations
12/06/00	Tecolotito and Los Carneros	Dragline	Los Carneros: 9% Tecolotito: 11%	Below established State action level guidelines	Not Detected (fecal) 30-90 (total)	Suitable for disposal at Goleta Beach
06/01/00	Atascadero, San Jose, and San Pedro	Hydraulic / Dragline	Sediments within Planned desilting depths of the three creeks avg. of 30% for 10 composite samples	TPH C12-C38 25-140 mg/kg	20 MPN/gm (fecal) 2,100 MPN/gm (fecal) Atascadero 70-80 MPN/gm (total) 3600 MPN/gm (total) Atacadero	No recommendations
08/11/00	Atascadero, San Jose, and San Pedro	Hydraulic / Dragline	Sediments within Planned desilting depths of the three creeks avg. of 17% for 9 composite samples	TPH C12-C38 1.2-140 mg/kg	Not Detected at Laboratory Detection Limits	No recommendations
03/23/01	San Pedro and Los Carneros	Dragline	San Pedro: 7% Los Carneros: 11%	Below established State action level guidelines	San Pedro: 11 MPN/gm Los Carneros: 14 MPN/gm	Suitable for disposal at Goleta Beach
06/11/01	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 6% San Jose: 12% San Pedro: 17%	Below established State action level guidelines	Not Sampled	Suitable for disposal at Goleta Beach
11/28/01	Tecolotito and Los Carneros	Dragline	Tecolotito: 21% Los Carneros: 17%	Below established State action level guidelines	Not Sampled	Goleta Beach, with exception of finer grained silty sand at the downstream end of Los Carneros
09/22/03	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 9.75% San Jose: 28.5% San Pedro: 8.75%	Below established State action level guidelines	Not Sampled	No recommendations



**Table 2-3. (Continued)**

Monitoring Report	Included	Desilting Methodology	Sediment Sample Results			Disposal Recommendation
			Mean Fines (passing #200 sieve)	Contaminates?	Fecal Coliform	
01/20/05	San Jose Creek, San Pedro Creek, and Los Carneros Basin	Hydraulic / Dragline	Los Carneros: 28.4% San Pedro: 13.4% San Jose: 23.6%	Below established State action level guidelines	4 out of 6 < 2 MPN/gm San Pedro and San Jose (2 and 4 MPN/gm)	90% suitable for beach disposal, 10% from Los Carneros disposal at upland disposal site
01/24/05	Tecolotito Basin	Dragline	17.6% (avg)	Below established State action level guidelines	Between 11,000-17,000 MPN/gm	No recommendations
02/02/05	Atascadero Creek	Hydraulic	10.6% (avg)	Below established State action level guidelines	3,000-5,000 MPN/gm	No recommendations
11/07/05	Atascadero*, San Jose, and San Pedro	Hydraulic + Excavation	Atascadero: 21.9% San Jose: 7.5% San Pedro: 43.5%	Below established State action level guidelines	Not Detected at Laboratory Detection Limits	Goleta Beach
10/26/06	San Pedro and Los Carneros	Hydraulic	San Pedro: 33.8% Los Carneros: 36% Goleta Beach West: 13.6% Goleta Beach East: 9.4%	Below established State action level guidelines	Not Sampled	Upper material suitable for beach disposal, while deeper finer grained material should be disposed at upland site
09/17/08	San Jose, San Pedro, and Los Carneros	Dragline	San Pedro: 9% (avg) Los Carneros: 15.6% (avg) San Jose: 14% (avg)	TPH: SP: BQL LC: 27-31mg/Kg SJ: 27-32 mg/Kg Trace Metals found in slight concentrations within all samples	Less than 2 MPN/gm	No recommendations



**Figure 2-7. Sediment Analysis Summary: Percentage of Fines (2001-2008)**

## 2.4.2 Disposal Options

The following disposal options have been utilized during the past maintenance activities:

- **Beach Replenishment.** Since 1993, approximately 80% of dredged materials from the Goleta Slough has been taken/discharged to Goleta Beach for beach replenishment (Tables 2-3, 2-4, and Figure 2-8), although 85%+ of material removed has been tested as suitable, but have sometimes been utilized for upland re-use. Beach replenishment can be accomplished through a direct discharge during hydraulic desilting activities or through hauling of dewatered stockpiled material after draglining has occurred.
  - **Direct Discharge During Hydraulic Desilting.** When hydraulic desilting is proposed, sediments are sampled and analyzed to achieve a stream depth that maximizes the amount of beach-suitable sediment to be removed. The removed sediment is directly discharged for beach replenishment through a 12-inch polyurethane pipe attached to the dredge that has been floated towards a point on Atascadero Creek where the pipe exits the water, runs under the bike path, then through a sleeve under the parking lot to the discharge point into the surf zone, approximately 2,500 feet west of the Slough mouth.

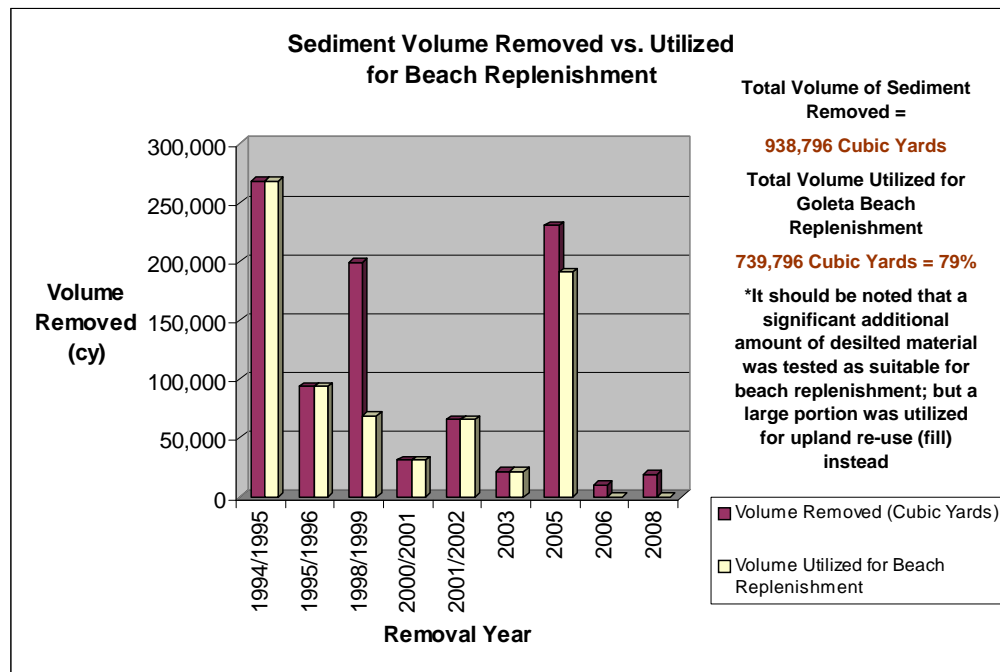


**Table 2-4. Dredged/Desilted Volume Removed vs.  
Amount Utilized for Beach Replenishment**

Year	Volume Removed (cy)	Volume Utilized for Beach Replenishment	Percentage of Material Utilized for Beach Replenishment
<b>94/95 (Phase I)</b>	268,000	Total Volume Removed	100%
<b>95/96 (Phase II)</b>	94,041	Total Volume Removed	100%
<b>98/99</b>	199,000	69,000 Beach 130,000 Upland* <i>(*Although Sediment Qualified for Beach Replenishment - Contractor Would Haul for Free to Upland Development Site that Needed Fill)</i>	35%
<b>00/01</b>	31,000	Total Volume Removed	100%
<b>01/02</b>	65,355	Total Volume Removed	100%
<b>2003</b>	21,900	Total Volume Removed	100%
<b>2005</b>	230,500	190,500 Beach 40,000 Upland	83%
<b>2006</b>	10,000	None	0%
<b>2008</b>	19,000	None <i>(*Although Sediment Qualified for Beach Replenishment - it was taken to closed Foothill Landfill due to conflicts with Goleta Beach Access)</i>	0%

- **Hauling by Subcontractors to Goleta Beach.** When the desilted material removed by dragline has been shown to be compatible for beach replenishment, it is allowed to dry sufficiently such that it can be safely hauled on the local public roads to Goleta Beach Park. The District has worked with County Parks (Parks) to minimize impacts to park users. The District and Parks have reinforced the roadway in the park and have built a ramp that allows the trucks hauling the material to back down onto the beach. Once the material is dumped from the truck a bulldozer operated by an experienced District employee pushes the sand into the surf zone.
- **Upland Re-Use.** If the material is shown to be too fine for beach replenishment, sediments have historically been made available to the public; and have been typically removed within one year. Approximately 130,000 cy of desilted material (that was shown to be generally suited for beach replenishment) was utilized after the 98/99 season, approximately 40,000 cy in 2005, and 19,000 cy in 2008 was utilized for upland development fill. The sediment is readily accessible and typically has been removed by contractors (at no cost to the County), who are required to obtain an encroachment permit before bringing in their own loader and trucks. Access to Tecolotito Basin is from Hollister Avenue, and Los Carneros Basin is accessed from Firestone Road. A Flood Control District representative is responsible for checking on the contractor's employees on a daily basis when spoils are being removed. Strict dust control measures are implemented by the contractor with oversight from District personnel.





**Figure 2-8. Sediment Removed vs. Volume Utilized for Beach Replenishment**

- **Disposal.** In the event that contractors do not want the spoils for fill material, the material has been historically taken to southern Santa Barbara County dirt stockpile sites or disposed of at a local landfill with available capacity.

### 2.4.3 Typical Truck Trips Resulting from Disposal

The following provides an estimate of trucks/hour based on past experience when hauling spoils to the beach or to the closed Foothill Landfill Sediment Disposal/Restoration Site during desilting operations within the Goleta Slough.

**Atascadero Creek:**

To Beach: 10 Trucks/Hour  
To Foothill Landfill: 10 Trucks/Hour

**Los Carneros:**

To Beach: 10 Trucks/Hour  
To Foothill Landfill: 10 Trucks/Hour

**San Jose Creek:**

To Beach: 10 Trucks/Hour  
To Foothill Landfill: 10 Trucks/Hour

**Tecolotito:**

To Beach: 10 Trucks/Hour  
To Foothill Landfill: 10 Trucks/Hour

**San Pedro Creek:**

To Beach: 10 Trucks/Hour  
To Foothill Landfill: 10 Trucks/Hour



## 2.5 COMPLIANCE WITH EXISTING PERMITS

In order to perform routine maintenance activities within the Goleta Slough, the District has obtained the following permits (Table 2-5). These permits have incorporated measures outlined within the original PEIR (1993), the SPEIR (2000), as well as site-specific conditions of approval that have been implemented and monitored as necessary throughout previous maintenance events. Future maintenance activities would require the renewal of these permits on an as-needed basis and would also require a permit from the newly incorporated City of Goleta. In order to improve the efficiency and timing of work activities each season, the updated Maintenance Program will be used during the renewal process to include foreseeable routine maintenance events and would therefore not require annual re-evaluation for renewal of permits to complete work activities each year.

**Table 2-5. Summary of Existing Project Permits**

County Permit	Dated	Valid Through
<b>County of Santa Barbara P&amp;D 05LUP-00000-01200</b>	01/17/06	Ongoing
<b>CCC - Coastal Development Permit No. 4-05-139</b>	12/12/05	12/12/10
<b>CDFG - Stream or Lake Alteration Agreement (Notification No. 5-109-00)</b>	11/7/2000 Amended 8/18/06	11/1/10
<b>USACE - Permit No. 200001339-JEM</b>	01/10/05	9/30/10 Under 33 CFR 325.7(b)
<b>CSLC - Desilting of Lease PRC 7763.9</b>	12/09/05	12/9/10
<b>CRWQCB - Central Coast Region: Order No. 94-17</b>	06/03/94	2009
<b>City of SB - Resolution No. 049-00</b>	11/02/00	11/2/10 in accordance with CDP
<b>SBC APCD -</b>	09/11/01	Pending

**Goleta Slough Mouth Opening.** In accordance with existing conditions of approval and cooperative agreement with the US Army Corps of Engineers (USACOE); the District must open the mouth of the Goleta Slough within two (2) weeks of it closing. In order to open the Goleta Slough mouth, material is removed as necessary until the inlet areas have stabilized. Since establishment of this task as part of the County routine maintenance activities, the Goleta Slough mouth has been re-opened on the following dates:

- 01/11/94
- 03/23/94
- 04/25/94
- 03/10/97
- 09/02/98
- 10/08/99
- 10/08/03
- 06/30/04
- 12/09/04
- 12/22/04
- 08/10/06
- 12/29/06
- 05/11/07
- 11/16/07
- 11/20/07
- 12/08/07
- 09/29/08
- 11/05/08
- 05/13/09
- 11/12/09
- 12/01/09



**Figure 2-9. Re-opening of Goleta Slough Mouth during Routine Maintenance Activities**

**Timing Restrictions.** As shown in Table 2-6\* below, the existing Program is subject to several permit conditions of approval that limit the timing of various maintenance activities (starting from the fall work season). White boxes indicate those times when activities are permitted; grey indicate those that have timing restrictions from the issuing permitting agency. As shown, October is the primary month that has been left unrestricted for the purposes of flood control desilting maintenance activities.

\* Note that the "calendar" in Table 2-6 starts in September.



**Table 2-6. Current Conditions of Approval - Timing Restrictions**

Permit Condition	Month of Occurrence											
	S	O	N	D	J	F	M	A	M	J	J	A
<b>Dragline Desilting: Tecolotito and Los Carneros Basins, Atascadero, San Jose and San Pedro Creeks</b>												
CCC: All draglining/desilting shall occur only during the period 10/15 through 4/1												
CDFG: Activities within stream course is limited from 5/1 to 11/30												
USACE: Dragline desilting activities shall only occur before the rainy season between 8/1 and 11/1 of any given year to avoid adverse affects to steelhead migration												
CRWQCB: Operations to be concluded before 3/31 to avoid Grunion												
City of SB: Draglining of Tecolotito and Los Carneros siltation basins will occur after 8/1 and before the first winter storm to minimize siltation to downstream reaches and impacts to birds												
City of SB: Perform activities after swallow breeding season has been completed and prior to next season (4/1 to 8/1)												
<b>Hydraulic Desilting: Atascadero, San Jose, and San Pedro Creeks</b>												
CCC: All desilting/desilting shall occur only during the period 10/15 through 4/1												
CDFG: Hydraulic desilting can occur from 10/15 through 4/1												
USACE: Hydraulic Desilting shall be scheduled to begin 10/15 and cease 2/1 to prevent adverse impacts to outmigrating smolts												
CRWQCB: Operations to be concluded before 3/31 to avoid Grunion												
<b>Sand Replenishment</b>												
CDP: Sediment disposal/beach replenishment may not occur from Memorial Day (end of May) through Labor Day (beginning of Sept)												
USACE: No beach disposal during Grunion spawning 3/1 through 9/1												
CRWQCB: Discharge to the surf zone shall be limited to the interval between 11/1 and 3/31												
<b>Restoration Activities</b>												
CDFG: All planting shall be done 10/1 through 2/1 to take advantage of winter rainy season												

KEY: ☐ = Work May Occur

☒ = Work May Not Occur



### **3.0 PROPOSED UPDATED MAINTENANCE PROGRAM**

#### **3.1 UPDATED PROGRAM OBJECTIVES**

The intent of the District is to prepare an updated Maintenance Program for Flood Control maintenance activities in the Goleta Slough and an associated SEIR. The Program will be used for routine maintenance events and to obtain appropriate permits for future work activities that will not require yearly re-evaluation or addendum to the SEIR. The methodology proposed for the Program is similar to that currently utilized; however the updated Maintenance Program will incorporate the following:

- Updated Project description information: desilting practices, incorporation of construction best management practices, and recognized/administered permit conditions of approval based on past 15 years of sediment removal maintenance experience (defined further in Section 3.2);
- Establishment of a construction working window (desilting from September 15<sup>th</sup> - March 31<sup>st</sup>, Beach Replenishment from September 15<sup>th</sup> - May 15<sup>th</sup> and Upland Re-use/Disposal Year-Round [if required]) based on past experience that will minimize potential environmental impacts while utilizing the timeframe appropriate to perform maintenance activities in a manner that will optimize efficiency of proposed desilting operations and potential beach replenishment opportunities (defined further in Section 3.3);
- Construction timing and coordination of desilting activities/pre-project mitigations in relation to established practices with respect to endangered/threatened species of special concern (such as California Steelhead and Tidewater Goby) (defined further in Section 3.3);
- Development of a Sampling and Analysis Plan that will establish pre-project sampling requirements and protocol and will further define parameters of beneficial re-use of materials for beach replenishment (including fines up to 50 percent) versus other disposal options (defined further in Section 3.4),
- Establishment of upland sediment disposal/restoration site at the closed Foothill Landfill (defined further in Section 3.5), and;
- Provide an opportunity for further creek enhancement through re-vegetation at several locations and improved fish passage within Atascadero Creek (defined further in Section 3.6).

#### **3.2 UPDATED PROJECT DESCRIPTION/METHODOLOGY**

As described in Section 2.0 (Current Maintenance Program), a combination of hydraulic and dragline desilting methods are utilized by the District as appropriate to perform maintenance within Tecolotito and Los Carneros Creek Basins as well as Atascadero, San Jose, and San Pedro Creeks. These two methodologies will remain consistent within the updated Maintenance Plan, but the methodology chosen each season will depend on volume of material required for



removal, access to areas requiring maintenance, and seasonal conditions that would require expedient timing of operations. It is estimated by the District that when volumes of sedimentation exceed 50,000 cy (on San Pedro, San Jose, and Atascadero creeks combined); it is economically feasible to utilize hydraulic desilting. When volumes have not reached a total of 50,000 cy and maintenance activities are still required; dragline desilting will be utilized in Atascadero, San Jose, and San Pedro creeks as well. The proposed maintenance areas as well as linear stockpiling and 200' x 100' staging/equipment areas for both desilting methodologies are shown on Figure 3-1 and further described below.

### **3.2.1 Hydraulic Desilting**

Continuing the use of a floating hydraulic dredge is proposed to desilt the tidally influenced portions of Atascadero, San Jose, and San Pedro creeks when there is sufficient material (greater than 50,000 cy) present. If feasible; hydraulic desilting would be done as frequently as necessary to remove accumulated sediment to maximize Program efficiency by avoiding the prolonged periods of dredging operations required for larger volumes of material.

Consistent with past operations, the dredge will be placed in the slough by a crane at the east end of the Goleta Beach parking lot, and work would progress upstream. A 12-inch polyurethane pipe attached to the dredge will be floated towards a point on Atascadero Creek where the pipe exits the water, runs under the bike path (in two locations), then through a sleeve under the parking lot to the discharge point into the surfzone approximately 2,500 feet west of the Slough mouth at Goleta Beach. If any material is found to be unsuitable for beach disposal, this portion of the creek would not be hydraulically dredged and instead would be dragline desilted and that sediment would be trucked to a permitted upland disposal site as further described in Section 3.5 (Sediment Re-Use/Disposal) below. The bike path crossings are installed each time hydraulic dredging occurs and repaired to pre-project conditions at the end of each season. The bike path remains usable during dredging operations. In cases where high surf conditions threaten to cause damage to the outfall or if too much sediment builds up at the discharge point due to insufficient surf action, a loader has been utilized to relocate the end of the discharge pipeline to a better nearby location. Additional pipe is added as the dredge moves upstream.

**Equipment.** The type of hydraulic dredge that has been used to desilt the Goleta Slough has been similar to the Ellicot 270/370 or DMC Barracuda 10 series. These dredges run on diesel fuel and are capable of moving approximately 100 to 300 cy of sediment per hour. For purposes of this analysis, an average discharge rate of 200 cy per hour is assumed.

Hydraulic dredges contain onboard pumping equipment. The suction pipe is fitted with a rotating cutterhead that loosens the material to be excavated for easier entrainment. The dredge can pivot on swing spuds or can be pulled in an arc by cable anchored to "deadman" points on shore, thus enabling it to dredge the width of the channel. It can also use just the spuds to move forward as well as side to side. If the dredge contractor chooses to use cable they can be moved as needed to previously established "deadman rigs" by truck. A deadman rig is essentially a 10-foot length of 3-inch diameter pipes pounded into the ground that the cables can pull against. Truck access currently exists along the affected creeks.









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Due to the distance from the desilting starting point to the mouth of the slough, and depending on the exact dredge that is used in a given year, a booster pump may be required to maintain 200 cy per hour of discharge. There are several booster pumps available that could be floated like the dredge or stationed on the bank of the slough approximately 3,000 feet from the working area. A typical hydraulic desilting equipment spread is shown in Table 3-1 below.

**Table 3-1. Equipment/Personnel Requirements for Hydraulic Desilting**

Hydraulic Desilting Atascadero, San Jose, and San Pedro Creeks	
<i>Equipment</i>	<i>Personnel</i>
(1) Crane: <i>15 Ton Grove</i> (1) Hydraulic Dredge: <i>Ellicot 270/370 or DMC Barracuda 10</i> (1) Forklift: <i>Ingersoll Rand VR-642C</i> (1) Loader/Dozer: <i>John Deere 550G</i> (1) Welding Machine: <i>MQ Whisperweld 300 amp DC welder</i> (1) Fusion Machine: <i>McElroy Manufacturing Skiff</i> (1) Rubber Track Dump Truck: <i>Kamatsu 220 V-Turbo</i> (1) Booster Pump (If necessary)	4 workers 1 FCD employee

**Staging/Access.** Access to the Project Site/staging areas for hydraulic desilting is via U.S. Highway 101 and heading south on Highway 217 to Goleta Beach County Park. As shown in Figure 3-1, one staging area has been established at each creek and one in Goleta Beach Park near the mouth of the slough. An area estimated at 200 feet long by 65 feet wide has been secured for pipeline and float storage near each creek. The comparably sized staging area in Goleta Beach Park has been used for placing the downstream sections of the pipeline and for launching the dredge. An alternative dredge launch area has been considered along the eastern extent of Atascadero Creek channel south of Ward Drive. Each area is utilized for the duration of the desilting in that area in addition to a 1 to 2 week mobilization and demobilization period. The staging area at Goleta Beach Park would be occupied during the entire construction period, although it can be reduced in size when operations occur further upstream. As shown in Figure 3-1, there are four delineated resource areas of avoidance (including a 15-20 foot avoidance buffer) where desilting/staging will not occur during hydraulic desilting operations.

**Personnel Requirements.** Under normal circumstances, an average of four workers is anticipated for hydraulic desilting activities at any given time. Two are required to operate the dredge and the other two are moving and connecting pipe and checking on the discharge point. Under certain circumstances more labor may be required for short periods of time on specific tasks. Additionally, a District staff member would check on the desilting operations at least two times a day.



**Timing.** Hydraulic desilting has historically been performed a minimum of 10 hours a day, but also can be done up to 24 hours a day, 7 days a week. Desilting takes approximately 38 days (excluding holidays) if 10 hour days are assumed, and 16 days if desilting takes place 24 hours a day. Based on past operational experience, mobilization and demobilization will take approximately 10 days each to complete.

**Summary.** Table 3-1 provides a summary of equipment/personnel requirements for hydraulic desilting of Atascadero, San Jose, and San Pedro creeks.

### 3.2.2 Dragline Desilting

Dragline desilting methodology will be utilized for maintenance activities for the Tecolotito and Los Carneros Creek Basins due to the fact that they were designed to be maintained in this manner, and it would not be economically or technically feasible to extend a pipeline from a hydraulic dredge placed in the basins to the coast. However, when desilting volumes have not reached a total of 50,000 cy and maintenance activities are still required, dragline desilting will also be utilized in the Atascadero, San Jose, and San Pedro creeks that are typically hydraulically desilted.

Dragline desilting is dictated by need, with each basin/creek requiring routine maintenance approximately every 3 to 5 years. The basins within the creeks are designed to trap sediments and minimize the amount of maintenance that would be required downstream; however, in the event of severe storms or other conditions resulting in the deposition of unusually large amounts of sediments, some maintenance of the lower portions of the creeks could be required.

**Equipment.** To remove the sediment, a crane (rated at 100-tons or larger) rigged as a dragline would work from the sides of the creeks or basins, depositing the spoils in designated stockpile areas, approximately 30 to 150 feet from the top of the bank. The affected area where material is stockpiled would be approximately 40 to 70 feet wide for Los Carneros Creek Basin as well as Atascadero, San Jose, and San Pedro creeks (if draglined) and 100 to 150 feet wide for Tecolotito Creek Basin (see Figure 3-1).

**Staging/Access.** As shown in Figure 3-1, access for draglining of the Tecolotito and Los Carneros Creek Basins is via Hollister Avenue turning south on Firestone or South Los Carneros Roads. Stockpiling of soils is located along the eastern side/access roadway to the Los Carneros Creek Basin and along the western and eastern side/access roadway for the Tecolotito Creek Basin. If required, access to Atascadero, San Pedro, and San Jose creeks is via Hollister Avenue to South Fairview Avenue, South Kellogg Avenue, or Ward Drive. Stockpiling of soils would be on eastern side/access roadway of San Pedro Creek, western side/access roadway of San Jose Creek, and along the northern side/access roadway of Atascadero Creek.

**Personnel Requirements.** It is estimated that one or two workers would be required to operate and maintain the crane during dragline desilting operations at a single location.



Additionally, a District staff member would check on the desilting operations at least two times a day.

**Timing.** Dragline desilting would take place approximately 10 hours per day, 5 days a week. It is estimated that 100 cy per hour can be removed by dragline desilting; therefore approximately 1,000 cy/day can be removed from each location. If conditions allow, more than one site may be draglined at a time. Based on past experience, it is anticipated that draglining maintenance activities would last approximately 4 weeks not counting the time it takes to remove the spoils after they have dried sufficiently to be hauled. Consistent with what has been done during past maintenance activities (Section 2.4.3), sediment suitable for hauling to Goleta Beach is anticipated to require up to 10 truck trips/hour from the sediment stockpiling areas to the beach. Spoils not suitable for beach replenishment would be transported from the sediment stockpiling areas to the closed Foothill Landfill Sediment Disposal/Restoration Site at a rate of approximately 10 truck trips/hour.

**Summary.** Table 3-2 provides a summary of equipment/personnel requirements for dragline desilting maintenance activities.

**Table 3-2. Equipment/Personnel Requirements for Dragline Desilting**

<b>Dragline Desilting</b> <b>Typically Tecolotito and Los Carneros Basins; May also be appropriate for Atascadero, San Jose, and San Pedro Creeks if removal volume is cumulatively less than 50,000 cy</b>	
<b>Equipment</b>	<b>Personnel</b>
(1) >100 ton crane (1) Excavator	1-2 workers (at each location) 1 FCD employee
<b>If sediment is suitable for beach replenishment:</b> (10) Trucks/Hour to haul for beach replenishment (1) Bulldozer	
<b>If sediment is not beach compatible:</b> (10) Trucks/Hour for hauling by contractors (1) Bulldozer at closed Foothill Landfill	

### 3.3 PROJECT TIMING

As previously discussed (Section 2.5 and Table 2-7), there is a very limited construction window available due to permit restrictions, during which the District currently has to accomplish the Maintenance Program objectives outlined in Section 3.1. As such, the District has proposed the following Project timing for typical operations, beach replenishment, and upland re-use/disposal activities. Emergency operations are not included in the typical operation timing windows. The proposed timing has been selected in order to minimize potential environmental impacts while providing enough time to perform maintenance activities in a manner that will optimize efficiency of proposed desilting/beach replenishment operations. It is important to note



that ***when timing windows for the proposed Project update exceed timing windows of previously approved conditions of approval***, mitigations have been incorporated into the new plan during those times in order to reduce the potential for environmental impacts to the greatest extent feasible.

#### **Operational Window (Desilting Activities): September 15<sup>th</sup> - March 31<sup>st</sup>**

Under typical conditions, the proposed operational window for desilting activities is September 15<sup>th</sup> through March 31<sup>st</sup>. However, in the unlikely event that desilting is required outside of the suggested operational window; the following Project-incorporated mitigation measures will be implemented to reduce the potential for biological impacts:

- Desilting occurring within steelhead migration or smolting periods will be conducted following a presence/absence survey. If steelhead or other special-status species are found to be present within the area requiring maintenance activities, exclusionary netting will be set-up around the desilting operations in order to re-direct fish and avoid conflict with migration/breeding activities.

#### **Beach Replenishment: September 15<sup>th</sup> - May 15<sup>th</sup>**

During hydraulic desilting activities, beach replenishment will occur from September 15<sup>th</sup> through March 31<sup>st</sup>. Hydraulic discharge to the surfzone is proposed during periods of high seasonal coastal turbidity to replace sand scoured from the beach during the winter months.

Dragline desilting may result in stockpiled materials that will be transported to Goleta Beach by trucks until May 15<sup>th</sup> (in order to avoid active recreational use after Memorial Day). In the event that the optimal beach replenishment has not been accomplished by this time, the following Project-incorporated mitigation measures/alternatives will be implemented to reduce the potential for biological and recreational impacts:

- Discharge of sediments will be directed to the eastern portion of Goleta Beach in order to minimize potential conflict with recreational users of the area.
- Surveys for California grunion and special-status bird species will be performed prior to discharge. If these species are observed utilizing the beach for spawning or breeding activities, beach replenishment activities will be suspended until the grunion spawning season and active bird nesting/breeding season is completed.

#### **Upland Re-use/Disposal: Year-Round**

If sediments removed are only appropriate for upland re-use and/or disposal, the District may coordinate with contractors to stockpile the material removed or have it trucked offsite to the closed Foothill Landfill Sediment Disposal/Restoration Site at any time during the year. Proposed truck routes from the Project site to Foothill Landfill are shown in Figure 3-2.









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### 3.4 SAMPLING, MONITORING, AND REPORTING ACTIVITIES

The District is including this Sampling Analysis Plan (SAP) to establish pre-project sampling requirements and protocol that would not require yearly re-evaluation. The purpose of a Project-incorporated SAP is to further define parameters of beneficial re-use of materials for beach replenishment versus other disposal options. Based on historic sampling event results and conditions, the following procedures will be followed prior to each maintenance season.

#### 3.4.1 Pre-Project Sampling/Surveys

**Sediment Profiling for Development of Maintenance Plan.** Each spring the District will survey the Goleta Slough maintenance area to determine whether desilting activities will be necessary. If maintenance activities are required, the District will implement a Sampling and Analysis Plan (SAP) to determine the extent of material that must be removed. Based on past permit conditions, five boring samples will be taken from each maintenance location and tested for grain size and chemical composition. For the source site samples, the boring depth shall extend **no more than one (1) foot below the anticipated excavation depth** to ensure that samples are representative of the proposed removal depth sediment profile.

Physical analysis of the sediment will include testing of representative samples for grain size, contaminants, color, particle shape, debris content and compatibility. Specifically, the following geotechnical and analytical tests will be performed on each boring sample in accordance with ASTM and USEPA guidelines:

##### **Geotechnical:**

<i>ASTM No. D4318</i>	Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
<i>ASTM No. D422</i>	Standard Test Method for Particle-Size Analysis of Soils
<i>ASTM No. D2974</i>	Standard Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

##### **Analytical:**

<i>USEPA No. 8080</i>	Chlorinated Pesticides and Polychlorinated Biphenyls
<i>USEPA No. 6020</i>	Total Metals: Be, Cd, Cr, Cu, Ni, Ag, Zn, An, As, Pb, Se, Ti
<i>USEPA No. 7471</i>	Total Metals: Hg
<i>USEPA No. 8270</i>	Polynuclear Aromatic Hydrocarbons
<i>USEPA No. 418.1</i>	Total Recoverable Petroleum Hydrocarbons

**USEPA No. 1604 Fecal and Total Coliform**



Based on these results, the District will design a desilting maintenance plan to remove material from the creeks to an approximate maximum depth of -3.5 mllw on the Vertical Datum = NAVD88 and Horizontal Datum = NAD83. The MLLW depth is -3.59 feet. This depth has shown through past testing to contain the currently required percentages (<25 percent fines) of material with a composition to be primarily suitable for beach replenishment and meets the District's goal of providing necessary flow capacity. The side-slope ratio is 3:1 based on the presence of archaeological sites, the width of the creek channels, and an attempt to keep the dredging operations away from the banks of the creeks.

**Pre-Project Biological Resources Surveys.** In order to limit potential impacts to biological resources within the maintenance area, a pre-project biological survey will be conducted to characterize seasonal conditions and the presence/absence of special-status species within each site. Based upon recent surveys and reports, the presence of Steelhead and Tidewater Goby are assumed within the Project sites. As such, Project-incorporated mitigation measures such as timing restrictions and stepping away from creek banks where feasible to provide areas of refuge with respect to these species will be followed.

### 3.4.2 Operations

**Timing.** As indicated in Section 3.3 (Project Timing), the Project operational window has been selected in order to maximize efficiency of desilting operations while protecting environmental resources to the greatest extent feasible. Project-incorporated mitigation measures will be followed as outlined above for protection of biological resources and recreational use of Goleta Beach. Additionally, hydraulic desilting activities will not occur when flows exceed 20 cfs at the Maria Ygnacio stream flow gauge.

**Monitoring.** During operations, District personnel provide oversight and operational monitoring for consistency with Project-incorporated mitigation measures and permit conditions of approval. As indicated in Table 2-4 and Figure 2-6 above, previous testing has shown that a majority of sediment removed from the five creeks (>85 percent) is well within the currently established criteria (25 percent or less fines) for direct beach replenishment. However, during years where desilting maintenance activities have resulted in a small amount of material in excess of 25 percent (historically less than 45 percent), this material may still be appropriate for discharge if water quality/turbidity levels are observed to be consistent with those shown during a severe storm event. While hydraulic desilting is being conducted or material has been placed within the surfzone from dragline desilting activities; visual observations of water quality will be conducted in the vicinity of the offshore discharge area to ensure compliance with Project-incorporated mitigation measures and permit conditions of approval. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report.





### **3.4.3 Post-Project Compliance**

**Monitoring and Reporting.** Visual observations from shore of turbidity within the vicinity of the Goleta Beach discharge location will also be conducted after maintenance activities are completed in order to document the potential effects of beach replenishment from desilting activities. Special attention will be paid to offshore presence of kelp beds and changes in beach profiles up and down the coast from the Goleta Slough mouth. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report. Reported findings will be distributed to responsible agencies following Project completion.

## **3.5 SEDIMENT RE-USE/DISPOSAL**

### **3.5.1 Beach Replenishment**

Based on historic sediment testing results and subsequent post-construction monitoring/reporting performed at Goleta Beach; sediment removed during Goleta Slough maintenance desilting operations is proposed to continue to be disposed of at Goleta Beach. However, as indicated within a letter to the District received from CRWQCB in February of 2009, the Project would be regulated by the USACOE and California Regional Water Quality Control Board - Central Coast Water Board through a Clean Water Act Section 404 Permit and Section 401 Water Quality Certification. Under these regulations, "dredge material that contains at least 50 percent sand is potentially eligible for beach replenishment" indicating that the Program would now be allowed to include up to 50 percent fines within desilted material (as opposed to existing permit requirements including up to 25 percent fines). Additionally, the SAP shall require sediment chemical testing prior to discharge as described in Section 3.4.

The California Coastal Commission (CCC) currently permits the District to discharge up to 200,000 cy per year. Due to seasonal fluctuations in the amount of sand available for replenishment/retention, the District's is proposing to discharge compatible sand up to 250,000 cy at Goleta Beach per maintenance season.

### **3.5.2 Upland Re-Use/Disposal**

In the event that sediment cannot be directly discharged for beach replenishment, it will be stockpiled and made available for blending with future desilted material to achieve desired fine percentages, or made available to the public for upland re-use as previously described. In the event that contractors do not want the spoils for fill material, the material can be taken to southern Santa Barbara County dirt stockpile sites or disposed of at a local landfill with available capacity. If necessary, the closed Foothill Landfill is the preferred disposal/restoration location. Currently, the District has a cooperative agreement established with the County Resource Recovery and Waste Management Division (RRWMD) to provide landfill cover material at the closed Foothill Landfill. Further information regarding Foothill Landfill is provided in Section 3.5.3 below.



### 3.5.3 Closed Foothill Landfill Sediment Disposal/Restoration Site

**Introduction/Background.** The closed Foothill Landfill is located on a portion of Assessor's Parcel Number 056-140-23 at Transfer Station Road and Calle Real in the unincorporated area between the cities of Santa Barbara and Goleta, California. The site is a former Class III (municipal waste) landfill that served the Santa Barbara South Coast communities and was covered with soil and closed in June 1967. The site is managed as a closed landfill by the County of Santa Barbara, Public Works Department, Resource Recovery and Waste Management Division (RRWMD).

The closed Foothill Landfill has been identified as the potential upland disposal/receiver site for sediment from County maintenance activities (including desilting material from Goleta Slough not suitable for Goleta Beach replenishment). As indicated within the Restoration/Revegetation Plan prepared by the District (Appendix F), sediment imports to the landfill would increase the depth of the soil cap cover and provide substrate for native plant vegetation and restoration efforts. It is important to note that restoration activities at the closed Foothill Landfill are *not* proposed as off-site compensatory mitigation for impacts relating to implementation of the Goleta Slough Management Program.

**Existing Conditions.** The proposed sediment disposal site covers approximately 20 acres of the 143 acre County-owned parcel (Figure 3-3). The landfill site is currently used for passive recreation and areas of the site are leased to non-profit organizations. Current uses on the closed Foothill Landfill include the Hearts Adaptive Riding Program (including horse stables, pasture, and riding area), a native plant nursery operated by Growing Solutions Restoration Education Institute, dirt access roads (used as trails), an experimental jatropha (bio-diesel) plot, and a grant-funded revegetation project being conducted by RRWMD.

The landfill site ranges in elevation from 110 feet above mean sea level (msl) at the southern toe to 283 feet msl at the berm east of the Transfer Station Road. The current topography of the site is a direct result of the historic land filling operations. The site is currently vegetated primarily with weedy ruderal species such as castor bean, mustard, and non-native grasses, however in the early 1990s approximately 350 pine, oak, olive, and eucalyptus trees and 193 toyon shrubs were planted on the landfill site and along Transfer Station Road to improve the aesthetics and provide erosion control. The RRWMS is actively restoring approximately 7 acres of the site with native vegetation for wildlife habitat and passive recreational use. This restoration is scheduled to continue for the next several years.

**Proposed Restoration and Fill Plan.** The existing native plant nursery, jatropha plot, and existing RRWMD revegetation project are outside of the proposed disturbance areas and the area addressed in the proposed Restoration Plan for the project. However, sediment disposal is proposed in the area of the Hearts Adaptive Riding Program. As such, the Hearts' facilities will be relocated to the north area of the Foothill Landfill site (outside of the proposed





Figure 3-3. Vicinity Map of the Closed Foothill Landfill Sediment Disposal/Restoration Site



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upland sediment disposal site). After relocation, the existing horse stable site would become part of the proposed fill area/restoration project. Additionally, the proposed fill plan will result in the removal of most of the 350 trees and 10 or less of the toyons planted in the early 1990s. To compensate for this loss, the Project's proposed restoration plan has been designed to address the original aesthetic function of those original plantings as well as improve the overall habitat function and value of the site. As appropriate, existing oak trees will be boxed to be provided to the County Parks Department for planting at other available open spaces or replanted onsite (time and space permitting).

The proposed Sediment Disposal/Restoration Site area is approximately 20 acres (divided into 3 areas as shown on Figure 3-4). The initial phase of restoration will require the import of sediment and grading/shaping with heavy equipment (most likely one D6 or D8 bulldozer) to reach the designed topography. Sediment fill and grading will follow all RRWMD-required specifications for maintenance of adequate soil cover over the former landfill. Existing vegetation will be removed or filled incrementally as needed to accommodate new sediment as it is imported. The landfill has capacity for approximately 210,000 cy of sediment. Figure 3-4 shows a preliminary fill plan and associated topography. The final topography of the site may change slightly in terms of general contouring of the side slopes; however, the maximum elevations shown on Figure 3-4 will not change. At each of the fill areas, the side slopes of the landfill will be graded to a 2:1 slope or flatter and the tops will be graded to have a plateau with a 3 percent or flatter grade to allow for drainage.

The rate at which the different areas within the landfill are filled is completely dependent upon the amount of sediment that is generated by County agencies or occasional contractors and varies considerably. Depending upon County maintenance needs or whether the South Coast area experiences sediment generating emergencies, portions of the landfill may be filled quickly or it may be several years between fill opportunities. Proposed work activities at the closed Foothill Landfill Receiving/Restoration site are anticipated to periodically occur over a 20 year period based on historical events showing that 85+ percent of desilted sediment would be utilized for Goleta Beach Replenishment. However, given the fact that the closed Foothill Landfill can be a receiving site for other County Projects, the proposed clearing/grading/restoration activities may occur as quickly as within the next few years. Since it may take several years to reach final grades, interim weed control, erosion control and restoration will be an important element of the ongoing management of the closed Foothill Landfill Sediment Disposal/Restoration Site.

**Erosion Control.** Jute netting or other biotechnical slope stabilization methods may be used in combination with vegetation to control erosion and to improve the success of the restoration. The majority of the areas to receive sediment have been designed with 2:1 slopes, which would minimize erosion, but localized Best Management Practices (BMPs) such as mulching, fiber rolls, or straw bales may be deployed, as needed to control erosion, especially before vegetation is sufficiently established.



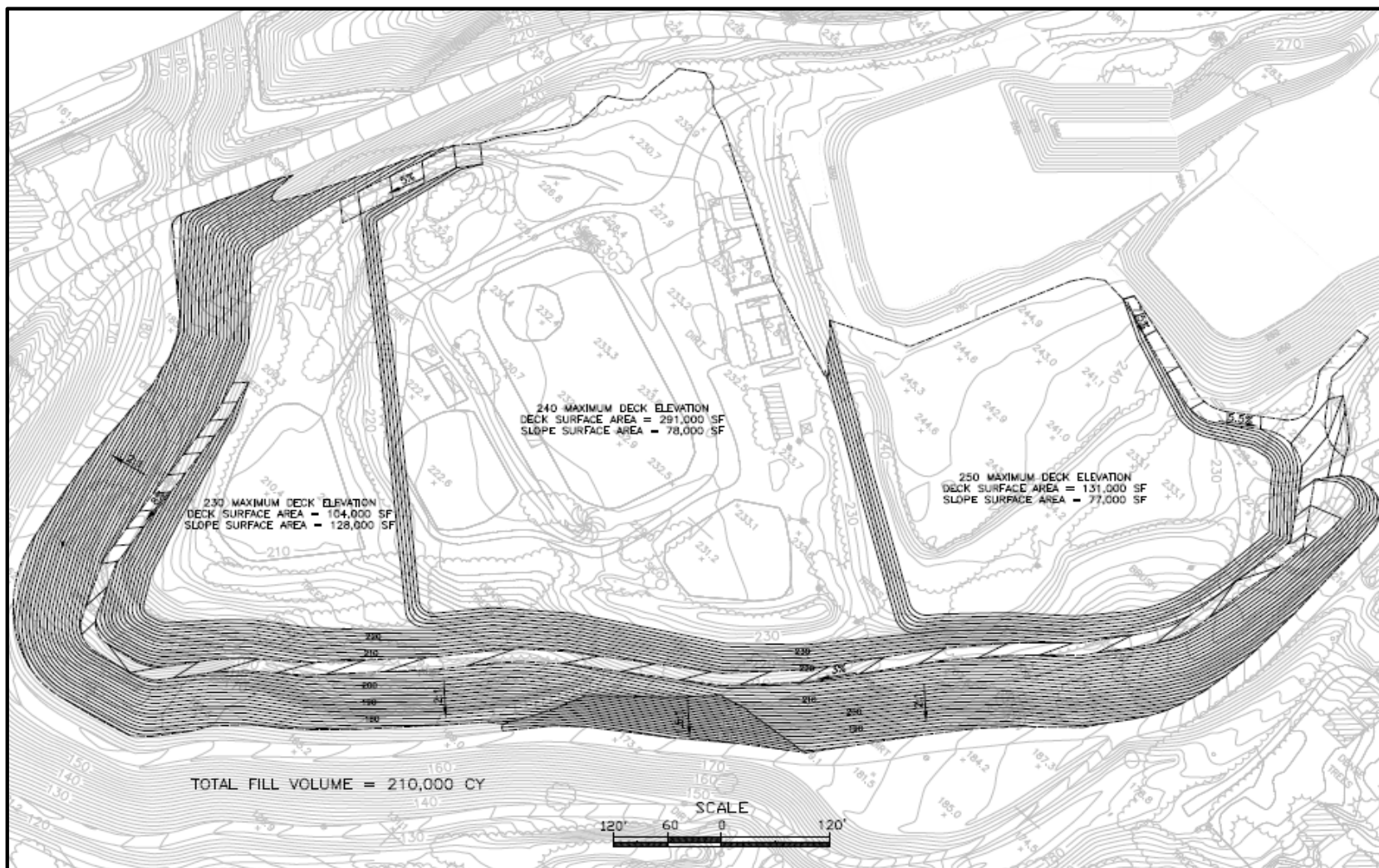


Figure 3-4. Draft Elevation Schematic for Fill Areas within Closed Foothill Landfill Sediment Disposal/Restoration Site



**Proposed Vegetation.** The restoration plan makes provisions for three different plant palettes designed for different vegetative treatments: Interim Seeding, Slopes, and Flat Areas (decks).

- **Interim Seeding.** Areas that are disturbed but have not reached final grades will be revegetated with a simple seed mix of rapid-germinating native species and sterile annual plants. This treatment is designed to be used on disturbed areas that may have received initial sediment placement but may sit for long periods before the next phase of sediment placement. The goal of interim seeding is to establish quick cover for erosion control, dust control and weed abatement, while avoiding dense or woody growth that may make final grading and planting more difficult. Featured species may include native bromes, fescues, verbena, lupine, poppy, and clovers.
- **Slopes.** Slopes that have reached final grades will be revegetated with a mix of coastal sage scrub shrubs, forbs, and native grasses. Additionally, Oak trees (*Quercus agrifolia*) will be clustered to provide habitat pockets and screening from adjacent residences. Dense growth will help stabilize slopes and provide wildlife food and cover. A seed mix and dispersed container plants will be used. Featured species include: California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), california sunflower (*Encelia californica*), elderberry (*Sambucus mexicana*), ryegrasses (*Leymus* spp.), and needlegrasses (*Nassella* spp.). Laurel Sumac (*Malosma laurina*), California Rose (*Rosa californica*) and Chaparral Mallow (*Malcothamnus fasciculatus*) have also grown very successfully within the adjacent restoration project.
- **Flat Areas.** Deck areas that have reached final grades will be revegetated with a mix of native forbs and grass seed, with occasional low shrubs from seed and containers. Featured species include deerweed (*Lotus scoparia*), white sage, lupines, *Lupinus* spp.), California poppy (*Eschscholzia californica*), ryegrasses and needlegrasses. This planting palette will require minimal water to become established and the species chosen for these areas will be compatible with trails and passive recreational use on the flat terraces.

These planting palettes have been developed based on RRWMD's ongoing successful project at Foothill Landfill and modified with additional appropriate species to meet the restoration objectives. Some additional container plants would be strategically placed for aesthetic screening and wildlife habitat. Shrubs and small trees may include Ceanothus spp., laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), and toyon (*Heteromeles arbutifolia*).

**Maintenance (Irrigation/Weed Control).** The two major maintenance tasks for the restoration project are irrigation and weeding. The plant palettes chosen for the site are comprised of native drought-tolerant species that are anticipated to persist as mature plants without supplemental irrigation. However, RRWMD and the District have found that irrigation during the first 1 to 3 years of planting greatly improves survival and minimizes weed invasion.





RRWMD's ongoing restoration area has been irrigated using a combination of water trucks, hose, drip and spray irrigation from using an on-site water source owned by RRWMD. Irrigation for the proposed restoration would be applied in compliance with state regulatory requirements for closed landfills.

Areas with container plants and shrubs would be irrigated through a combination of hand watering, water truck, and drip irrigation, depending on weather conditions at the time of planting and distance from the water source. The existing irrigation system would be extended incrementally into the restoration areas as plants are installed. Mulch available from the South Coast Recycling and Transfer Station would be used to increase watering efficiency.

Mechanical and hand weeding and targeted use of glyphosate herbicide (e.g., "roundup") would be used to control weeds, out-competing the native species, for up to 3 years following the final planting at each area. Due to the relatively long life-span of this restoration project, weed control would be performed within whichever areas have been filled to the designed grade and planted with native species. Weed control around the perimeter and in areas that are still receiving sediment may be performed as appropriate to maintain the overall integrity of the restored areas.

**Monitoring.** Sediment disposal and associated restoration at Foothill Landfill will take many years to implement because the sediment import from Goleta Slough and other County maintenance projects would be periodic in nature. Monitoring will include field inspection, photo-monitoring, and evaluation of soil conditions. Field visits will be performed as needed, generally semi-annually following major sediment imports and planting events. Monitoring shall include at least one site inspection during the wet season each year for erosion. Monitoring will continue for 3 to 5 years after initial planting at each area.

### 3.6 PROPOSED ENHANCEMENT AREAS

After preliminary outreach with the public and agency representatives, the District is proposing several potential habitat enhancement areas as part of the proposed Project. The potential habitat enhancement areas have been selected based primarily upon property ownership/access potential and feasibility within the proposed Project area. Figure 3-6 provides an index map of the areas proposed for potential enhancement (orange) and areas proposed for native vegetation maintenance (green). Figures 3-7a and b depict the potential enhancement area locations.

**Atascadero Creek Fish Passage.** Most notably, the existing fish passage along Atascadero Creek will be modified for fish passage in accordance with recommendations outlined within the Conception Coast Project (CCP) Steelhead Assessment and Recovery Opportunities report (CCP, 2002). Specifically, the grade control structure spans 84 feet across the stream channel, separating the tidal water downstream from the fresh water of Atascadero Creek upstream. The existing structure is constructed of rough concrete and boulder rip-rap and consists of a 2'11" tall berm at the upstream end that drops to a 45-degree angle at center



**Figure 3-6. Potential Project Enhancement Area Location(s)**

to a relatively flat apron downstream. The apron measured between 34 and 29 feet in length downstream from the berm to the Goleta Slough water. As indicated within the CCP Report, creating a notch approximately 5 feet wide and 10 inches deep at the center of the berm would improve fish passage by concentrating low flows across the berm, increasing the water depth, and reducing the height of the berm.

**Enhancement Areas.** During dragline desilting events, sediment is stockpiled along the base of the creek bank on the upper portion of San Jose Creek because the access road is not wide enough for stockpiling and/or is occasionally inadvertently dropped from the bucket onto the bank slopes. As such, some of the streambank vegetation (both native and non-native species) is disturbed. As part of the proposed Project, the District is including several additional potential areas for bank restoration/stabilization. The primary areas for additional enhancement are located further north on San Jose Creek, further north on San Pedro Creek, along the northern bank of Atascadero Creek, and several areas within the closed Foothill Landfill in the event that fill has been misplaced.





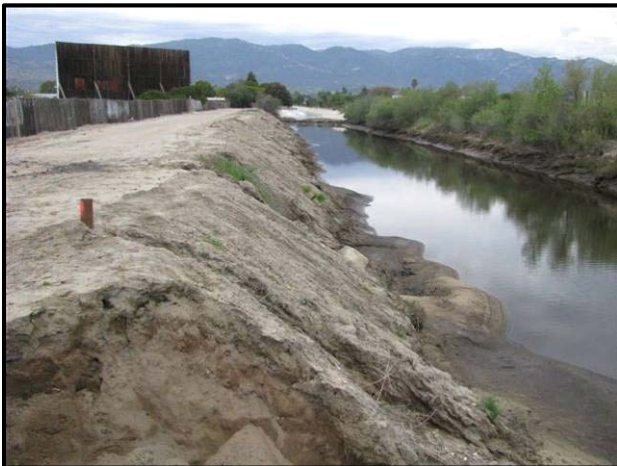
The creek banks and terrace along the confluence of San Pedro and San Jose creeks are currently vegetated with a dense mix of scrub and salt marsh species. While these areas are currently well vegetated there is the potential for occasional disturbance to the bank vegetation during dragline desilting operations. The District proposes vegetation maintenance and on-site replacement in the event of disturbance to these areas.



**Atascadero Creek Fish Passage**



**Goleta Slough -  
San Pedro Creek Enhancement Area**



**Goleta Slough -  
San Jose Creek Enhancement Area**



**Goleta Slough -  
San Jose Creek Enhancement Area**

**Figure 3-7a. Potential Enhancement Area Location(s)**



**Goleta Slough -  
San Jose Creek Vegetation Maintenance**



**Closed Foothill Landfill - 1,  
Restored Slopes**



**Closed Foothill Landfill - 2,  
Restored Slopes and Degraded Slopes**



**Closed Foothill Landfill - 3,  
Recently Placed Fill to be Restored**

**Figure 3-7b. Potential Enhancement Area Location(s)**



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## **4.0 LAND USE COMPATIBILITY / CONSISTENCY WITH ADOPTED PLANS AND POLICIES**

This chapter is intended to provide the reader with background information regarding the general community setting of the proposed Project, as well as information concerning the current and proposed land uses in the vicinity of the Project site. Relevant land use plans, and policies are also discussed. Section 15125 of the CEQA Guidelines states that “the EIR shall discuss any inconsistencies between the proposed Project and applicable general plans and regional plans.”

To analyze land use consistency and land use impacts, the following approach was employed.

1. The proposed Project was reviewed relative to the land use assumptions, policies and designations of the following documents: California Coastal Act; Santa Barbara County General Plan and Coastal Program; City of Santa Barbara General Plan and Local Coastal Program; City of Goleta General Plan and Coastal Land Use Plan; and City and County Municipal Codes.
2. The proposed Project was reviewed to identify any potential conflicts between the planned activities and land use, and existing and proposed land uses in the vicinity. In some instances, a plan or land use inconsistency also poses environmental consequences, such as impacts on sensitive habitats. In these cases, the policy issue is considered in this chapter, but the issue-specific assessment is provided in the specific chapter of this EIR that focuses on that issue.

### **4.1 PHYSICAL SETTING**

#### **4.1.1 Regional Setting**

The Goleta area is a diverse coastal area within Santa Barbara County, California. The landscape ranges from coastal bluffs to chaparral covered mountains. A significant ecological feature of the area is the Goleta Slough, described further below. Land uses in the Goleta area include a mix of urban uses (including research and development and a local airport among the various development types) as well as agricultural and open space land use.

The Project site is primarily situated within the lower reaches of the Goleta Slough. The Goleta Slough is the drainage basin for five creeks which originate on the southern slope of the Santa Ynez Mountains in Santa Barbara County, California. The five contributing creeks are Atascadero, San Jose, San Pedro, Los Carneros and Tecolotito creeks.

The Goleta Slough was a large harbor prior to 1861. A large flood with resulting siltation filled much of the harbor and created a shallow lagoon. Over time, sedimentation transformed the lagoon into a coastal salt marsh which has been reduced in size by further siltation, and land





filling to accommodate development including the Santa Barbara Airport, and the construction of drainage works.

Notwithstanding the slough's history, the Goleta Slough remains an important natural coastal resource for both archaeological and biological resources. The Goleta Slough provides an essential habitat for wildlife and is an important wintering ground for migrating birds. The vegetation of the Goleta Slough is dominated by salt tolerant species, mainly pickleweed. However, several small areas of the slough support freshwater vegetation. (Section 5.4 of this SEIR discusses biological resources of the area.)

The main body of the Goleta Slough (about 360 acres) is owned by the City of Santa Barbara despite the fact that it is physically separated from the main city boundaries. The remaining 60 acres is owned by the University of California. A large portion of the Goleta Slough is designated as the Goleta Slough Ecological Reserve which is administered by the California Department of Fish and Game. Other resource agencies also have jurisdictional authority over the resources of the slough and activities that are permitted to occur within the slough as further described below

#### **4.1.2 Project Location**

The Project is generally located in the Goleta area of Santa Barbara County. More specifically, the main components of the Project are situated in the Goleta Slough. However, an upland sediment disposal site is located north of U.S. Highway 101 and about 3.5 miles east of the Goleta Slough. The Project location is fully described in Section 1.0, Introduction and 3.0, Project Description of this EIR.

#### **4.1.3 Site Characteristics**

The Project site is comprised of the following specific proposed direct impact areas:

- Dredging areas: within Atascadero (downstream of the check structure at the end of Ward Drive), San Jose (downstream of the lined channel by the Santa Barbara Twin-screen Drive-In Theater), San Pedro (downstream of the bridge on James Fowler Road), Los Carneros (downstream of Hollister Avenue) and Tecolotito (downstream of Hollister Avenue) creeks (as fully described in Section 2, Current Maintenance Program and 3.0, Proposed Updated Maintenance Program). These areas are shown on Figure 3-1.
- Hydraulic desilting staging areas: one along the eastern parking lot at Goleta Beach County Park; and others along Atascadero, San Jose and San Pedro creeks.
- Dragline desilting stockpile areas: eastern side/access roadway to the Los Carneros Creek Basin; along the western and eastern side/access roadway for the Tecolotito Creek Basin; on eastern bank/access roadway at San Pedro Creek; on the western bank/access roadway at San Jose Creek, and along the northern bank/access roadway along the Atascadero Creek Channel. These areas are shown on Figure 3-1.



- Sand replenishment pipe area on Goleta Beach (County Park) which discharges into the surf zone. This area is shown on Figure 3-1.
- Goleta Slough mouth (area where sediment is removed to open the slough to the Pacific Ocean).
- Closed Foothill Landfill Sediment Disposal/Restoration Site. This site is located north of U.S. Highway 101, south of Cathedral Oaks Boulevard, east of Remedio and Transfer Station Roads and west of El Sueno Road. This area is shown on Figures 3-3, 3-4, and 3-5.
- Potential Project enhancement areas (fish passage, revegetation and vegetation maintenance). The existing fish passage along Atascadero Creek will be modified in accordance with the recommendations outlined in the Conception Coast Project Steelhead Assessment and Recovery Opportunities report (shown on Figure 3-6 as barrier modification location). Bank restoration/stabilization through revegetation and vegetation maintenance will be conducted along the San Jose Creek (Areas 4 and 5 as shown on Figure 3-6), San Pedro Creek (Area 3 shown on Figure 3-6), and Atascadero Creek (Area 7 along the northern bank as shown on Figure 3-6). Several areas within the closed Foothill Landfill site identified above will also be revegetated.

The creeks, riparian areas, and slough (wetlands) are considered to be environmentally sensitive areas as identified in the legislative, resource and planning documents of the agencies with jurisdiction over the lands on which the Project is situated as described further below. Goleta Beach and Goleta Slough are also considered to be significant recreational resources (see detailed information on recreational resources in Section 5.10 of this SEIR).

#### **4.2 PROJECT AREA LAND USES AND REGULATORY JURISDICTIONS**

Land uses surrounding the Goleta Slough primarily include the Santa Barbara Airport and a class I bikeway along Atascadero Creek to the north, the University of California Santa Barbara campus to the southwest, Goleta Beach County Park to the south, residential neighborhoods to the east, and open space to the west.

Land use adjacent to Atascadero Creek (in the areas of proposed dredging, staging and enhancement), is mainly undeveloped open space within Santa Barbara County jurisdiction (land use and zoning designation of Utility) with the exception of the eastern end of the Project impact area. In this area the City of Goleta has designated open space (Open Space Land Use Designation and Resource Management zoning) as well as the Rancho-Goleta Mobile Home Park (land use designation and zoning Mobile Home Park) and a Class I bikeway located north of the Creek.

Land uses adjacent to San Jose Creek, in the areas of proposed dredging, staging and enhancement, are described as follows. Clarence Ward Memorial Boulevard is located to the east. At the southern end, San Jose Creek is joined with San Pedro Creek and is surrounded by undeveloped open space (within the jurisdiction of Santa Barbara County designated and



zoned Utility). On the northern extent of the San Jose Creek Project area, the Rancho-Goleta Mobile Home Park is located east of the site and Ward Memorial Boulevard, and to the west is a former drive-in theater (City of Goleta). An off-road trail extends along San Jose Creek from Goleta Beach along Ward Memorial Boulevard. City of Goleta land use designations for the creek is Public/Quasi-public and adjacent to the creek land use designations include Open Space/Passive Recreation, Mobile Home Park and Service/Industrial. The corresponding City zoning for land uses adjacent to the creek is: Resource Management, Mobile Home Park and Service Industry Goleta.

Land uses adjacent to San Pedro Creek in the areas of proposed dredging, staging, and enhancement include undeveloped open space to the east and a wastewater treatment plant to the west (unincorporated Santa Barbara County). The County land use designation and zoning for the area is Utility. The Santa Barbara Municipal Airport, which is under the jurisdiction of the City of Santa Barbara, is also located to the north and west of the Creek.

Los Carneros Creek, in the area of proposed dredging and staging is within the City of Santa Barbara Municipal Airport property. The Los Carneros Creek Project component is partly within the Major Public and Institution land use designation and partially within the Recreational Open Space Land use designation. The zoning is Airport Facilities with Special District 3 Coastal Overlay. The stockpile area to the west is within the Airport Industrial 1 Zone with Special District 3 Coastal Overlay. Airport-related structures are located adjacent to the Project site. Hollister Avenue is located north of the Project site (City of Goleta) with non-residential development (Business Park and General Industrial land use designations) across the avenue from the creek.

Tecolotito Creek, in the area of proposed dredging and staging, is also within the boundaries of the City of Santa Barbara Municipal Airport property. This portion of the Project site is in an area with a land use designation of Recreational Open Space. The zoning is Goleta Slough Reserve with a Special District 3 Coastal Overlay. The Project site is surrounded by undeveloped open space except to the north where Hollister Avenue runs perpendicular to the creek. Non-residential land uses (Business Park land use designation) within the City of Goleta are located on the north side of Hollister Avenue in the vicinity of the proposed Project site at Tecolotito Creek.

The Goleta Slough mouth, which is intermittently closed, is located at the eastern end of Goleta Beach County Park. The land use north of the slough mouth is agricultural and these agricultural lands are within the jurisdiction of Santa Barbara County. The County Park is located just east of the University of California Santa Barbara (UCSB) campus and is a popular recreational area. The park land use designation is Existing Public or Private Park/ Recreation and/or Open Space (Recreation in the proposed Goleta Area Plan Update).

San Pedro Creek, San Jose Creek and Atascadero Creek channels/Goleta Slough are State lands under the management of the California State Lands Commission. Similarly, tide and submerged lands at Goleta Beach are also considered State Lands. Presently the County Flood Control Department has a dredging lease from the State Lands Commission for the use of specific portions of these State lands. The California Coastal Commission has coastal



development permit authority over tidelands, public trust lands and other areas as described further below.

An existing and potential non-coastal zone disposal site for sediments obtained from the Goleta Slough maintenance dredging is the closed Foothill Landfill located at Transfer Station Road and Calle Real in unincorporated Santa Barbara County (see Figure 3-3). This landfill was an operational municipal (Class III) solid waste landfill until June 1967. The Santa Barbara County Public Works Department Resource Recovery and Waste Management Division (RRWMD) currently provides oversight of the closed landfill. The landfill is within an area with a land use designation of Institution/Government Facility (the designation is Recreation in the Goleta Area Plan Update). The landfill is bordered by Calle Real to the south; the County's South Coast Recycling and Transfer Station to the west; County Parks Department and County road yard to the north; and residential neighborhoods on El Sueno Road and Sherwood Drive to the east. The landfill site is presently used for passive recreation, and areas of the site are leased to non-profit organizations. Current uses on the closed Foothill Landfill are the Hearts Adaptive Riding Program (scheduled for relocation in December of 2009 to the north area of the Foothill Landfill site outside of the proposed upland sediment disposal site), a native plant nursery operated by Growing Solutions Restoration Education Institute (Growing Solutions), dirt access roads (used as trails), an experimental jatropha (bio-diesel) plot, and a grant-funded revegetation Project being conducted by RRWMD.

The proposed sediment disposal site is centrally located within the closed landfill and covers approximately 20 acres of the 143 acre County-owned closed landfill parcel. The closed landfill is vegetated primarily with weedy species although vegetative screening efforts were conducted along Transfer Station Road in the early 1990's for erosion control and to improve the aesthetic condition of the site. As indicated above, presently the RRWMD is restoring approximately 7 acres of the closed landfill site (outside of the proposed Project fill area) with native vegetation for habitat and passive recreation purposes. This effort is being conducted in coordination with Growing Solutions and various volunteers. The Growing Solutions native plant nursery and jatropha plot are also outside of the proposed Project fill area. However, the Hearts Adaptive Riding Program facilities are within the proposed Project fill area and are planned for relocation to the upper northeast corner of the site, thus opening their current location to receive fill.

Land uses located west of the closed Foothill Landfill Sediment Disposal/Restoration Site include a County of Santa Barbara Sheriff's Station, honor farm and hospital. Residential uses are located to the east along El Sueno Road and Sherwood Drive.

#### **4.3 ADOPTED PLANS AND POLICIES GOVERNING THE AREA**

As indicated above, the Project site lies within or adjacent to the land use jurisdiction of the following agencies: the County of Santa Barbara, City of Goleta, City of Santa Barbara (airport), California State Lands Commission and the California Coastal Commission. The relevant planning documents of these agencies include: the California Coastal Act, general plans, coastal plans, and zoning ordinances. These regulatory and planning documents are



described as follows; however, relevant policies from these documents are addressed in the impacts evaluation provided in Section 4.4 below.

#### **4.3.1 California Coastal Act**

The Coastal Act of 1976 includes specific policies (see Division 20 of the Public Resources Code) that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the California Coastal Commission and by local governments, pursuant to the Coastal Act. In addition, all federal agency permits (i.e. ACOE 404 Permit) will be required to demonstrate consistency with the State and Federal Coastal Zone Management Act Policies.

The Project impact areas are located within the coastal zone with the exception of the closed Foothill Landfill. Development within the coastal zone may not commence until a coastal development permit has been issued by either the California Coastal Commission or a local government that has a Commission-certified local coastal program (LCP). After certification of an LCP, coastal development permit authority is delegated to the appropriate local government, but the Commission retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The California Coastal Commission also has appellate authority over development approved by local governments in specified geographic areas as well as for certain development. As such the California Coastal Commission has permitting authority over the Project components affecting tidelands and public trust lands at the Goleta Slough.

#### **4.3.2 Santa Barbara County General Plan and Local Coastal Program**

The Santa Barbara County General Plan and Local Coastal Program policies apply to proposed activities along Atascadero, San Jose and San Pedro creeks, and the closed Foothill Landfill. The Coastal Land Use Plan and Community Areas Plans for communities in the coastal zone comprise the County's Local Coastal Program. Both General Plan policies and Coastal Zone policies apply to property within the Coastal Zone. Where there is a conflict in policies, the Coastal Plan takes precedence over the General Plan. The General Plan includes the following elements:

- Conservation (1979 amended 2003) plus Groundwater Resources Section added in 1994;
- Seismic Safety and Safety (1979) plus supplement prepared in 2000;
- Open Space (1979),
- Noise (1979);
- Land Use (1980),
- Coastal Land Use Plan (1980),





- Air Quality Supplement (1981), plus community and area plans;
- Circulation (1991);
- Housing (2006);
- Scenic Highways (1975);
- Environmental Resource Management (1980);
- Hazardous Waste;
- Agricultural; and
- Energy.

Of the community and area plans, the Goleta Area Plan (1993) is of relevance to this Project. Since the time of the adoption of the current Goleta Area Plan the City of Goleta was established. Presently, the County is preparing a Goleta Community Plan Update.

#### **4.3.3 City of Santa Barbara General Plan and Local Coastal Program**

The policies of the City of Santa Barbara General Plan and Local Coastal Plan (specifically Component 9: Airport) are relevant to the Project activities in the Tecolotito and Los Carneros Creek channels since they are within the boundaries of the Santa Barbara Municipal Airport. The City of Santa Barbara prepared an independent Local Coastal Plan for its municipal airport. This plan supplements the City's Local Coastal Plan which covers all areas of the coastal zone within the City's jurisdiction with the exception of the airport and addresses the land use issues and policies pertaining specifically to the airport. (The Municipal Airport property encompasses about 900 acres of which 600 are dedicated to the Airport and aviation support facilities and 300 acres encompass Goleta Slough.) In its Coastal Plan the City of Santa Barbara adopted three basic policies which are common to coastal plans: 1) adopting the Coastal Act Policies; 2) where policies overlap the most protective takes precedence; and 3) where conflicts exist between policies of the Land Use Plan and other elements of the General Plan or existing regulations, the policies of the Land Use Plan take precedence.

#### **4.3.4 City of Goleta General Plan/Coastal Land Use Plan**

The policies of the City of Goleta General Plan/Coastal Land Use Plan (combined document) apply to the Project activities along the portion of San Jose Creek that lies within the City boundaries. These activities are limited to in-creek dragline or hydraulic dredging and restoration of the creek bank near the former drive-in theater. The Goleta General Plan/Coastal Land Use Plan consists of an introduction and nine individual elements that together satisfy the content requirements of the State of California's general plan law and the California Coastal Act (Coastal Act). The Goleta General Plan contains the following elements: Land Use, Open Space, Conservation, Safety, Visual and Historic Resources, Transportation, Public Facilities, Noise, and Housing. The proposed Project lies within the Coastal Resources subarea as defined in the General Plan.

#### **4.3.5 Draft Goleta Slough Ecosystem Management Plan**

The Goleta Slough Management Committee was established through funding by the Santa Barbara Airport Administration in 1991. The Airport Administration, under the direction of



the Airport Director, oversees management of all operating divisions within the Department. It implements City policies established by the City Administrator and City Council. It develops procedures, rules, and regulations for Airport operations and provides primary staff support to Airport Commission. Goleta Slough Management Committee associates include staff members from various governmental agencies, non-profit organizations and members of the public at large. The Committee's purpose is to work cooperatively with regulatory agencies, property owners and public interest groups to provide for a healthy Goleta Slough considering the Slough's ecosystem and recognizing a mixture of land uses. The Committee's goals include:

1. Prepare a document (The "Goleta Slough Ecosystem Management Plan") that integrates existing plans and information and provides an environmentally sound and coordinated approach to the Goleta Slough Ecosystem.
2. Act as a committee that will:
  - a. Identify and resolve issues related to management of the Goleta Slough Ecosystem Management Area; and
  - b. Serve in an advisory capacity and make recommendations to lead agencies (e.g., City, County, Coastal Commission and UC Regents).
3. Assist in the implementation of the Goleta Slough Ecosystem Management Plan.

In accordance with its goal, the Committee prepared a Draft Goleta Slough Ecosystem Management Plan in December 1997. The Plan has not been finalized or adopted to date; but according to the City of Santa Barbara is meant to remain a "draft" working document. As such, according to the City of Santa Barbara it is relevant to recognize the Draft Goleta Slough Ecosystem Management Plan and Management Committee structure as a resource guide for Projects including components within the Goleta Slough and specifically within the City of Santa Barbara Airport jurisdiction.

#### **4.4 ANALYSIS OF IMPACTS RELATED TO LAND USE AND PLAN/POLICY CONSISTENCY**

##### **4.4.1 Thresholds of Significance**

The County of Santa Barbara does not include Land Use and Plan/Policy Guidance within their adopted Environmental Thresholds and Guidelines Manual (October, 2008). Therefore, for the purposes of this assessment, in accordance with Appendix G of the CEQA Guidelines, an impact would be significant if any of the following conditions, or potential thereof, would result with implementation of the proposed Project:

1. Physically divide an established community.
2. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Project (including but not limited to the general plan, specific



plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

#### **4.4.2 Project Impacts**

##### **4.4.2.1 Physically Divide an Established Community**

The proposed Project would allow for dredging activities within five creeks (including access and staging of materials), disposal of sediments on the beach or upland closed landfill, opening of the Goleta Slough mouth, and specific restoration activities. None of the activities would result in the physical division of an established community due to the location and nature of the activities (e.g., no new substantive structural elements or major transportation corridors are proposed).

##### **4.4.2.2 Compatibility with Applicable Land Use Plans, Policies and Regulations**

**California Coastal Act Policies.** As described above, the Project activities including dredging and beach sediment disposal are on State lands and are under the approval jurisdictions of the State Lands Commission and California Coastal Commission. Project approvals from these agencies are dependent upon a finding of consistency with the California Coastal Act. Additionally, as stated above the County and City have adopted the California Coastal Act policies. Specific policies of the California Coastal Act that are applicable to the proposed Project are identified in Table 6.4-1 along with findings for Project consistency with the identified policies. A policy inconsistency may indicate a significant environmental impact of the Project. However, as described in Table 4.4-1, all of the environmental impacts that are related to Project consistency with Coastal Act policies have been identified and addressed elsewhere in this document.

**County of Santa Barbara General Plan and Coastal Plan.** As described above, proposed staging, stockpile, and enhancement areas on Atascadero, San Jose and San Pedro creeks; areas surrounding the sand replenishment pipe on Goleta Beach; and sediment disposal activities at the closed Foothill Landfill site, are within the jurisdiction of the County of Santa Barbara and require permit approval from the County. Specific policies of the County of Santa Barbara Local Coastal Plan and General Plan Elements that are applicable to the proposed Project are identified in Table 6.4-2 along with findings for Project consistency with the identified policies.<sup>1</sup> (Please note that only policies that are relevant to the proposed Project are identified below. Many issue areas considered in the planning documents such as housing, hazards, public services, etc. do not apply to the Project due to the nature of the Project and/or the location of the Project components.) A policy inconsistency may indicate a significant

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<sup>1</sup> According to County Policy 1-2: Where policies within the land use plan overlap, the policy which is the most protective of coastal resources shall take precedence. Further, per Policy 1-3: Where there are conflicts between the policies set forth in the coastal land use plan and those set forth in any element of the County's Comprehensive Plan or existing ordinances, the policies of the coastal land use plan shall take precedence.



environmental impact of the Project. However, as described in Table 4.4-2, all of the environmental impacts that are related to Project consistency with County policies have been identified and addressed elsewhere in this document.

City of Santa Barbara General Plan and Local Coastal Plan. As described above, the Project activities on the Tecolotito and Los Carneros Creek channels are located within the City of Santa Barbara Coastal Zone and specifically within the municipal airport property. As such, the Project requires approval from the City of Santa Barbara and the policies of the City's General Plan and Local Coastal Plan (including Component 9: Airport) are applicable to the proposed Project. Specific policies of the City's General Plan and Local Coastal Plan that are applicable to the proposed Project are identified in Table 6.4-3 along with findings for Project consistency with the identified policies.

**Table 4.4-1. California Coastal Act Policies**

Policy Statement	Project Consistency Discussion
CA Section 30211 "Development not to interfere with access ..."	The Project's impact on recreation and coastal access is addressed in Section 5.9 - Transportation and Section 5.10 - Recreation, of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy as impacts would be short-term and less than significant.
CA Section 30213 "Lower cost visitor and recreational facilities shall be protected..."	The Project's impact on recreation is addressed in Section 5.10 of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy as impacts would be less than significant.
CA Section 30214 "The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place and manner of public access ..."	The Project's impact on recreation and coastal access is addressed in Section 5.9 - Transportation and Section 5.10 - Recreation, of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy as impacts would be short term and less than significant.
CA Section 30220 "Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland areas shall be protected for such use."	The Project's impact on recreation is addressed in Section 5.10 of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy as impacts would be less than significant.
CA Section 30221 "Oceanfront land suitable for recreational use shall be protected for recreational use and development..."	The Project's impact on recreation is addressed in Section 5.10 of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy as impacts would be less than significant.
CA Section 30230 "Marine resources; maintenance. Marine resources shall be maintained, enhanced, and where feasible,	The Project's impact on marine resources is addressed in Section 5.4.2 - Aquatic Biology, of this EIR. Based upon the analysis presented therein, the Project would have a significant and



Policy Statement	Project Consistency Discussion
restored..."	unavoidable impact on aquatic wildlife, vegetation and birds in the event of spills of fuel or hydraulic fluid. Mitigation provided in the PEIR (Spill Prevention Plan) is still applicable to the Project as currently proposed. With implementation of this measure, the Project is therefore consistent with the intent of this policy.
CA Section 30231 Biological productivity; water quality. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...	The Project's impact on water quality and biological resources are addressed in Sections 5.1 and 5.4 respectively of this EIR. Based upon the analyses presented therein, the Project would have a significant and unavoidable impact on aquatic wildlife, vegetation and birds in the event of spills of fuel or hydraulic fluid. Additionally, Project activities would disturb sediments impacting water quality and may otherwise result in pollutants entering surface and marine water. Mitigation provided in the PEIR and this SEIR (Spill Prevention Plan and Defined Best Management Practices) are applicable to the Project as currently proposed. With implementation of this measure, the Project is therefore consistent with the intent of this policy.
CA Section 30232 Oil and hazardous substance spills. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials...	As described above, the Project has the potential to result in spills of fuel or hydraulic fluid. Additionally, other toxic constituents have the potential to be released though Project implementation Mitigation provided in the PEIR (Spill Prevention Plan) and in this SEIR (Defined Best Management Practices) are applicable to the Project as currently proposed. With implementation of these measures, the Project is therefore consistent with the intent of this policy.
<p>CA Section 30233 Diking, filling or dredging; continued movement of sediment and nutrients</p> <p>(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:</p> <ol style="list-style-type: none"> <li>(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.</li> <li>(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and</li> </ol>	The Project provides for maintenance flood control dredging, which is not specifically identified in the policy. However, because dredging is the most feasible least environmentally damaging alternative/procedure to accomplish the purposes of the Project; the Project would help maintain the functional capacity of the Goleta Slough; and sediments would be used for beach replenishment; with the implementation of mitigating measures identified in the EIR, the Project may be considered consistent with the intent of this policy. Section 6.0 of this EIR addresses alternatives to the Project.





Policy Statement	Project Consistency Discussion
<p>boat launching ramps.</p> <p>(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.</p> <p>(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.</p> <p>(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.</p> <p>(6) Restoration purposes.</p> <p>(7) Nature study, aquaculture, or similar resource dependent activities.</p> <p>(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.</p> <p>(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...</p> <p>(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.</p>	



Policy Statement	Project Consistency Discussion
<p>CA Section 30236 Water supply and flood control. Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply Projects, (2) flood control Projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.</p>	<p>The Project provides for maintenance flood control dredging. Because dredging is the most feasible least environmentally damaging procedure to accomplish the purposes of the Project and with the implementation of mitigating measures identified in the EIR, the Project is consistent with this policy.</p>
<p>CA Section 30240 “(a) Environmentally sensitive habitat areas shall be protected against any significant disruption in habitat values and only uses dependent upon such resources shall be allowed within such areas.</p> <p>(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas...”</p>	<p>The Project’s impact on water quality and recreation are addressed in Sections 5.1 and 5.10 of this EIR. Based upon the analyses presented therein, and with the implementation of the identified mitigation measures, the Project is therefore consistent with the intent of this policy for those resource areas.</p> <p>Based upon the analyses presented in Section 5.4 (Biological Resources), the Project would result in several adverse environmental impacts on sensitive resources including certain unavoidable impacts to possible foraging and habitat areas of the tidewater goby. However, these potential impacts to sensitive foraging habitat would be greatly reduced by the nature of Project operation timing, in that desilting activity would not occur within all habitat areas simultaneously allowing foraging to continue in other areas of the creeks. Additionally, the Project provides beneficial effects on the Goleta Slough ecosystem and long-term benefits to tidewater goby habitat by providing for tidal flow and improved beach conditions through beach replenishment. Further, numerous mitigation measures have been incorporated into the Project, previously imposed as a result of the PEIR or are proposed in this SEIR. Based on these factors, the Project is considered consistent with the intent of this policy.</p>
<p>CA Section 30241 “The maximum amount of prime agricultural land shall be maintained...”</p>	<p>Revegetation of a portion of the north bank of Atascadero Creek is proposed. A portion of the revegetation area is across the bike path from agricultural land. However, due to the nature of the Project activity and its location, the agricultural use would not be adversely impacted. The Project is consistent with the policy.</p>
<p>CA Section 30244 Archaeological or paleontological resources. Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable</p>	<p>The Project’s impact on cultural and paleontological resources are addressed in Sections 5.7 and 5.11, respectively of this EIR. No paleontological impacts are anticipated. Archaeological impacts are addressed by mitigating measures from the</p>



Policy Statement	Project Consistency Discussion
mitigation measures shall be required.	PEIR and this SEIR and are reduced to the extent feasible. Therefore, the Project is considered consistent with the intent of this policy.
CA Section 30251 "The scenic and visual qualities of coastal areas shall be considered protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, and to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas and where feasible to restore and enhance visual quality in visually degraded areas..."	The potential of the Project to impact scenic resources and views is addressed in Section 5.8 of this EIR. The Project was determined to result in significant and unavoidable aesthetic impacts. However, the impact is only temporary during the implementation of the desilting operations and due to the nature of the activity there is no alternative siting for the Project. As such, the Project is therefore considered consistent with the intent of this policy.
CA Section 30253 "New development shall: (1) Minimize risks to life and property in areas of high geologic, flooding and fire hazard, and (2) Assure stability and structural integrity, and neither contribute significantly to erosion, geologic instability or destruction of the site..."	The Project impacts associated with geology, flooding hazards and fire hazards are addressed in Sections 5.3, 5.1, and 5.11 respectively of this EIR. Based upon the analyses presented therein, the Project would be consistent with this policy. .
CA Section 30255 "Coastal-dependent development shall have priority over other development..."	The proposed Project is directly related to its siting and must therefore be located within the coastal zone. Therefore, the Project is consistent with this policy.

**Table 4.4-2. County of Santa Barbara General Plan and Coastal Plan**

Policy Statement	Project Consistency Discussion
<b>Agricultural Element</b>	
Policy IA: The integrity of agricultural operations shall not be violated by recreational or other non-compatible uses.	Revegetation of a portion of the north bank of Atascadero Creek is proposed. A portion of the revegetation area is across the bike path from agricultural land. However, due to the nature of the Project activity and its location, the agricultural use would not be adversely impacted. The Project is consistent with the policy.
<b>Coastal Plan</b>	
Policy 1-4: Prior to the issuance of a coastal development permit the County shall make the finding that the development reasonably meets the standards set forth in all applicable land use plan policies.	This policy evaluation is provided as a guidance reference for policy consistency with the County General Plan.
Policy 2-2: The long term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected...	The Project's impacts on water resources are evaluated in Section 5.1 of this EIR. Based upon the analyses presented therein, the Project would be consistent with this policy.
Policy 2-6: Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental	Due to the nature of the Project, it requires little if any public services. Therefore, the Project is consistent with this policy.



Policy Statement	Project Consistency Discussion
documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred.	
Policy 2-11: All development, including agriculture, adjacent to areas designated on the land use plan or resource maps as environmentally sensitive habitat areas, shall be regulated to avoid adverse impacts on habitat resources...	Environmentally sensitive habitats include creeks and wetlands. The Project's impact on water quality and biological resources are addressed in Sections 5.1 and 5.4 respectively of this EIR. Based upon the analyses presented therein, the Project would result in several adverse environmental impacts on sensitive resources including certain unavoidable impacts. However, the Project by its nature must be sited at its present location with respect to environmentally sensitive habitat. Additionally, the Project provides beneficial effects on the Goleta Slough ecosystem by providing for tidal flow and improved beach conditions through beach replenishment. Further, numerous mitigation measures have been incorporated into the Project, previously imposed as a result of the PEIR or are proposed in this SEIR. Considering these factors, the Project is considered consistent with the intent of this policy.
Policy 3-11: All development, including construction, excavation, and grading, except for flood control Projects and non-structural agricultural uses, shall be prohibited in the floodway...	The Project is a flood control Project and is therefore consistent with this policy.
Policy 3-12: Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.	The Project impacts associated with flooding hazards are addressed in Section 5.1 of this EIR. Based upon the analysis presented therein, the Project is consistent with this policy as no increased flood hazards would result and the Project would provide benefit in terms of flood control.
Policy 3-13: Plans for development shall minimize cut and fill operations...	Fill operations are limited to placement of excess dredged materials. Therefore, the Project is consistent with this policy.
Policy 3-14: All development shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions.	Project effects associated with aesthetics, geology and water resources are evaluated in Section 5.8, 5.3 and 5.1 respectively of this EIR. Based upon the findings of these impact analyses and due to the nature of the Project with land alteration limited to dredging, placement of sediments and revegetation locations, the Project is considered to be consistent with this policy.
Policy 3-17: Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion	The Restoration/Revegetation Plan for the sediment receiving site at the closed Foothill Landfill addresses establishment of vegetation for





Policy Statement	Project Consistency Discussion
that have been disturbed during grading or development.	erosion control. Due to the nature of the dredging and spoils placement on the creek banks there will be periods of time when vegetation could be impacted and soils left vulnerable to erosion. However, as described in Section 5.4, Biological Resources PEIR mitigation requiring riparian and saltmarsh restoration (MM PBIO-13), and SEIR mitigation stream bank restoration (MM BIO-14) apply to the Project and would reduce the impact to less than significant. With implementation of mitigation, the Project is consistent with this policy.
Policy 3-19: Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site...	The Project's impacts on water resources are evaluated in Section 5.1 of this EIR. Based upon the analyses presented therein, the Project would be consistent with this policy.
Policy 7-1: The County shall take all necessary steps to protect and defend the public's constitutionally guaranteed rights of access to and along the shoreline...	See discussion for Coastal Act Section 30211 in Table 4.4-1 above.
Policy 9-1: Prior to the issuance of a development permit, all Projects on parcels shown on the land use plan and/or resource maps with a Habitat Area overlay designation or within 250 feet of such designation or Projects affecting an environmentally sensitive habitat area shall be found to be in conformity with the applicable habitat protection policies of the land use plan...	See discussion for Coastal Act Section 30240 in Table 4.4-1 above.
Policy 9-2: Because of their State-wide significance, coastal dune habitats shall be preserved and protected from all but resource dependent, scientific, educational, and light recreational uses...	The Project's impacts on biological resources are addressed in Section 5.4 of this EIR. The Project would not adversely impact coastal dunes and is therefore consistent with this policy.
Policy 9-3: All non-authorized motor vehicles shall be banned from beach and dune areas.	The Project may periodically require the use of vehicles for discharge of sediment to the beach. Measures to minimize impacts to biological resources and recreation would be incorporated into the Project. Additionally, the Project would be subject to seasonal restriction limiting the Project activities to limit impacts to beach users. Thus the Project is considered consistent with the intent of protecting beach and dune resources and the public.
Policy 9-4: All permitted industrial and recreational uses shall be regulated both during construction and operation to protect critical bird habitats during breeding and nesting seasons. Controls may include restriction of access, noise abatement, restriction of hours of operations of public or private facilities.	The Project's impacts on biological resources are addressed in Section 5.4 of this EIR. Based upon the analyses presented therein no significant impact to critical bird habitats during breeding and nesting seasons would result. Therefore, the Project would be consistent with this policy.



Policy Statement	Project Consistency Discussion
<p>Policy 9-6: All diking, dredging, and filling activities shall conform to the provisions of Sections 30233 and 30607.1 of the Coastal Act.</p>	<p>The Project provides for maintenance flood control dredging, which is not specifically identified in the policy. However, because dredging is the most feasible least environmentally damaging alternative/procedure to accomplish the purposes of the Project; the Project would help maintain the functional capacity of the Goleta Slough; and sediments would be used for beach replenishment; with the implementation of mitigating measures identified in the EIR, the Project may be considered consistent with the intent of this policy. Section 6.0 of this EIR addresses alternatives to the Project.</p> <p>Section 30607 pertaining to diking and filling of wetlands does not apply.</p>
<p>Policy 9-7: Dredge spoils shall not be deposited permanently in areas subject to tidal influence or in areas where public access would be significantly adversely affected. When feasible, spoils should be deposited in the littoral drift, except when contaminants would adversely affect water quality or marine habitats, or on the beach.</p>	<p>The County Flood Control and Water Conservation District currently has all appropriate permits for its flood control maintenance activities in the Goleta Slough as identified in Section 2.5 of this EIR, and will apply for permit extensions or new permits as necessary to continue with its operations as currently proposed. Therefore, the Project is consistent with this policy.</p>
<p>Policy 9-9: A buffer strip, a minimum of 100 feet in width, shall be maintained in natural condition along the periphery of all wetlands. No permanent structures shall be permitted within the wetland or buffer area except structures of a minor nature, i.e., fences, or structures necessary to support the uses in Policy 9-10.</p> <p>Policy 9-37: The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet.</p>	<p>No permanent structures with the exception of the widening of the Atascadero Creek Fish Passage are proposed. Additionally, deposition of sediments is also proposed in designated stockpile areas about 30 feet from the creek banks with the exception of the upper end of San Jose Creek where material is stockpiled closer to the stream bank. Due to the nature of this "development" in that it supports the functioning of biological systems, the proposed Project is considered to be consistent with the intent of the policy.</p>
<p>Policy 9-11: Wastewater shall not be discharged into any wetland without a permit from the Regional Water Quality Control Board finding that such discharge improves the quality of the receiving water.</p>	<p>The County Flood Control and Water Conservation District currently has all appropriate permits for its flood control maintenance activities in the Goleta Slough as identified in Section 2.5 of this EIR, and will apply for permit extensions or new permits as necessary to continue with its operations as currently proposed. The Project will be consistent with this policy.</p>
<p>Policy 9-12: Wetland sandbars may be dredged, when permitted pursuant to Policy 9-6 above, and when necessary for maintenance of tidal flow to ensure the continued biological productivity of the wetland.</p>	<p>The Project provides for improved tidal flow in the Goleta Slough and is therefore consistent with this policy.</p>
<p>Policy 9-13: No unauthorized vehicle traffic shall</p>	<p>The County Flood Control and Water Conserva-</p>



Policy Statement	Project Consistency Discussion
be permitted in wetlands and pedestrian traffic shall be regulated and incidental to the permitted uses.	tion District currently has all appropriate permits for its flood control maintenance activities in the Goleta Slough as identified in Section 2.5 of this EIR, and will apply for permit extensions or new permits as necessary to continue with its operations as currently proposed. All vehicular access will be conducted on existing right of ways and no new impacts to area wetlands will result from the proposed activities. The Project is consistent with this policy.
Policy 9-14: New development adjacent to or in close proximity to wetlands shall be compatible with the continuance of the habitat area and shall not result in a reduction in the biological productivity or water quality of the wetland due to runoff (carrying additional sediment or contaminants), noise, thermal pollution, or other disturbances.	No new development is proposed. See discussion of Project consistency with Coastal Act Section 30231 in Table 4.4-1 above.
Policy 9-25: Marine mammal rookeries shall not be altered or disturbed by recreational, industrial, or any other uses during the times of the year when such areas are in use for reproductive activities, i.e., mating, pupping, and pup care.	Biological resources are discussed in Section 5.4. No Marine mammal rookeries would be impacted by the Project. Therefore, it is consistent with this policy.
Policy 9-26: There shall be no development including agricultural development, i.e., structures, roads, within the area used for roosting and nesting.	The potential impacts of the Project on biological resources including nesting and roosting birds are evaluated in Section 5.4 of this EIR. The Project could result in significant impacts to raptor and heron roosts and swallow nesting. Mitigation measures PBIO-14 relating to timing restrictions and monitoring and MM BIO-14 also relating to breeding bird monitoring and avoidance would reduce the impact to less than significant. With implementation of these measures, the Project is considered consistent with the intent of this policy.
Policy 9-30: In order to prevent destruction of organisms which thrive in intertidal areas, no unauthorized vehicles shall be allowed on beaches adjacent to intertidal areas.	The Project would require the use of vehicles for discharge of sediment to the beach. Measures to minimize impacts to biological resources and recreation would be incorporated into the Project. Additionally, the Project would be subject to permit conditions limiting the Project activities to protect intertidal areas to the greatest extent feasible. Thus the Project is considered consistent with this policy.
Policy 9-38: No structures shall be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development;...	No new permanent structures with the exception of the breaching of the Atascadero Creek Fish Passage are proposed. Additionally deposition of sediments are also proposed in designated stockpile areas about 30 feet from the creek banks with the exception of the upper end of San Jose Creek where material is stockpiled closer to the stream bank. Due to the nature of this



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	"development" in that it supports the functioning of biological systems, the proposed Project is considered to be consistent with the intent of the policy.
Policy 9-40: All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for the construction of uses specified in Policy 9-38. When such activities require removal of riparian plant species, revegetation with local native plants shall be required except where undesirable for flood control purposes.	The Project provides for maintenance flood control dredging. Regular flood maintenance activities prevent the establishment of in-stream riparian vegetation. The Project is consistent with this policy.
Policy 9-41: All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.	The Project provides for maintenance flood control dredging. Section 7.0 of this EIR addresses alternatives to the Project. Because dredging is the most feasible least environmentally damaging procedure to accomplish the purposes of the Project and with the implementation of mitigating measures identified in the EIR, the Project is consistent with the intent of this policy.
Policy 10-2: When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.	The Project's impact on cultural resources is addressed in Section 5.7 of this EIR. The Project is necessarily sited at its current and proposed locations due to the requirement for flood maintenance activities at the sites. The Project avoids cultural sites to the extent feasible and includes mitigation from the PEIR and this SEIR to reduce impacts to the greatest possible degree. Therefore, the Project is considered consistent with the intent of this policy.
Policy 10-3: When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required...	See discussion for Santa Barbara General Plan Policy 10-2.
Policy 10-5: Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.	Native American consultation has been conducted for the Project as part of the Archaeological Surface Survey and Updated Records Search for the Goleta Slough Flood Control Project prepared by Thor Conway of Heritage Discoveries (July 2009). Therefore, the Project is consistent with this policy.
<b>Conservation Element</b>	
Policy 3.5: In coordination with any applicable groundwater management plan(s), the County shall not allow, through its land use permitting decisions, any basin to become seriously overdrafted on a prolonged basis.	The proposed Project would not require the use of substantive water resource supplies due to its nature and is therefore consistent with this policy.
Policy 3.8: Water-conserving plumbing, as well as water-conserving landscaping, shall be	The Project proposes the use of native plant material for revegetation purposes which are





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incorporated into all new development Projects, where appropriate, effective, and consistent with applicable law...	water conserving plants. Such species would require less irrigation than many non-native species. The Project is consistent with this policy.
<b>Energy Element</b>	
<p>Policy 4.8: Water Efficient Landscaping - The County shall require (per Government Code, Section 65590, Article 10.8) water-efficient landscape design and irrigation systems in new and renovated developments and at public parks and facilities. [Energy-savings are accrued through reduced water pumping and treatment, and reduced disposal and maintenance.]</p>	<p>The Project proposes the use of native plant material for revegetation purposes which are water conserving plants. Such species would require less irrigation than many non-native species. These species are anticipated to persist as mature plants without supplemental irrigation. However, RRWMD and the Santa Barbara County District have found that irrigation during the first 1 to 3 years of planting greatly improves survival and minimizes weed invasion. At the closed Foothill Landfill, RRWMD's ongoing restoration area has been irrigated using a combination of water trucks, hose, drip and spray irrigation from using an on-site water source owned by RRWMD. Irrigation for the proposed restoration would be applied in compliance with state regulatory requirements for closed landfills.</p> <p>Areas with container plants and shrubs would be irrigated through a combination of hand watering, water truck, and drip irrigation, depending on weather conditions at the time of planting and distance from the water source. The existing irrigation system would be extended incrementally into the restoration areas as plants are installed. Mulch available from the South Coast Recycling and Transfer Station would be used to increase watering efficiency.</p> <p>Specific plans for irrigation at the creekside locations have not been developed. However, it is anticipated that similar to the District's restoration/revegetation plan for the closed Foothill Landfill sediment disposal areas, irrigation would be minimized to the extent practical. Therefore, the Project is considered consistent with the intent of the policy.</p>
<b>Land Use Element</b>	
Land Use Development Policy 4. Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development.	Do to the nature of the Project; it requires little if any public services. Therefore, the Project is consistent with this policy.
Hillside and Watershed Protection Policy 1. Plans for development shall minimize cut and fill	Fill operations are limited to placement of excess dredged materials. Therefore, the Project is



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operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.	consistent with this policy.
Hillside and Watershed Protection Policy 5. Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized as rapidly as possible with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.	See discussion for Coastal Land Use Plan Policy 3-17 above.
Hillside and Watershed Protection Policy 7. Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site...	Please see discussion of Coastal Act Section 30231 in Table 4.4-1 above.
Streams And Creeks Policy 1. All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.	Please see discussion of Coastal Act Section 30231 in Table 4.4-1 above.
Flood Hazard Policy 1. All development, including construction, excavation, and grading, except for flood control projects and non-structural agricultural uses, shall be prohibited in the floodway	The Project is a flood control Project and is therefore consistent with this policy.
Flood Hazard Policy 2. Permitted development shall not cause or contribute to flood hazards or lead to expenditure of public funds for flood control works, i.e., dams, stream channelizations, etc.	The Project impacts associated with flooding hazards are addressed in Section 5.1 of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy.
Historical and Archaeological Sites Policy 2. When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.	See discussion of Coastal Land Use Plan Policy 10-2 above.
Historical and Archaeological Sites Policy 3. When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required.	See discussion of Coastal Land Use Plan Policy 10-2 above.
Historical and Archaeological Sites Policy 4. Off-road vehicle use, unauthorized collection of artifacts, and other activities other than development which could destroy or damage archaeological or cultural sites shall be prohibited.	The Project's impact on cultural resources is addressed in Section 5.7 of this EIR. Based upon the analysis presented, impacts would be reduced to the extent feasible. Therefore, the Project is considered consistent with intent of this policy.
Historical and Archaeological Sites Policy 5. Native Americans shall be consulted when	See discussion of Coastal Land Use Plan Policy 10-5 above.



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development proposals are submitted which impact significant archaeological or cultural sites.	
Parks/Recreation Policy 4. Opportunities for hiking and equestrian trails should be preserved, improved, and expanded wherever compatible with surrounding uses.	The Project's impact on recreation and coastal access is addressed in Sections 5.9, Traffic/Circulation and 5.10, Recreation of this EIR. Based upon the analysis presented therein, the Project is consistent with this policy.
<b>Goleta Community Plan</b>	
PRT-GV-2: ...all opportunities for public recreational trails shall be protected...during and upon the approval of any development...	The Project's impact on recreation and coastal access is addressed in Section 5.9 - Traffic / Circulation, and Section 5.10 - Recreation, of this EIR. Based upon the analysis presented therein, the Project would be consistent with this policy.
FLD-GV-2: No structures except flood control shall be allowed within creek channels or along creekbanks...	No new permanent structures with the exception of the breaching of the Atascadero Creek Fish Passage structure are proposed. Additionally, deposition of sediments are also proposed in designated stockpile areas about 30 feet from the creek banks with the exception of the upper end of San Jose Creek where material is stockpiled closer to the stream bank. Due to the nature of this "development" in that it supports the functioning of biological systems, the proposed Project is considered to be consistent with the intent of the policy.
FLD-GV-3: All County flood control activities (including dredging) shall be conducted in a manner which maintains and enhances coastal sand supply consistent with the protection of other resources.	The Project provides for sand replenishment and is herein evaluated to ensure that resources are protected with mitigating measures provided as necessary. Therefore, the Project is considered consistent with the intent of this policy.
BIO-GV-2: Environmentally Sensitive Habitat (ESH) and riparian corridors...shall be protected and where feasible and appropriate, enhanced.	See discussion of Coastal Act Section 30240 in Table 4.4-1 above.
BIO-GV-7: Riparian vegetation shall be protected and not removed except where clearing is necessary for the maintenance of free flowing channel conditions...	The Project is designed to maintain free flowing creek conditions. Therefore the Project is consistent with the policy.
BIO-GV-10: To the greatest extent feasible, natural stream channels shall be maintained in an undisturbed state in order to protect banks from erosion...	The Project proposes to desilt the channels to the extent that they have been maintained historically. This is required to prevent flooding of land uses in the Goleta Slough area. The Project includes enhancement/revegetation of areas near the Project creeks as shown on Figure 3-6. The intent is to maintain the land near the active channels in a manner that would protect banks from erosion. As such, the Project is consistent with this policy.
BIO-GV-12: All development including dredging... within stream corridors, shall be limited to	The Project is a flood control Project which is an allowable use per the policy reference. Therefore



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activities necessary for the construction of uses specified in DevStd. BIO-GV-10.	the Project is consistent with the policy.
BIO-GV-16. To the extent feasible "protected trees" shall be preserved...	Biological resource impacts are described in Section 5.4 of this SEIR. As noted therein, a significant number of oak trees (estimated 100 trees) at the closed Foothill Landfill would be removed. In the early 1990s, approximately 350 trees (mostly olive and coast live oak) were planted at the closed Foothill Landfill for aesthetic screening and erosion control. Most of the planting was conducted in a windrow fashion, in the southern portion of the site. The District's Restoration/Revegetation Plan (Appendix F) for the Proposed Sediment Disposal Areas at the closed Foothill Landfill seeks to improve habitat quality and aesthetics of the site among other objectives. Additionally, MM BIO-4 requires replacement trees to be provided. Therefore, based on these measures as well as the intent of the Restoration/Revegetation Plan, the Project is considered consistent with the intent of this policy.
BIO-GV-19: Pollution of streams, sloughs...the ocean... shall be minimized.	See discussion of Coastal Act Section 30231 in Table 4.4-1 above.
BIO-GV-21: The use of locally occurring native plants propagated from plants in close proximity to the sites to be revegetated shall be encouraged....	See discussion of Coastal Land Use Plan Policy 9-40 above.
BIO-GV-22: Where sensitive plant and animal species are found pursuant to the review of discretionary projects, efforts shall be made to preserve the habitat in which they are located to the extent feasible...	The Project's impact on biological resources is addressed in Section 5.4 of this EIR. Tidewater goby, a fish that is listed as Federally Endangered could potentially be significantly impacted by Project operations. Measures are proposed to reduce the impact to this species. However, due to the nature of the Project, impacts may remain significant. The Project is considered consistent with the intent of this policy in that all feasible measures were considered.
N-GV-1: Interior noise-sensitive uses...shall be protected to minimize significant noise impacts.	The potential for the Project to result in noise impacts is addressed in Section 5.6 of this EIR. Based upon the analysis presented therein no significant noise impacts would result and the Project is therefore consistent with this policy.
HA-GV-1: Significant cultural, archaeological and historic resources shall be protected and preserved to the maximum extent feasible.	See discussion of CA Section 30244. Additionally, no historical resources would be impacted by the Project.
RISK-GV-1: Safety measures shall be required as part of Project review to minimize potential for risk of upset and public safety impacts within the Goleta Community Planning area.	The potential for the Project to result in impacts associated with risk of upset is addressed in Section 5.5 of this EIR. Based upon the analysis presented therein, the Project would result in significant impacts associated with potential spills





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	of hazardous materials and discharge of pesticides. However, mitigating measures provided in the PEIR and this SEIR would reduce impacts to less than significant. Therefore, the Project is considered to be consistent with the intent of this policy.

**Table 4.4-3. City of Santa Barbara General Plan and Local Coastal Plan  
Policies and Analysis of Project Consistency**

Policy Statement	Project Consistency Discussion
<b>General Plan</b>	
<b>Conservation Element</b>	
<b><u>Cultural Resources</u></b>	
1.0 Activities and development that could damage or destroy archaeological, historical or architectural resources are to be avoided.	See discussion of Coastal Act Section 30244 in Table 4.4-1 above.
<b><u>Visual Resources</u></b>	
1.0 Development adjacent to creeks shall not degrade the creeks or their riparian environment.	See discussion of Coastal Act Section 30251 in Table 4.4-1 above.
3.0 Development shall not obstruct scenic view corridors...	The potential of the Project to impact scenic resources and views is addressed in Section 5.8 of this EIR. Although the Project would significantly impact visual/aesthetic resources in some portions of the Project site for short periods of time, it would not completely obstruct any scenic view corridor. Therefore, the Project is consistent with this policy.
<b><u>Air Quality</u></b>	
4.0 Discourage and where possible prohibit land uses which unnecessarily contribute to air quality degradation.	The potential of the Project to impact air quality is addressed in Section 5.2 of this EIR. Significant and unavoidable air quality impacts would result from the Project. However, it is a necessary flood control project. Additionally, mitigation measures from the Final Program Environmental Impact Report/Draft Environmental Assessment for Routine Maintenance Activities in the Goleta Slough (1993) (PEIR) and additional measures developed in this SEIR apply to the Project. As such, the Project is considered consistent with the intent of this policy.
<b><u>Biological Resources</u></b>	
3.0 Goleta Slough shall be preserved and restored as a coastal wetland ecosystem.	The Project's impact on water quality and biological resources are addressed in Sections 5.1 and 5.4, respectively of this EIR. Although significant impacts were identified, the Project also benefits



Policy Statement	Project Consistency Discussion
	the health of the Slough. Additionally mitigation measures are incorporated into the Project and proposed by this SEIR to reduce significant impacts. As such, the Project is therefore considered consistent with the intent of this policy.
5.0 The habitats of rare and endangered species shall be preserved.	See discussion of BIO-GV-22 in Table 4.4-2 above.
<b>Noise Element</b>	
4.0 Existing and potential incompatible noise levels in problem areas should be reduced through land use planning...	The potential for the Project to result in noise impacts is addressed in Section 5.6 of this EIR. No significant noise impacts were identified. Based upon the analysis presented therein, the Project is consistent with this policy.
<b>Coastal Plan</b>	
<b>Water and Marine Environment</b>	
6.1 The City shall...protect, preserve and where feasible restore the biotic communities...	The Project is intended to provide for good circulation and reduced sedimentation in the creek channels. Also enhancement areas along Project creeks are proposed. Although significant biological resource impacts would result, with implementation of mitigation as described in Section 5.1 - Water Resources, and Section 5.4 - Biological Resources, impacts to biotic communities would be minimized. Therefore, the Project is considered consistent with this policy.
6.8 The riparian resources, biological productivity and water quality of the City's coastal zone creeks shall be maintained, preserved and enhanced and where feasible restored.	See discussion for Policy 6.1 above.
6.11 ...alterations to streams shall incorporate the best mitigation feasible...	See discussion of Policy 6.1 above.
<b>Visual Quality</b>	
9.1 Existing views ...shall be protected....	See discussion of California Coastal Act Section 30251 in Table 4.4-1 and discussion of County of Santa Barbara General Plan Policy 3.0 in Table 4.4-2 above.
<b>Coastal Pan Component 9: Airport</b>	
<b>Environmentally Sensitive Habitat</b>	
C-4 Maintain 100-foot buffer around periphery of wetlands ...all impacts to wetlands shall be mitigated to the extent feasible such that no net loss of wetland habitat occurs.	No permanent structure would be located within the required buffer. Impacts to habitat would be mitigated as described in Section 5.4 - Biological Resources. Therefore the Project is consistent with this policy.
C-5 Reduce the flow of sediment into the slough to the minimum compatible with the maintenance of the marshland.	The proposed Project dredging of the Tecolotito and Los Carneros Creek channels is proposed to provide capacity for additional interception of silt allowing for appropriate circulation within the



Policy Statement	Project Consistency Discussion
	slough. This is consistent with the action item under Policy C-5 as presented in the Coastal Plan Airport component.
C-6 Tidal action should be maintained in a manner that would maintain optimum populations of marine organisms.	The Project proposes continued periodic opening of the slough mouth and the maintenance of tidal flow within the slough. Therefore, the Project is consistent with this policy.
C-7 Any ongoing activities of special districts such as Flood Control...which constitutes development as defined in the Coastal Act shall be reviewed for approval by the City and must receive a coastal Development Permit or equivalent prior to commencement of its activities.	The Santa Barbara County Flood Control and Water Conservation District has a Coastal Development Permit and Goleta Slough Reserve Zone Coastal Development Permit from the City for ongoing maintenance activities on Tecolotito and Los Carneros creeks within the Goleta Slough. The Permit was issued in November 2000 and expires in 10 years. A new permit or extension would be required for the continued maintenance activities within the slough as proposed. Therefore, the Project is considered consistent with this policy.
C-8 No uses incompatible with the protection and maintenance of the wetland habitat and its open space character will be allowed...	The Project would assist in the preservation of the wetland habitat. Therefore the Project is consistent with this policy.
C-9 Any development approved within or adjacent to wetlands shall be consistent with PRCs 30233, 30230, 30231, 30607.1...	With implementation of the mitigation measures presented herein, the Project would be consistent with the intent of the policy in that wetlands would be protected to the extent feasible and the Project provides beneficial effects on Slough health. See discussion of Coastal Act policies in Table 4.4-1 above.
C-10 All development and mitigation of impacts shall be consistent with the policies of the Goleta Slough Ecosystem Management Plan....	The proposed Project was designed in support of the existing Goleta Slough Ecosystem Management Plan as detailed within the PEIR. The proposed Project is intended to provide flood control maintenance activities within the lower reaches of the Goleta Slough and its tributaries including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek in order to meet the prescribed goal of the Management Plan including to "protect and maintain the natural diversity of species, habitat types and ecosystem functions through protection of physical processes which naturally maintain the resources," and to improve tidal circulation. By encouraging and protecting these processes within the Goleta Slough ecosystem, the proposed Project will also maintain and support some of the recreational opportunities provided by a healthy Slough ecosystem. These recreational opportunities include, but are not limited to bird watching and wildlife viewing. As such, the proposed Project will help provide a long-term beneficial impact to recreational opportunities provided by the Goleta



Policy Statement	Project Consistency Discussion
	Slough and its tributaries as required within the Management Plan goals.  The Project's impacts on the natural resources of the Slough are fully described herein and mitigation measures have been proposed to minimize environmental impacts to the extent feasible. With implementation of these measures, the Project is consistent with the intent of this policy.
C-12 New development shall be sited and designed to protect water quality...	See discussion of Coastal Act Section 30231 in Table 4.4-1 above.
C-13 A water quality mitigation plan shall be developed and implemented for development...that entails greater than one acre...	See discussion of Coastal Act Section 30231 in Table 4.4-1 above.
C-15 Special status plants and wildlife protection measures shall be implemented for all development projects that....	See discussion of Santa Barbara General Plan Policy C-15 in Table 4.4-2 above.
<b>Cultural Resources</b>	
F3 New development shall protect and preserve archaeological or other sensitive cultural resources from destruction, and shall minimize and where feasible avoid impacts to such resources....	See discussion of Coastal Act Section 30244 in Table 4.4-1 above.

**City of Goleta General Plan/Coastal Land Use Plan.** As described above, a proposed enhancement area along San Jose Creek is located within the City of Goleta. As such the Project is expected to require approval from the City of Goleta and the policies of the City's General Plan and Local Coastal Plan are applicable to the proposed Project. Specific policies of the City's General Plan and Local Coastal Plan that are applicable to the proposed Project are identified in Table 4.4-4 along with findings for Project consistency with the identified policies. (Coastal Act Policies, which have been specifically identified in the Goleta Coastal Land Use Plan have not been reproduced in the table below. See Table 4.4-1 above).

Based upon a review of the zoning ordinances of the County and Cities of Santa Barbara and Goleta, the proposed Project uses/activities (e.g., dredging, stockpiling, biological restoration) are not specifically identified as allowable uses for the zones in which the Project activities would occur. However, these uses have been historically permitted by the land use planning agencies of the various jurisdictions in which the Project occurs.

Since the time of the preparation of the PEIR for the Project in 1993, the City of Goleta has become incorporated. It is anticipated that the District may need to obtain a Coastal Development Permit from the City of Goleta in addition to extending its permits with the other regulatory and resource agencies which the District currently has permits from. (See Table 2-6 for a summary listing of existing District permits.)



**Table 4.4-4. City of Goleta General Plan/Coastal Land Use Plan Policies and Analysis of Project Consistency**

Policy Statement	Project Consistency Discussion
<b>Land Use Element</b>	
Policy LU 1: Land Use Plan Map and General Policies [GP/CP]	
<p>Specifically, LU 1.7 New Development and Protection of Environmental Resources [GP/CP]</p> <p>Approvals of all new development shall require adherence to high environmental standards and the preservation and protection of environmental resources, such as environmentally sensitive habitats, consistent with the standards set forth in the Conservation Element and the City's Zoning Code. AND</p> <p>LU 1.8: New Development and Neighborhood Compatibility. [GP/CP] Approvals of all new development shall require compatibility with the character of existing development in the immediate area, including size, bulk, scale, and height. New development shall not substantially impair or block important viewsheds and scenic vistas, as set forth in the Visual and Historical Resources Element.</p>	<p>The proposed Project involves the continuation of ongoing flood control measures and no new development is proposed as part of the Project. With the implementation of mitigation measures as identified herein, the Project would protect environmental resources and would be compatible with adjacent neighborhoods to the extent feasible. Additionally, the Project has beneficial effects on flooding and the health of the Goleta Slough. Therefore the Project is consistent with these policies.</p>
Policy LU 5: Public and Quasi-Public Land Uses [GP/CP]	
<p>Specifically, LU 5.2 Public and Quasi-Public Use (PQP). [GP] This designation is intended to identify existing and planned land areas for public facilities, such as, but not limited to, community centers, governmental administration, governmental operations, libraries, and public schools.</p>	<p>The General Plan allows for other public uses on lands with the P-QP land designation. Therefore, the proposed Project which is a public works Project can be considered an allowable use and the Project is consistent with this policy.</p>
<b>Open Space Element</b>	
Policy OS 1: Lateral Shoreline Access [GP/CP]	
<p>Specifically, OS 1.4 Mitigation of Impacts to Lateral Coastal Access [GP/CP]</p> <p>New development, including expansions and/or alterations of existing development, shall be sited and designed to avoid impacts to public access and recreation along the beach and shoreline....</p>	<p>The Project does not include any facilities that would block lateral public access within the City of Goleta. Therefore the Project is consistent with this policy.</p>
Policy OS 8: Protection of Native American and Paleontological Resources [GP/CP]	
<p>Specifically, OS 8.3 Preservation [GP/CP]. The City shall protect and preserve cultural resources from destruction.... AND</p> <p>OS 8.4 Evaluation of Significance [GP/CP]. For any development proposal identified as being located in an area of archaeological sensitivity, a</p>	<p>See discussion of Coastal Act Section 30244 in Table 4.4-1 above. Also discussion of Santa Barbara General Plan Policy 10-5 in Table 4.4-2 above.</p>





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<p>Phase I cultural resources inventory shall be conducted. AND</p> <p>OS 8.5 Mitigation [GP/CP]. If research and surface reconnaissance shows that the Project area contains a resource of cultural significance that would be adversely impacted by proposed development and avoidance is infeasible, mitigation measures sensitive to the cultural beliefs of the affected population shall be required... AND</p> <p>OS 8.6 Monitoring and Discovery [GP/CP]. On-site monitoring by a qualified archaeologist and appropriate Native American observer shall be required for all grading, excavation, and site preparation that involves earth moving operations on sites identified as archaeologically sensitive. AND</p> <p>OS 8.7 Protection of Paleontological Resources [GP/CP]. Should substantial paleontological resources be encountered during construction activities, all work that could further disturb the find shall be stopped and the City of Goleta shall be notified within 24 hours.</p>	
<b>Conservation Element</b>	
Policy CE 1: Environmentally Sensitive Habitat Area Designations and Policy [GP/CP]	
<p>Specifically, CE 1.6 Protection of ESHAs [GP/CP] ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply:...</p> <p>d. The following uses and development may be allowed in ESHAs or ESHA buffers only where there are no feasible, less environmentally damaging alternatives and will be subject to requirements for mitigation measures to avoid or lessen impacts to the maximum extent feasible: 1) public road crossings, 2) utility lines, 3) resource restoration and enhancement Projects, 4) nature education, and 5) biological research.</p>	<p>The proposed Project use is consistent with the allowable uses in an ESHA (e.g., San Jose Creek). Therefore the Project is consistent with this policy.</p>
<p>Specifically, CE 1.7 Mitigation of Impacts to ESHAs. [GP/CP] New development shall be sited and designed to avoid impacts to ESHAs. If there is no feasible alternative that can eliminate all impacts, then the alternative that would result in the fewest or least significant impacts shall be selected. Any impacts that cannot be avoided shall be fully mitigated, with priority given to onsite mitigation...AND</p>	<p>The Project is designed to enhance San Jose Creek and mitigation measures are presented herein to mitigate any significant impacts to the extent feasible. Therefore the Project is consistent with this policy.</p>



Policy Statement	Project Consistency Discussion
<p>CE 1.10 Management of ESHAs [GP/CP] The following standards shall apply to the ongoing management of ESHAs:</p> <p>a. The use of insecticides, herbicides, artificial fertilizers, or other toxic chemical substances that have the potential to degrade ESHAs shall be prohibited within and adjacent to such areas, except where necessary to protect or enhance the ESHA itself.</p> <p>b. The use of insecticides, herbicides, or other toxic substances by City employees and contractors in construction and maintenance of City facilities and open space lands shall be minimized...</p> <p>d. Weed abatement and brush-clearing activities for fire safety purposes shall be the minimum that is necessary to accomplish the intended purpose. Techniques shall be limited to mowing and other low-impact methods such as hand crews for brushing, tarping, and hot water/foam for weed control. Disking shall be prohibited...</p> <p>f. Removal of nonnative invasive plant species within ESHAs may be allowed and encouraged, unless the nonnatives contribute to habitat values.</p> <p>g. The following flood management activities may be allowed in creek and creek protection areas: desilting, obstruction clearance, minor vegetation removal, and similar flood management methods.</p>	<p>The Project within includes desilting and revegetation/enhancement is allowed by the policy for the management of ESHAs. With the implementation of mitigation measures described herein, chemical degradation of the ESHA associated with Project activities would be avoided or minimized. Weed abatement for fire safety purposes is not proposed. The Project would not result in significant risk of fire. Non-natives plant species would be removed as part of creek enhancement activities. Therefore the Project is consistent with this policy.</p>
Policy CE 2: Protection of Creeks and Riparian Areas [GP/CP]	
<p>Specifically, CE 2.2 Streamside Protection Areas [GP/CP] A streamside protection area (SPA) is hereby established along both sides of the creeks identified in Figure 4-1. The purpose of the designation shall be to preserve the streamside protection area in a natural state in order to protect the associated riparian habitats and ecosystems....AND</p>	<p>San Jose Creek and the western bank of San Jose Creek are identified as protected areas With the implementation of mitigation measures MM PBIO-13 and MM BIO-13 impacted areas would be restored. Therefore, the Project is consistent with this policy.</p>
<p>CE 2.3 Allowable Uses and Activities in Streamside Protection Areas [GP/CP] The following compatible land uses and activities may be allowed in SPAs, subject to all other policies of this plan, including those requiring avoidance or mitigation of impacts: ...</p> <p>c. Maintenance of existing roads, driveways, utilities, structures, and drainage improvements...</p>	<p>The proposed flood control maintenance activities are allowable in the streamside protection area. Therefore, the Project is consistent with this policy.</p>



Policy Statement	Project Consistency Discussion
CE 2.5 Maintenance of Creeks as Natural Drainage Systems [GP/CP] Creek banks, creek channels, and associated riparian areas shall be maintained or restored to their natural condition wherever such conditions or opportunities exist.	San Jose Creek will be maintained as a natural creek within the Project area. Therefore, the Project is consistent with this policy.
Policy CE 3: Protection of Wetlands [GP/CP]	
Specifically, CE 3.4 Protection of Wetlands in the Coastal Zone [CP] The biological productivity and the quality of wetlands shall be protected and, where feasible, restored....	See discussion of Coastal Act Section 30231 in Table 4.4-1 above.
Policy CE 8: Protection of Special-Status Species [GP/CP]	
Specifically, CE 8.2 Protection of Habitat Areas [GP/CP] All development shall be located, designed, constructed, and managed to avoid disturbance of adverse impacts to special-status species and their habitats, including spawning, nesting, rearing, roosting, foraging, and other elements of the required habitats....	See discussion of Santa Barbara General Plan Policy C-15 in Table 4.4-2 above.
Policy CE 10: Watershed Management and Water Quality [GP/CP]	
Specifically, CE 10.1 New Development and Water Quality [GP/CP] New development shall not result in the degradation of the water quality of groundwater basins or surface waters; surface waters include the ocean, lagoons, creeks, ponds, and wetlands. Urban runoff pollutants shall not be discharged or deposited such that they adversely affect these resources...AND CE 10.2 Siting and Design of New Development [GP/CP] New development shall be sited and designed to protect water quality and minimize impacts to coastal waters by incorporating measures designed to ensure the following:...AND CE 10.3 Incorporation of Best Management Practices for Stormwater Management [GP/CP] New development shall be designed to minimize impacts to water quality...AND CE 10.8 Maintenance of Stormwater Management Facilities [GP/CP] New development shall be required to provide ongoing maintenance of BMP measures where maintenance is necessary for their effective operation. AND CE 10.9 Landscaping to Control Erosion [GP/CP] Any landscaping that is required to control erosion shall use native or drought-tolerant noninvasive plants to minimize the need for fertilizer, pesticides, herbicides, and excessive irrigation.	See discussion of Coastal Act Section 30231 in Table 4.4-1 above.



Policy Statement	Project Consistency Discussion
Policy CE 12: Protection of Air Quality [GP]	
<p>Specifically, CE 12.2 Control of Air Emissions from New Development [GP] The following shall apply to reduction of air emissions from new development:...AND</p> <p>CE 12.3 Control of Emissions during Grading and Construction [GP] Construction site emissions shall be controlled ...</p>	See discussion of Policy 4.0 in Table 4.4-3 above.
<b>Safety Element</b>	
<p>The Project site (City of Goleta area) is within a tsunami hazard area, 100-year flood hazard area and adjacent to a road that may carry hazardous materials. Also, the Project is in a seismically active area. However, no element of the Project would be significantly impacted by or create/significantly exacerbate any identified hazards. The Project would ensure flood water conveyance in San Jose Creek thereby reducing a potential hazard. Therefore, the policies of the Safety element are not presented here.</p>	
<b>Visual and Historic Resources</b>	
<p>Coastal Act Policy 30251 The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.</p>	See discussion of Coastal Act Section 30251 in Table 4.4-1 above.
Policy VH 1: Scenic Views [GP/CP]	See discussion of Coastal Act Section 30251 in Table 4.4-1 above.
Policy VH 2: Local Scenic Corridors [GP]	See discussion of Coastal Act Section 30251 in Table 4.4-1 above.
Policy VH 6: Historical and Cultural Landscapes [GP]	See discussion of Santa Barbara Coastal Land Use Plan Policy 10-2 in Table 4.4-2 above.
<b>Noise</b>	
Policy NE 1: Noise and Land Use Compatibility Standards [GP]	
<p>Specifically, NE 1.4 Acoustical Studies [GP] An acoustical study that includes field measurement of noise levels may be required for any proposed Project that would: a) locate a potentially intrusive noise source near an existing sensitive receptor,</p>	<p>A Project noise assessment is part of this environmental document (see Section 5.6.) The Project is consistent with this policy.</p>



Policy Statement	Project Consistency Discussion
Policy NE 6: Single-Event and Nuisance Noise [GP]	
Specifically, NE 6.4 Restrictions on Construction Hours [GP] The City shall require, as a condition of approval for any land use permit or other planning permit, restrictions on construction hours....AND	The Project shall comply with existing noise regulations. Therefore, the Project is consistent with this policy.
NE 6.5 Other Measures to Reduce Construction Noise [GP] The following measures shall be incorporated into grading and building plan specifications to reduce the impact of construction noise:...	With implementation of mitigation, the Project incorporates construction noise reduction measures (see Section 5.6.) Therefore, the Project is consistent with this policy.

#### 4.4.3 References

##### 4.4.3.1 Bibliography

California web site for Goleta Slough

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<http://www.goletaslough.org/gsmcpagememb.php?s=2005&n=Committee&g=Associates>

#### 4.4.3.2 Personal Communications

Ling, Shine, Planner, City of Goleta (July 2009). Personal communication by telephone and email with Donna Hebert of Padre Associates, Inc.



## **5.0 ENVIRONMENTAL IMPACTS ANALYSIS**

This section discusses the possible environmental effects of the proposed Santa Barbara County Flood Control and Water Conservation District (District) Maintenance Activities in the Goleta Slough (proposed Project) for the specific resource/issue areas that were identified through the 1993 original PEIR scoping process, and through subsequent scoping associated with this Subsequent EIR (SEIR). The analyses presented herein focus on elements of the proposed Project that have the potential to affect the environment in ways not previously identified in the PEIR (93-EIR-4/92-CP-28). However, the general findings of the PEIR are summarized for each issue area evaluated herein.

As discussed in the following sections, the proposed Project results in new impacts for certain issue areas, increases the magnitude of some previously disclosed impacts while reducing the magnitude of others. New and modified impacts are mainly related to the addition of the restoration activities within the upland sediment disposal/restoration site (closed Foothill Landfill) which is a new element of the proposed Project, and changes to environmental and regulatory conditions following the completion of the 1993 PEIR.

As allowed by the State CEQA Guidelines (Section 15150), this SEIR incorporates by reference the PEIR (93-EIR-4/92-CP-28). The PEIR is provided as Appendix C to this document.

As discussed in Sections 1.2 through 2.0 of the Project Description, the proposed Standard Maintenance Practices from the PEIR for the Santa Barbara County Flood Control Routine Maintenance Activities were approved in 1994. The routine flood control maintenance activities are fully permitted and ongoing when needed. Therefore, the approved and permitted project represents the environmental baseline for purposes of the impact analyses. Where the PEIR identified significant impacts and provided mitigation measures that are still appropriate, this SEIR considers the adopted mitigation measures part of the proposed Project. Additionally, the Project as presently proposed includes specific elements that serve to avoid or reduce impacts. Therefore, for the purposes of the SEIR, the Project is considered to be self mitigating for numerous environmental issues as fully defined herein.

The following impact analysis sections are structured as follows:

### **SETTING**

The environmental and regulatory setting for the resource/issue area being analyzed focusing mainly on any changes to the setting since the publication of the PEIR and new information relevant to the current Project that was not pertinent to the project evaluated in the PEIR.



## IMPACT ANALYSIS AND MITIGATION MEASURES

**Thresholds of Significance.** The “significance thresholds” are used to determine whether potential Project effects are significant. The significance thresholds used are those criteria adopted by the County, other applicable regulatory agencies, those included in the State CEQA Guidelines, or developed specifically for this analysis.

Impact assessments in this SEIR include both qualitative and quantitative evaluations as appropriate for each individual impact issue area based upon the applicable significance thresholds. Because of the variability in quantities of sediment that are processed on an annual basis as part of the County’s flood control maintenance activities, impact evaluations that include quantitative analysis based upon the volume of sediment processed (i.e., air quality, noise and transportation) include both a “typical” and “worst case” scenario. The determination of typical and worst case scenario conditions depends upon the specific issue being addressed. For example, for the assessment of air quality impacts under the “worst case” scenario for peak day emissions, factors considered include the total maximum number of equipment that may be operated on a single day, and maximum number of vehicle trips (based upon maximum volumes of material transported, worker trips, etc.). Because these emissions impact the South Central Coast Air Basin the total number of equipment and trips for the day must be evaluated. However, for the assessment of worst case noise impacts only the operations (equipment and trips) located in the vicinity of a specific sensitive receptor need to be evaluated to determine the significance of noise impacts for that specific receptor.

**Currently Approved Goleta Slough Maintenance Program.** A summary of impacts and mitigation measures associated with the approved and permitted 1993 original PEIR (93-EIR-4/92-CP-28).

**Proposed Updated Maintenance Program.** A discussion of impacts and mitigation measures associated with the subsequent EIR.

The impacts are classified pursuant to the County’s CEQA Guidelines as follows:

- **Class I Impacts.** Significant unavoidable adverse impacts for which the decision-maker must adopt a statement of overriding considerations.
- **Class II Impacts.** Significant environmental impacts that can be feasibly mitigated or avoided for which the decision-maker must adopt findings and recommended mitigation measures.
- **Class III Impacts.** Adverse impacts found not to be significant for which the decision maker does not have to adopt findings under CEQA.
- **Class IV Impacts.** Impacts beneficial to the environment.

Impacts and mitigation measures are identified by an abbreviation that corresponds to the subject issue (e.g., biological impacts are identified as Impact BIO followed by a number). Mitigation measures are identified by the abbreviation MM followed by an identifier designating



if the measure is part of the current Project Description ("Project"), from the PEIR/EA ("P"), or from the 2000 SPEIR ("S") followed by the subject abbreviation (e.g., BIO-1). If there is no "Project", "P", or "S" designation, the mitigation measure is a new one that has been developed as part of this SEIR process.

Residual impacts, if any, are defined as well as the level of significance after implementation of the mitigation measures identified.

## **REFERENCES**

The documentation and personal communications that were used for the assessment of each issue area (e.g., biological resources, air quality, etc.) are provided at the end of each section.



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## **5.1 WATER RESOURCES/FLOODING**

This section addresses the effects of the proposed Project and alternatives upon the onshore and offshore water resources within the Project area. Topics addressed within the following section include stream channel flooding, runoff, surface and groundwater quality, tidal circulation, plume dispersion, and shoreline processes. Please note that a discussion of impacts related to soil characteristics and onshore/offshore geologic processes has been included within Section 5.3 (Geology and Soils). Information regarding affects to water quality as a result of risk of upset or hazardous materials exposure has been included within Section 5.5 (Risk of Upset/Hazardous Materials).

### **5.1.1 Environmental Setting**

#### **5.1.1.1 Background and Affected Environment**

As discussed within Section 4.1 of the 1993 PEIR (see Appendix C), the Project area (with the exception of the closed Foothill Landfill) is located within the Goleta Slough, a coastal wetland at the junction of five major streams that drain the southern flank of the Santa Ynez Mountains. Watersheds that drain to the area are the Glen Annie (Tecolotito) (5,858 acres), the Los Carneros (2,667 acres), the San Pedro (4,555 acres), the San Jose (5,503 acres) and the Atascadero (10,353 acres). Natural erosion and erosion accelerated by forest fires in the mountain watersheds, agriculture, and community development have contributed sediment to the stream channels. Siltation and the growth of vegetation have led to flooding during intervals of heavy runoff. It is known that floods are exacerbated by the accumulation of sediment and debris in natural stream channels, among other things. To reduce the incidence and severity of future floods, maintenance dredging of several streams in the Goleta Slough area began in 1967.

Since the 1993 maintenance season, approximately 938,796 cy of sediment have been removed to maintain the basins and channels within the Goleta Slough (Table 2-2 of Project Description). During that period, dragline desilting removed approximately 569,300 cy from the five tributaries and hydraulic dredging was used to remove approximately 369,496 cy from Atascadero, San Jose, and San Pedro creeks. Both dragline and hydraulic desilting methodologies can be used during any given maintenance year (as was the case shown during the 1994/95, 1998/99, and 2005 maintenance seasons). During the nine seasons that desilting activities have been performed, an average of 105,000 cy have been removed per season ranging from 10,000 to 238,000 cy.

#### **5.1.1.2 Climate**

Santa Barbara County has a Mediterranean climate with several microclimatic regions. Summers are warm and dry; the winters are cool and often wet. Within the Goleta area most precipitation occurs between November and March. Moist air from the Pacific Ocean moderates temperatures in the coastal areas.



Santa Barbara County's weather is mainly controlled by the Pacific high-pressure system. In the dry season, from about May through September, the Pacific high usually occupies the area northeast of Hawaii. During the winter months it is weaker and positioned further south. Generally, Santa Barbara County receives relatively gentle but steady rainfall during storm events. At times the persistence of the Pacific high at a latitude farther north than normal keeps the Pacific storm track farther to the north. This "blocking high" results in either no precipitation for part or all of California, or, at most, only light amounts. This climatological scenario is the reason for most of California's droughts, including those occurring in the 1976-1977 and 1986-1991 seasons. According to historical records, periods of drought lasting several years, appear to be cyclical and recur about every 40 years in the Project area.

Rainfall in the Project area is variable from month to month and year to year. Rainfall as recorded by the Santa Barbara County Flood Control District at the Goleta Fire Station No. 14 for water years (WY) from 2001 through 2009 is presented in Table 5.1-1 below.

**Table 5.1-1. Rainfall Monthly Depth for Gage Station 440 - Goleta Fire Station No. 14**

WY	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Total
2001-02	0.00	0.61	3.88	2.19	1.31	0.38	0.55	0.08	0.05	0.00	0.00	0.00	9.05
2002-03	0.18	0.00	6.08	6.05	0.12	2.72	5.25	1.40	1.95	0.03	0.00	0.00	23.78
2003-04	0.00	0.00	1.66	2.80	0.50	5.52	0.50	0.00	0.00	0.00	0.00	0.00	10.98
2004-05	0.00	3.29	0.15	7.97	13.34	7.37	4.39	0.80	0.91	0.00	0.00	0.00	38.22
2005-06	0.12	0.84	2.01	0.86	5.56	2.98	4.24	5.86	1.44	0.00	0.00	0.01	23.92
2006-07	0.00	0.14	0.47	1.01	2.80	1.97	0.00	1.01	0.00	0.00	0.00	0.00	7.40
2007-08	0.24	0.28	0.00	2.62	11.78	2.25	0.00	0.12	0.08	0.00	0.00	0.00	17.37
2008-09	0.00	0.10	1.84	2.63	0.74	4.39	0.96	0.42	0.00	0.49	0.00	0.00	11.57

Source: Santa Barbara County Flood Control District at the Goleta Fire Station No. 14 for water years (WY) from 2001 through 2009 available online at <http://www.countyofsb.org/pwd/water/downloads/hydro/440mdd.pdf>

#### 5.1.1.3 Inland Surface Water

The County is divided into five major watersheds each varying in their dominant geography and by types and quality of water supply. The Project area is located within the South Coast Watershed, as identified by the County of Santa Barbara, which is about 416 square miles in area and is comprised of smaller watersheds associated with each of the areas creeks. As defined by the State Water Resources Control Board (SWRCB), the Project area is within the South Coast Hydrologic Unit (Goleta Hydrologic Subarea).



In general, creeks in the local area drain small, steep watersheds that originate in the Santa Ynez Mountains and continue through foothills and coastal terrace areas before emptying into the ocean. Before reaching the ocean, the flows of the Project creeks (Atascadero, San Jose, San Pedro, Los Carneros, and Tecolotito) pass through the Goleta Slough. Flow levels in local creeks exhibit a high degree of variability through time due to a combination of factors. These include the small size and steep gradient of local watersheds, and the highly seasonal pattern of rainfall. Stream flow is directly from rainfall with no significant snowmelt and little base flow from headwaters. Most streams in the area are dry in the summer.

Atascadero Creek receives drainage from Cieneguitas Creek, Hospital Creek, San Antonio Creek, and Maria Ygnacio Creek for a total watershed of 13,231 acres, capable of generating a 13,000 cubic feet per second (cfs) flood flow during a 100-year return period event. The tidally influenced portion of Atascadero Creek begins near the check structure at the end of Ward Drive and continues to the mouth of the Slough for a length of approximately 4,900 feet. The District has routinely desilted the channel downstream of the check structure for a length of approximately 3,600 feet.

The United States Geological Service (USGS) maintains a gage station on Atascadero Creek (Station 11120000) 100 feet downstream from Maria Ygnacio Creek (drainage area 12,096 acres). The following statistics presented in Table 5.1-2 are from the USGS web site for this station and show monthly mean discharge over a 7+ year period, as well as a total monthly mean discharge accounting for all data collected between 1942 and 2008

**Table 5.1-2. Atascadero Creek Monthly Mean Discharge**

YEAR	Monthly Mean in cfs (Calculation Period: 2001-2008)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2001	24.4	28.2	136.3	5.83	2.00	0.254	0.205	0.165	0.153	0.399	5.46	2.78
2002	1.79	0.544	0.551	0.179	0.113	0.141	0.161	0.100	0.119	0.134	13.1	28.2
2003	0.542	5.43	31.0	3.20	4.19	0.257	0.109	0.304	0.086	0.482	0.973	3.42
2004	0.629	30.0	1.13	0.190	0.062	0.090	0.079	0.071	0.075	14.8	0.876	69.4
2005	224.0	83.1	26.6	5.78	4.72	0.506	0.192	0.181	0.110	0.549	2.88	4.31
2006	12.2	8.99	8.63	46.1	3.12	0.395	0.193	0.153	0.155	0.105	0.225	0.686
2007	3.36	3.35	0.253	0.948	0.266	0.156	0.101	0.102	0.150	0.109	0.105	4.88
2008	82.8	7.77	0.65	0.23	0.19	0.21	0.12	0.19	0.12	NA*	NA*	NA*
MONTHLY MEAN DATA (1942 – 2008)	20.6	23.1	17.9	4.71	1.09	0.24	0.11	0.10	0.24	0.59	3.21	6.41

Source: The United States Geological Service (USGS) gage station at Atascadero Creek (Station 11120000) available online at <http://wdr.water.usgs.gov/wy2008/pdfs/11120000.2008.pdf>.

\* Data for NA months not yet available as of February 2010.

San Jose Creek and its main tributary, Fremont Creek, drain a 5,503-acre watershed capable of generating 5,300 cfs of flood flow during a 100-year return period event. The tidally influence portion of San Jose Creek begins at the end of the lined section and continues

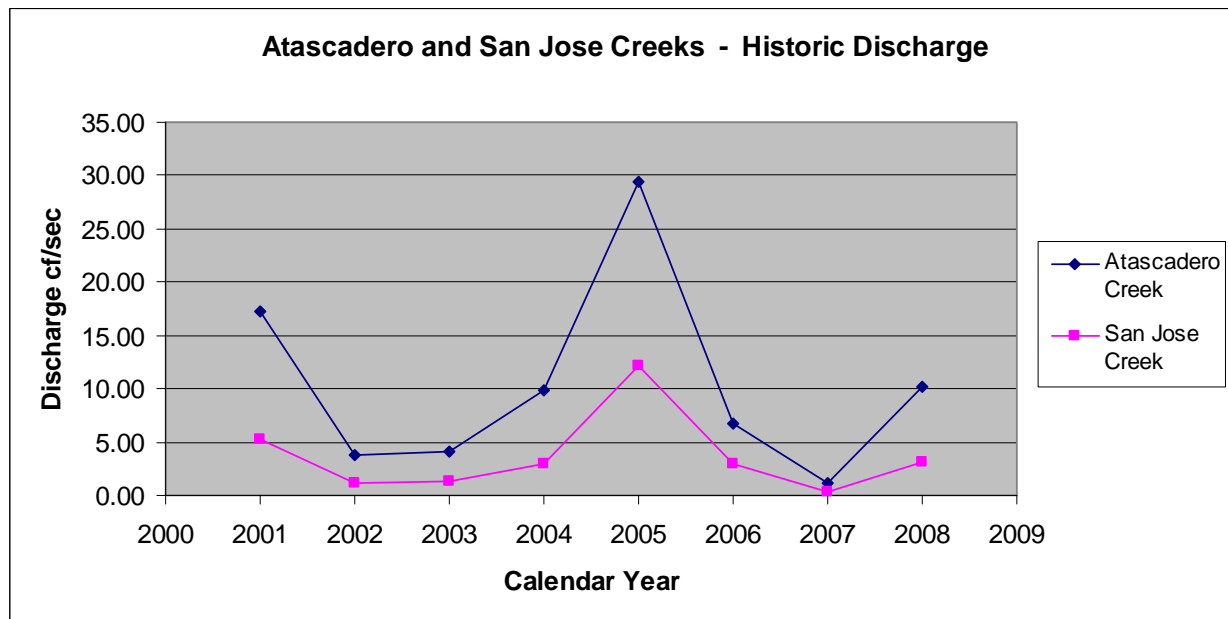


downstream to its confluence with Atascadero Creek for a length of approximately 2,500 feet. The District has routinely desilted the channel just downstream of the lined section for the total length.

The United States Geological Service (USGS) maintains a gage station on San Jose Creek (Station 11120500) 0.2 mile north of Patterson Avenue Bridge (drainage area 3,526 acres). The following statistics presented in Table 5.1-3 are from the USGS web site for this station and show monthly mean discharge over a 7+ year period. Figure 5.1-1 shows the annual mean discharge in cubic feet per second over a seven year period for both San Jose and Atascadero creeks, as well as a total monthly mean discharge accounting for all data collected between 1942 and 2008

**Table 5.1-3. San Jose Creek Monthly Mean Discharge**

Year	Monthly mean in cfs (Calculation Period: 2001-2008)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>2001</b>	6.87	9.00	39.1	3.13	1.14	0.734	0.470	0.305	0.272	0.329	0.891	0.974
<b>2002</b>	0.795	0.616	0.472	0.434	0.219	0.091	0.067	0.026	0.007	0.126	2.38	7.78
<b>2003</b>	0.655	1.47	7.77	1.92	2.43	0.546	0.235	0.438	0.144	0.218	0.327	0.565
<b>2004</b>	0.445	6.91	0.626	0.309	0.124	0.111	0.070	0.064	0.055	2.63	0.342	23.6
<b>2005</b>	98.9	27.0	10.6	2.90	2.48	1.05	0.654	0.446	0.353	0.483	0.562	0.764
<b>2006</b>	5.87	2.31	4.19	18.8	1.50	0.724	0.427	0.273	0.266	0.262	0.197	0.271
<b>2007</b>	0.506	0.896	0.486	0.329	0.159	0.124	0.052	0.058	0.054	0.103	0.133	1.81
<b>2008</b>	27.7	4.47	1.42	0.60	0.38	0.18	0.12	0.13	0.12	0.10	0.13	1.81
MONTHLY MEAN DATA (1942 – 2008)	7.07	11.8	7.31	2.98	0.96	0.38	0.22	0.16	0.15	0.30	1.04	2.64
Source: The United States Geological Service (USGS) gage station at Atascadero Creek (Station 11120000) available online at <a href="http://wdr.water.usgs.gov/wy2008/pdfs/11120500.2008.pdf">http://wdr.water.usgs.gov/wy2008/pdfs/11120500.2008.pdf</a> .												
* Data for NA months not yet available as of February 2010.												



**Figure 5.1-1. Atascadero and San Jose Creeks Annual Mean Discharge (2001-2008)**

Based upon a review of the SWRCB Division of Water Rights map showing designations of fully appropriated stream systems within Santa Barbara County, San Jose Creek is the only Project area creek that is considered fully appropriated stream which means that all available surface water from San Jose Creek is legally allocated for domestic use, irrigation, or water storage. As such, diversions along San Jose Creek also greatly influence stream flows within San Jose Creek.

San Pedro Creek has two smaller tributaries that join it before it enters the Slough; Encina Creek and Las Vegas Creek, for a total watershed of 4,555 acres capable of generating 6,000 cfs of flood flow during a 100-year return period event. The tidally influenced portion of San Pedro Creek begins at Matthews Street and continues downstream to the confluence with San Jose Creek. The District has routinely desilted the channel just downstream of James Fowler Road for a length of approximately 2,000 feet.

The United States Geological Service (USGS) maintains a gage station on San Pedro Creek (Station 11120520) located at latitude 34°26'55" and longitude 119°50'25" (drainage area 1,984 acres). However, according to the USGS web site information for this station discharge date is only available for a period between 1970 to 1972. The annual mean discharge for 1971 was 0.818 cubic feet per second.

The Los Carneros Creek watershed drains approximately 2,641 acres capable of generating 3,500 cfs of flood flow during a 100-year return period event. Lake Los Carneros is located within the watershed, but traps very little sediment in relation to the total watershed (approximately 1/10 of the total). The existing sediment basin (6' x 60' x 600') located on Los Carneros Creek downstream of Hollister Avenue traps most of the sediment before it enters the





slough. District activities typically have been restricted to desilting this basin, although the creek has been desilted to its confluence with Tecolotito Basin after large storms.

Tecolotito Creek drains the 3,858 acre Glen Annie Canyon watershed, which is capable of generating 4,600 cfs during a 100-year return period event. The existing sediment basin (8' x 100' x 550') just downstream of Hollister Avenue traps most of the sediment before entering the slough. District activities have typically been restricted to desilting this basin, although prior to the re-routing of the creek, it had been desilted to its confluence with Los Carneros Creek after large storms. With the current configuration of this basin, the 550 feet of desilting goes to just past the confluence with Los Carneros Creek.

The SWRCB Water Quality Control Plan (Basin Plan) for the Central Coast Region identifies the beneficial uses of the inland and coastal waters (surface and groundwaters). The beneficial uses of the inland waters of the Goleta Slough/Estuary (includes Atascadero, San Jose and San Pedro creeks) as identified by the SWRCB (1994) include: Water Contact Recreation (REC1), Non-contact Water Recreation (REC2), Wildlife Habitat (WILD), Warm freshwater Habitat (WARM), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development of Fish (SPWN), Preservation of Biological Habitats of Special Significance (BIOL), Rare, Threatened or Endangered Species (RARE), Estuarine Habitat (EST), Commercial and Sports Fishing (COMM), and Shellfish Harvesting (SHELL). The SWRCB identified beneficial uses of Los Carneros Creek include: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Groundwater Recharge (GRW), REC1, REC2, WILD, Cold Fresh Water Habitat (COLD), WARM, Freshwater Replenishment (FRESH) and COMM. The SWRCB identified beneficial uses of Tecolotito Creek include: MUN, GRW, REC1, REC2, WILD, COLD, WARM, MIGR, FRESH and COMM.

As stated previously, the Goleta Slough covers about 45 square miles and includes five creeks (Atascadero, San Pedro, San Jose, Tecolotito, and Los Carneros) and their tributaries. This slough is one of the few coastal wetlands that remain in California and is designated as a California Critical Coastal Areas (CCA) impaired estuary. The CCA Program is a program to foster collaboration among local stakeholders and government agencies, to better coordinate resources and focus efforts on coastal watersheds in critical need of protection from polluted runoff. A multi-agency statewide CCA Committee has identified an initial list of 101 CCAs along the coast and in San Francisco Bay.)

The top pollutants of concern in the Goleta Slough/Estuary are pathogens, priority organics and sediment. The Slough/Estuary is on the 2006 Clean Water Act Section 303(d) List of Water Quality Limited Segments requiring TMDLs<sup>1</sup> for pathogens and priority organics. The potential source of these pollutants is identified as urban runoff and nonpoint sources. Based upon communication with the Central Coast RWQCB, the priority organics of concern are organic chlorine pesticides (Adams, personal communication, June 17, 2009). The Goleta

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<sup>1</sup> TMDL regulations are contained in Section 303(d) of the Clean Water Act. TMDLs are designated for water bodies of the state that show signs of being impaired or impacted for beneficial uses. The State Water Resources Control Board (SWRCB), with concurrence of the EPA and the Regional Water Quality Control Boards, establishes a list of all 303(d) impaired water bodies.



Slough/Estuary was previously listed in 2003 for sediment/siltation, and metals in addition to the current listed impairments. Of the five creeks identified above, only Los Carneros Creek is in the referenced 2006 Section 303(d) list for unionized ammonia, the source of which is stated as "unknown".

The non-profit organization, Santa Barbara Channelkeeper's Stream Team prepares a Goleta Creeks Report Card, which is created using data from two different volunteer monitoring programs: Santa Barbara Channelkeeper's Goleta Stream Team Program and the Community Environmental Council's Creek Watchers Program. The Report Card covers all of the Project creeks and the Goleta Slough. Water quality parameters evaluated include: bacteria, temperature, dissolved oxygen and turbidity. For understandability, the Report Card uses the A, B, C, D, and F grading system typical of California schools; these can be interpreted as "excellent," "good," "acceptable," "poor" and "failed," respectively. Failing grades for Project areas surface waters, based upon the volunteer water quality monitoring results prepared by the Santa Barbara Channelkeeper's Stream Team as reported in their monthly "Report Cards" for 2007, are identified as follows. A grade of "F" was given to the Goleta Slough for dissolved oxygen in April and June and for bacteria in November. Similarly, a grade of "F" was given to Los Carneros Creek for bacteria in July. San Jose Creek was given an "F" grade for bacteria in October and November. Tecolotito Creek was given a grade of "F" for bacteria in November. (The Report Card was not available for March and August of 2007 on the Stream Team web page.) The Report Cards and detailed monthly monitoring data are available on the Steam Team web site <http://stream-team.org>. The grades are based upon various criteria as reported on the Stream Team web site. For example, the bacteriological grade is based upon EPA standards for full body contact recreation in fresh water. An excellent grade (A) is given when results are below detection limits. A failing grade (F) is assigned when e coli bacteria is present at greater than 1,250 cfu (colony forming units) per 100 ml of sample.

The County of Santa Barbara no longer conducts inland surface water quality testing through its Project Clean Water Program. However, according to the County of Santa Barbara Project Clean Water web site, during the 2006 budget review process, a one-time allocation was provided by the Board of Supervisors to Project Clean Water to fund limited sampling. This sampling program targeted constituents of concern in 303(d) listed water quality limited streams receiving urban runoff, including the Carpinteria area, Goleta area, and Orcutt and was conducted over the period of December 2006 to October 2008. Within the Project area, samples were taken from Atascadero Creek at Ward Drive on a monthly basis. Sample test results for this sampling location are presented in Table 5.1-4.



**Table 5.1-4. Atascadero Creek at Ward Drive Water Quality Sampling Results**

Constituents	Units	Min.	Avg.	Max.	Std Dev.	Objective	Samples	Exceedances
pH	pH units	6.93	7.56	8.95	0.56	7.0-8.5	18	3
Dissolved Oxygen	Mg/L	2.80	9.17	19.88	5.43	≥5.0	18	7
Temperature	Degrees C	6.62	15.98	29.65	6.00	Narrative	18	NA
Specific Conductivity	μS/cm	900	2,255	29,728	1,191	Narrative	18	NA
Turbidity	NTU	1.85	6.22	32.00	7.17	Narrative	17	NA
Flow	Ft <sup>3</sup> /sec	0.02	1.46	5.31	1.48	None	18	NA
<i>E Coli</i>	MPN/100 mL	10	54	6,867	1,484	400	18	1
Total Coliform	MPN/100 mL	1,354	12,570	724,192	256,213	10,000	18	10
Enterococcus sp.	MPN/100 mL	10	38	8,664	1,880	104	18	4
Cryptosporidium sp.	Oocysts	0	*	<0.1	*	None	11	NA
Giardia lamblia	Cysts	0	*	<0.1	*	None	11	NA

Notes:

C Celsius  
Ft<sup>3</sup>/sec Cubic feet per second  
μS/cm microSiemens per centimeter  
Mg/L milligrams per liter  
mL milliliter  
MPN most probable numer  
NA not applicable  
NTU nephelometric turbidity units

Water quality objectives came from the Basin Plan (Central Coast Regional Water Quality Control Board, 1994) or the California Ocean Plan (State Water Resources Control Board (2005) with the exception of the objective for Cryptosporidium sp. which came from the Water Quality Criteria (US Environmental Protection Agency (2006).

Source: County of Santa Barbara 303(d) Water Quality Sampling December 2006 - October 2008.



#### 5.1.1.4 Groundwater

The Goleta Groundwater Basin (GGWB) underlies the City of Goleta and a majority of the Project area. A portion of the Project area generally south of the confluence of Atascadero and San Pedro creeks is not underlain by an identified groundwater basin. Also, the closed Foothill landfill is just east of the GGWB and does not appear to overlay a groundwater basin based upon a review of County mapping. The GGWB is approximately 9,210 acres, and approximately 8 miles long and 3 miles wide. Figure 5.1-2 shows the GGWB boundaries as shown by the County of Santa Barbara Public Works Department on their web page document on the South Coast Groundwater Basins (County of Santa Barbara Public Works Department, 2009). The GGWB as defined by the United States Geologic Survey (USGS) is divided into two sub-basins (North-Central Basin and West Basin) separated by an inferred low permeability barrier that separates areas of differing water quality<sup>2</sup>. (In much of the technical literature the basin is divided into three sub-basins: North, Central and West.) The sub-basins are separated from the ocean to the south by the More Ranch Fault. Near-surface low permeability sediments cause the southern portion of the North-Central and West basins to be under confined conditions and provide a barrier to potential surface sources of water quality degradation such as agricultural return flow or infiltration of brackish water in the overlying Goleta Slough. Water high in total dissolved solids is present in the shallow aquifers above the confining layers. The majority of useable groundwater in storage in the GGWB is present within the Central Subbasin, which is about 4 miles long and 2 miles wide. The North and Central sub-basins are believed to have a combined total of about 30,000 to 60,000 acre-feet (AF) of operational storage. Wells located throughout the GGWB indicate that water levels have been increasing throughout the basin since 1991, but were still below sea level as of 2004. As indicated above, the basin is protected from seawater intrusion by the presence of uplifted bedrock along the More Ranch fault.

The GGWB is drained by the Cieneguitas, Atascadero, San Antonio, Maria Ignacio, San Jose, Las Vegas, San Pedro, and Los Carneros creeks (Goleta Water District, December 2005). The creeks are intermittent where they flow across the permeable sediments of the North Sub-basin, an active area of groundwater recharge. (The North sub-basin is north of U.S. Highway 101 and not within the Project area.)

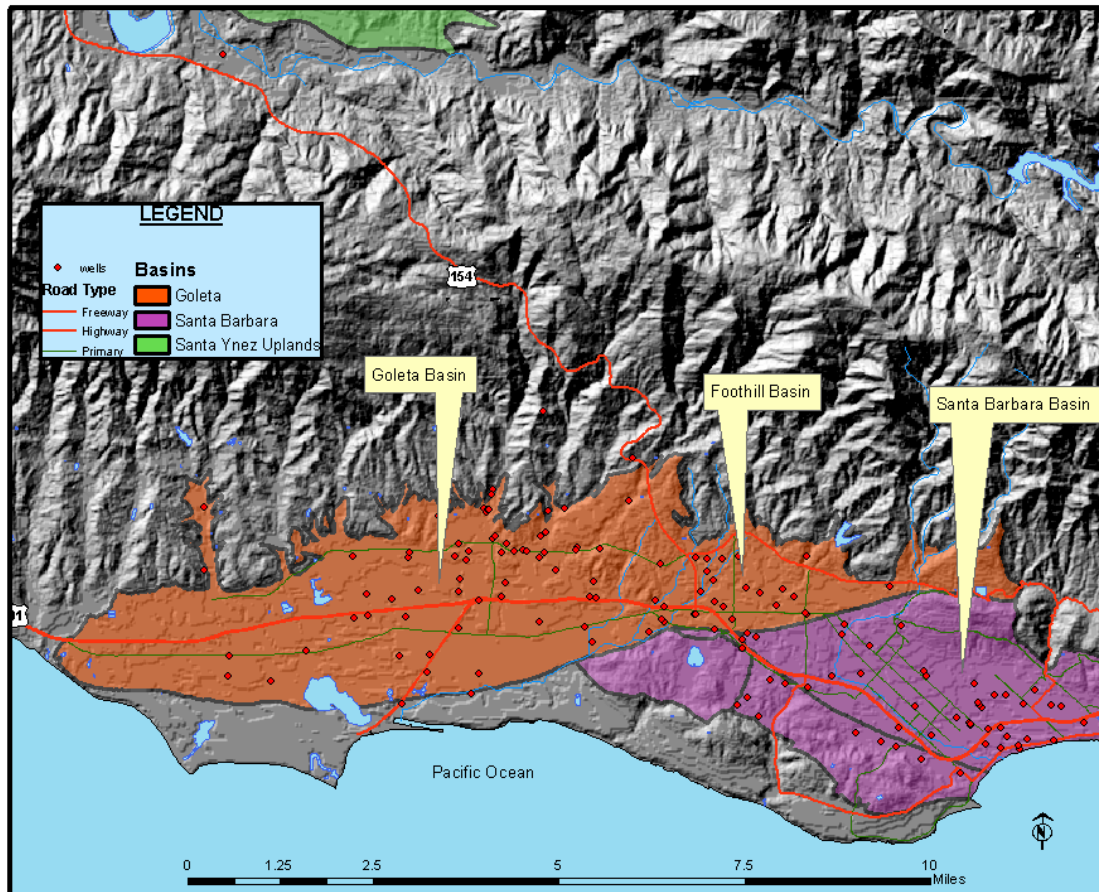
Basin groundwater quality is characterized as being of a calcium bicarbonate nature with total dissolved solid (TDS) concentrations ranging from 700 to 800 milligrams per liter. The average TDS concentration in the basin is 755 milligrams per liter based on an analysis of four public supply wells. The basin groundwater was also found to contain levels of iron, magnesium, and hydrogen sulfide that do not meet Federal and State secondary (aesthetic) drinking water regulations. Prior to public use, these dissolved substances are removed by utilizing filtration and oxidation. Additionally, the EPA has identified the Goleta area as having high levels of naturally occurring radon gas in soils and groundwater.

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<sup>2</sup> The term Goleta Groundwater Basin is sometimes used as a synonym for the Goleta North-Central Basin.



## FOOTHILL AND GOLETA GROUNDWATER BASINS



**Figure 5.1-2. Foothill and Goleta Groundwater Basins**

### 5.1.1.5 Flood Hazards

In 1979, the County of Santa Barbara became a participating community in the National Flood Insurance Program (NFIP). The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce the potential for future flood damage. As part of the NFIP, the Federal Emergency Management Agency (FEMA) prepares flooding studies. These flooding studies include the delineation of flood hazard zone boundaries based on existing hydrologic, geologic, and topographic data. From these studies, FEMA prepares maps that show areas at risk from 100-year and 500-year floods. Figures 5.1-3 through 5.1-6 show the FEMA maps for the Project area(s). As depicted in these figures, Project locations within the boundaries of existing creeks that comprise and supply the Goleta Slough occur within known flood zones, specifically “Flood Hazard Areas Subject to Inundation by the 1 percent chance annual flood.”





Figure 5.1-3. FEMA Flood Zone Map (Atascadero, San Jose, San Pedro Creeks and Goleta Beach Receiver Site)



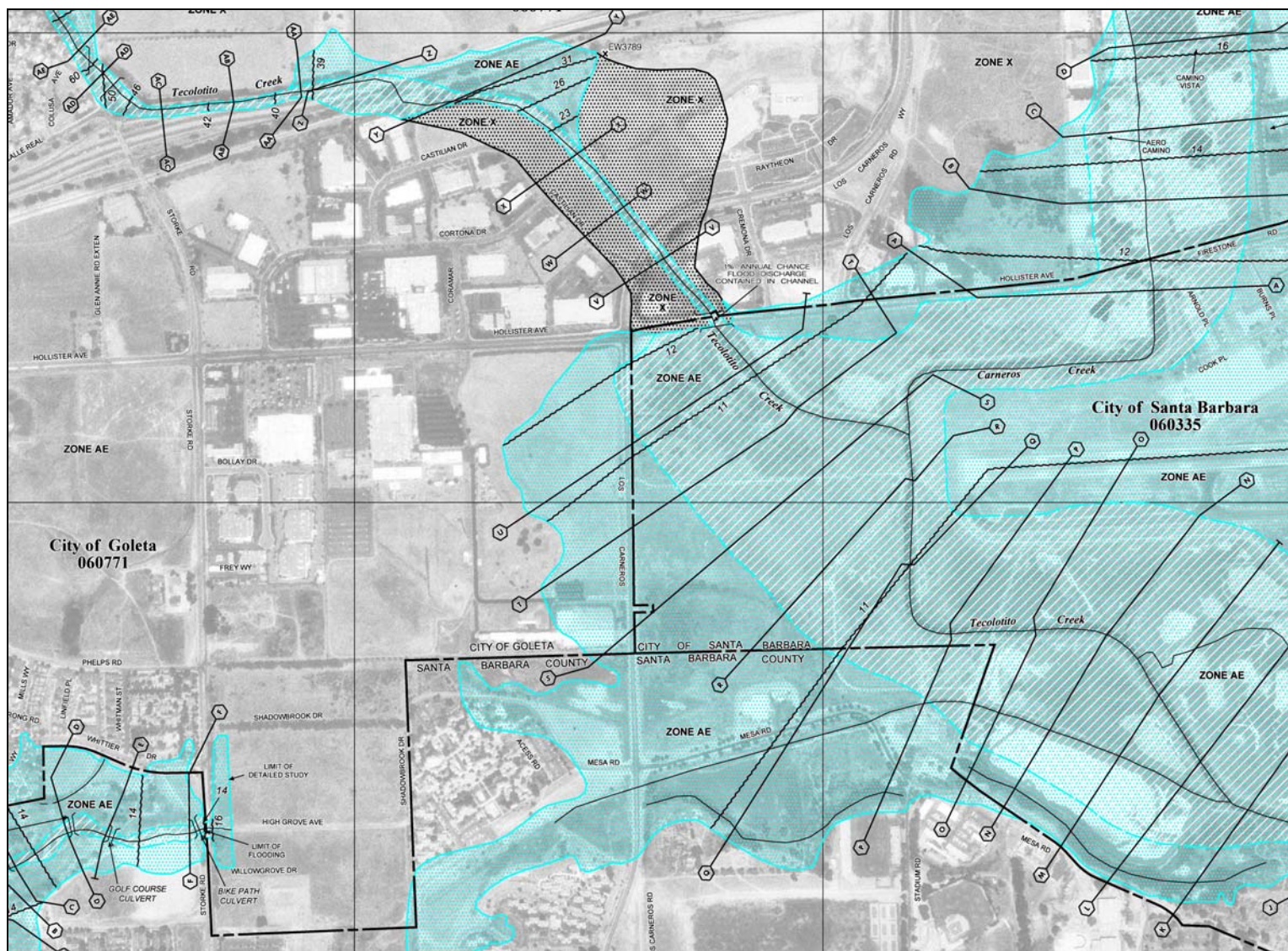


Figure 5.1-4. FEMA Flood Zone Map (Tecolotito and Los Carneros Creeks)



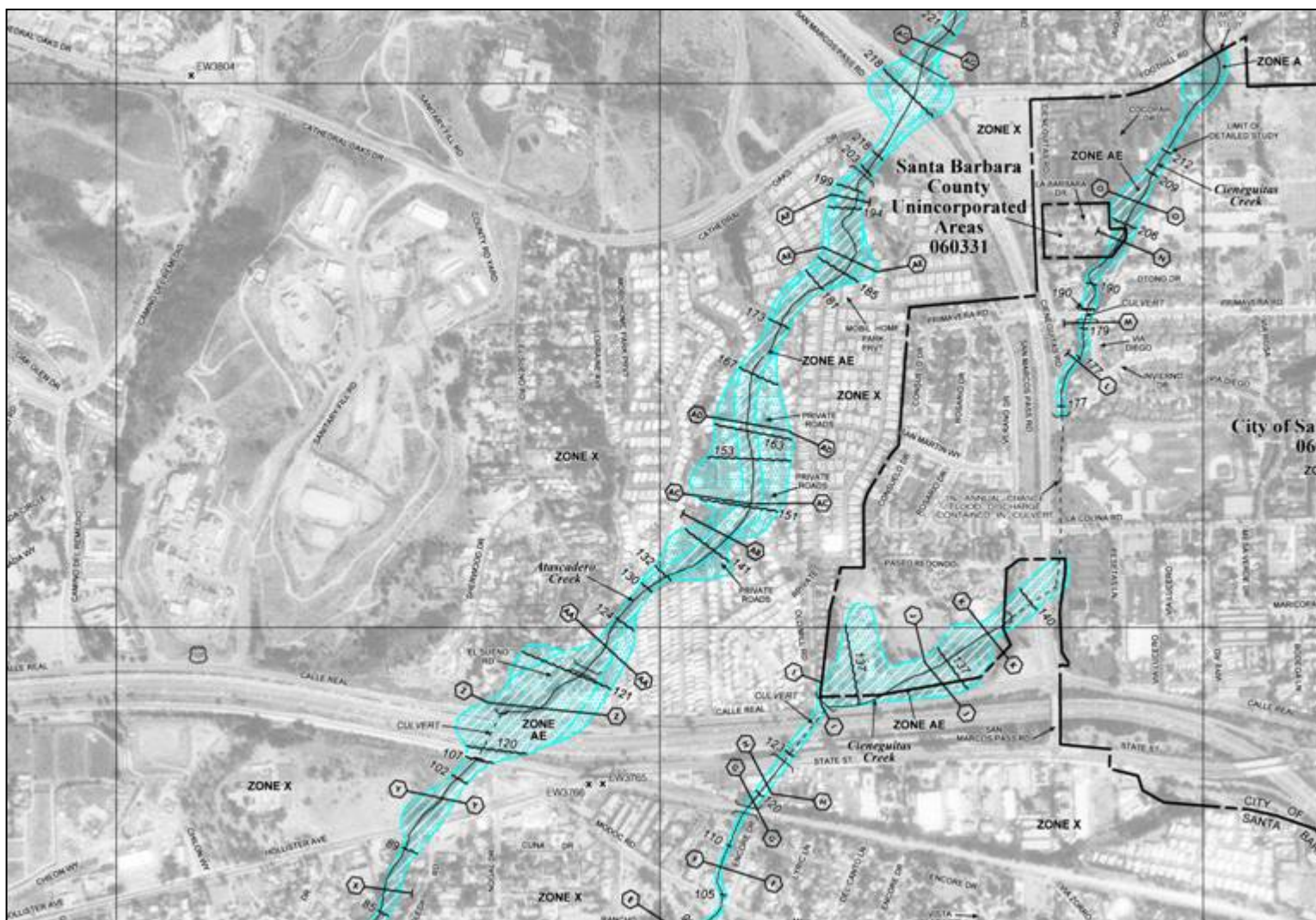
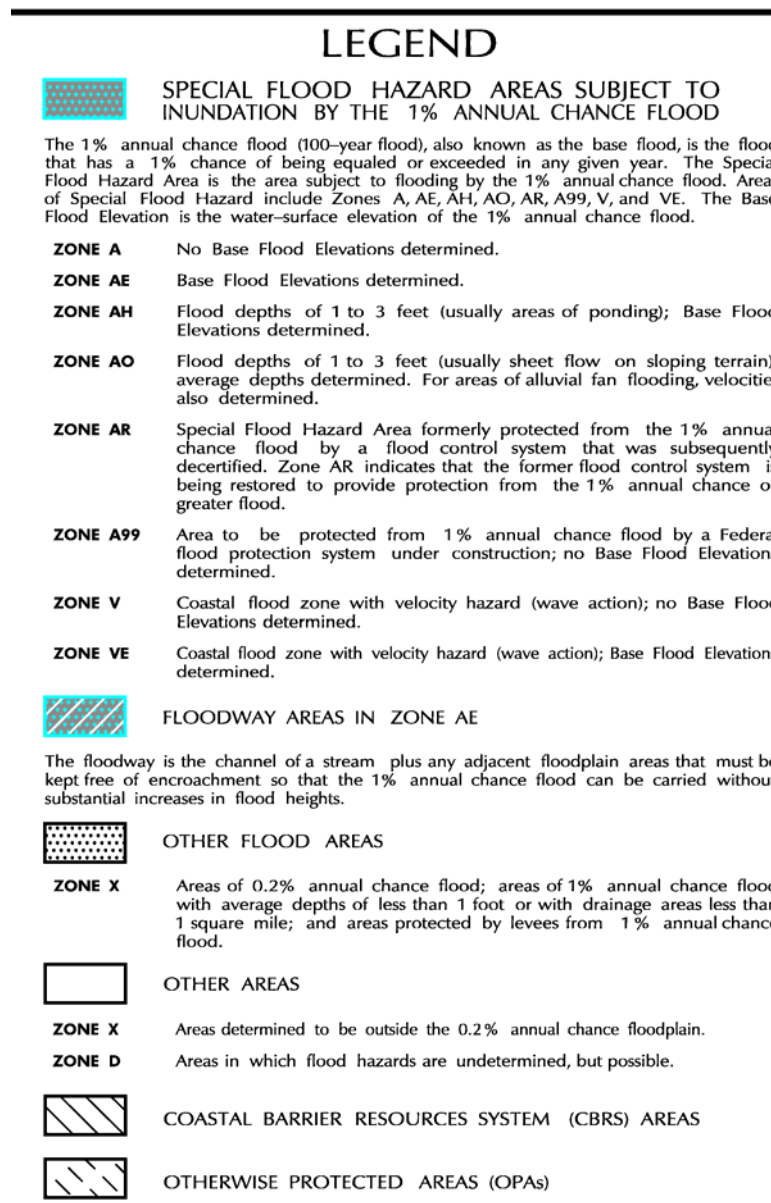


Figure 5.1-5. FEMA Flood Zone Map of Closed Foothill Landfill Restoration Area



**Figure 5.1-6. FEMA Flood Zone Map Legend**

As shown in Figure 5.1-3, the Atascadero Creek Project area is primarily located within FEMA Map Zone A, with some portions adjacent to Zone X. Zone A consists of those areas where “No Base Flood Elevations” have been determined. Zone X consists of “Other Flood Areas of 0.2 Percent Annual Chance Floodplain; Areas of 1 Percent Chance Annual Flood with Average Depths of Less Than One Foot or With Drainage Areas Less Than One Square Mile; and Areas Protected by Levees from 1 Percent Annual Chance Flood.”



As also shown in Figure 5.1-3, the San Jose Creek and San Pedro Creek Project area is primarily located within FEMA Map Zone AE, with some portions adjacent to Zones A and X. Zone AE consists of areas where the “floodway is the channel of a stream plus any adjacent floodplain areas which must be kept free of encroachment so that the 1 percent annual chance flood can be carried without substantial increases in flood heights.” Definitions of Zones A and X are provided above.

As shown in Figure 5.1-4, the Tecolotito Creek and Los Carneros Creek Project Areas are primarily located within FEMA Map Zone AE, consisting of areas where the “floodway is the channel of a stream plus any adjacent floodplain areas which must be kept free of encroachment so that the 1 percent annual chance flood can be carried without substantial increases in flood heights.”

Figure 5.1-5 shows the closed Foothill Landfill restoration site. This site is located at a higher elevation and is not located within a flood hazard zone.

#### 5.1.1.6 Marine Waters

The following describes the existing marine water quality conditions within the Project region, herein defined as the ocean waters within Goleta Bay to the -40 feet (MLLW) isobath. Primary data sources for data on marine water quality are monitoring reports for the Goleta Sanitation District's (GSD's) wastewater discharge (NPDES permit CA 0048160) located in approximately 92 feet of water southwest of the Goleta Pier, Chambers Group (2007), marine water bacteria data collected by the District and various information available on relevant websites as cited herein.

The Goleta Bay is located in the nearshore area of the Santa Barbara Channel within the Southern California Bight. A summary description of the oceanographic environment of the Goleta Bay as described in the PSEIR as obtained from the EIR/EA for the BEACON Beach Nourishment Demonstration Project prepared by Chambers in 1992 is as follows. The mean tidal range in the bay is 3.7 feet and the diurnal tidal range is 5.4 feet. Waves in the area are usually westerly and are less energetic than deep ocean waves because of the sheltering of the Channel Islands and the east-west orientation of the coastline. Littoral drift in the area is usually eastward but reversals occur during incidents of waves from the southeast. Bottom sediments in the nearshore bay are sands that grade to silts in deeper water. Currents in the bay are a combination of tidal reversals, west-coastal currents related to regional circulation in the Southern California Bight, and local circulation of semi-permanent gyres in the Santa Barbara Channel. Meso-scale turbulence can add episodic current components that can affect the entire bay. The combined currents and intermittent upswelling at the headlands can exceed 1 knot during spring tides. The lateral currents and intermittent upswelling at the headlands of the bay cause the water of the bay to be well mixed. A seasonal thermocline forms in late summer, but is destroyed in the winter.

The SWRCB Basin Plan has identified beneficial uses of “Beach Parks” coastal waters off Goleta Beach as: water-contact recreation (REC 1), non-contact water recreation (REC 2), navigation (NAV), and marine habitat (MAR). The beneficial uses for the coastal waters of the





Goleta Slough are identified by the SWRCB as REC-1, REC-2, MAR, Shellfish Harvesting (SHELL), Rare, Threatened or Endangered Species (RARE), and Wildlife (WILD).

The quality of the ocean waters of the region is affected by several sources, including runoff from local streams and non-point sources such as storm drains and natural variations in the temperature, salinity, dissolved oxygen, and turbidity associated with upwelling events and the aforementioned onshore sources. The SWRCB has established criteria and objectives for marine water quality and has recently issued an updated version of The California Ocean Plan (SWRCB, 2009). In addition, the Central Coast Regional Basin Plan (Central Coast Regional Water Quality Control Board, 1994) provides general water quality objectives for several parameters including dissolved oxygen concentration (mean annual dissolved oxygen concentration shall not be less than 7.0 mg/l, nor shall the minimum dissolved oxygen concentration be reduced below 5.0 mg/l at any time) and pH levels (pH shall not be depressed below 7.0, nor raised above 8.5) for the ocean waters within the region. Specific objectives for waters identified for beneficial uses such as recreation and marine habitat have also been included and are generally more restrictive than general objectives. For example, pH levels shall neither be depressed below 6.5 nor raised above 8.3 and fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml for REC-1 areas.

The marine waters offshore Goleta Beach and within Goleta Slough, immediately inshore of Goleta Beach, are included in the SWRCB's 2006 list of impaired water bodies (SWRCB, 2006). These waters are listed due to high levels of "indicator bacteria" from unknown sources and slough and estuary waters exceed established concentrations of "pathogens" from urban runoff and storm sewers and "priority organics" from unidentified, non-point sources. In addition to pathogens and priority organics, the 2003 impaired water body listing included Goleta Slough for "metals" and "sedimentation/siltation" (Chambers Group, 2007). Based upon data from the Santa Barbara County Environmental Health Services Ocean Monitoring Program during the period between 1998 and 2007, Goleta Beach nearshore waters have exceeded state health standards for bacteria a low of 6 percent of the time in 2004 and a high of 27 percent of the time in 2001. This compares to the average exceedance percentage of between 6 and 30 percent for the 20 county beaches that are routinely sampled. Total coliform bacterial levels measured in samples collected by the District during the 2005-2006 dredging and beach discharge operations indicate generally low concentrations at the four sample locations located 10,600, and 1,200 meters west of Goleta Pier and 1,200 meters east of Goleta Pier. Total coliform mpn<sup>3</sup> from the 35 sample days between November 2005 and March 2006 ranged from less than 10 (recorded 10 times) to 9,800 (recorded one time) and averaged 364.5 (N=123) (Santa Barbara County Public Works, Flood Control and Water District (2006). The highest mpn was recorded one day after a major rain event. Recent data (since October 2008) on the bacteria levels of Goleta Beach's nearshore waters are posted on the Santa Barbara Channelkeeper's website (SB Channelkeeper, 2009).

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<sup>3</sup> Mpn = most probable number = bacterial count per 1000 ml of water



Although the wastewater discharge, which averaged 4.2 million gallons per day (MGD) from 2000 through 2008, is seaward of the Project region, Goleta Sanitation District (GSD, 2009) provides relevant data on the marine water quality of the area, including surf zone and Goleta Slough bacteria concentrations through the ongoing NPDES monitoring program. Table 5.1-5 lists the sampling types and locations for that facility and Figure 5.1-7 shows the location of the ocean sampling stations. In addition to the water and biological sampling, current meters are deployed approximately 1,000 feet (300 m) east of the shoreward edge of the diffuser, near Station K4, and mussel arrays are deployed at Stations B3, B4, and B6 (Goleta Sanitation District, 2009).

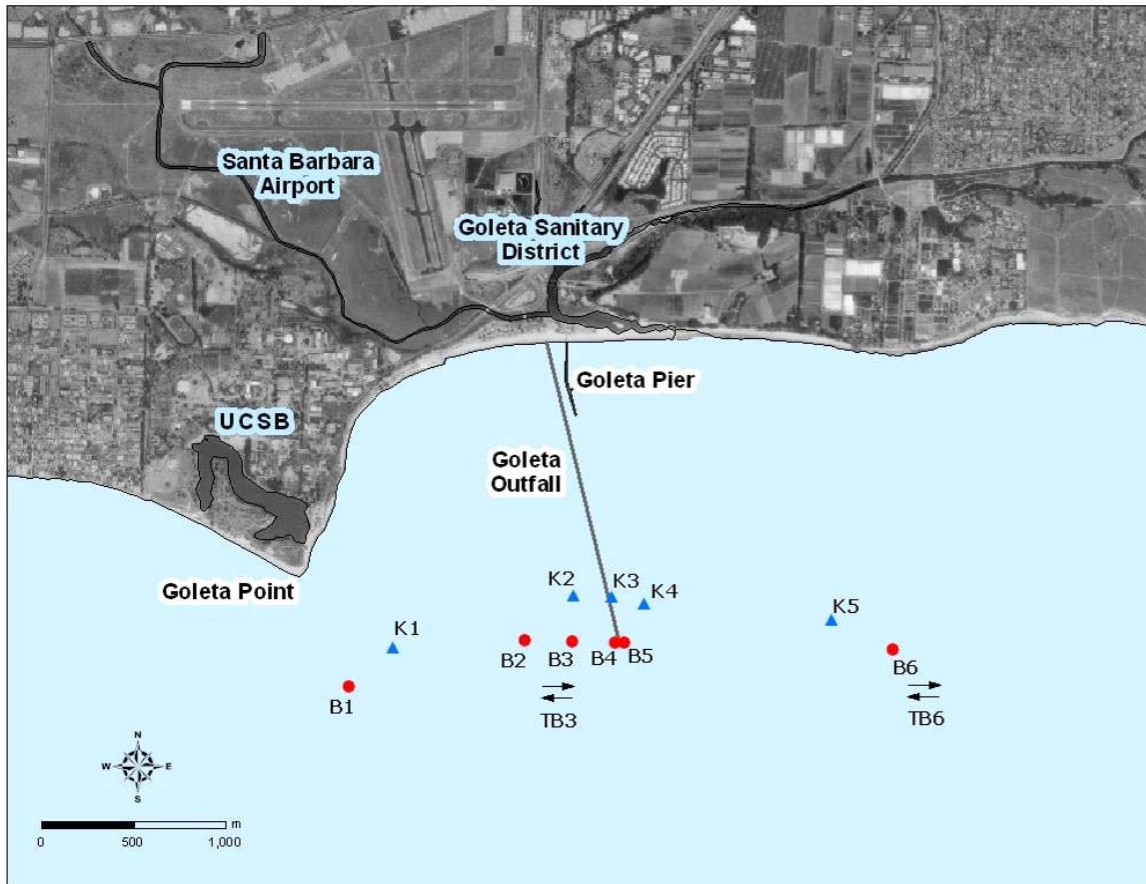
**Table 5.1-5. Schedule for NPDES Monitoring, Goleta Sanitary District, 2008**

Monitoring Program Component	Frequency	Schedule
Standard Wastewater Parameters	Daily - Weekly	As Specified
Influent and Effluent Metals	Monthly	Every Month
Acute Toxicity	Quarterly	Jan, April, July, and Oct
Chronic Toxicity	Quarterly	Jan, April, July, and Oct
Influent and Effluent Priority Pollutants	Annually	October
Surf-Zone Bacteria	Weekly	Every Month
Receiving Water Bacteria	Quarterly	Jan, April, July, and Oct
Ocean Water Quality	Quarterly	Jan, April, July, and Oct
Benthic Sediments	Annually	October
Benthic Biota	Annually	October
Fish Trawls	Annually	October
Outfall Inspection	Annually	October
Bioaccumulation	Annually	October

Source: Goleta Sanitation District, 2009

Concentrations of all priority pollutants and radioactivity for 2008 water samples were below those specified in the existing NPDES permit (GSD, 2009). The existing effluent is a mixture of primary and secondary-treated wastes. Upgrading of the current blended effluent treatment process to full secondary treatment is expected to initiated in 2011 and completed by 2014 (GSD, 2009).

A summary of the physical and chemical characteristics of the water sampled during the 2008 GSD offshore monitoring period is provided in Table 5.1-6.



**Figure 5.1-7. Ocean Sampling Stations for  
Goleta Sanitary District's Wastewater Discharge**

The results of 2008 mussel tissue analysis from samples taken from the GSD's NPDES monitoring stations indicate contaminant concentrations were either similar to or below the concentrations measured in other surveys. No concentration exceeded state or federal limits for human consumption (GSD, 2009). This appears to be consistent with statements in Chambers Group, 2007 wherein it was stated that the Goleta Beach area has continued to exhibit relatively low concentrations of trace metals, as represented by the Mussel Watch Program. Concentrations in that Project area were well below the top 15 percent of the samples that were collected statewide (elevated data levels), except for manganese in 1988. The concentrations of all the trace metals from the Goleta and adjacent sites were frequently lower than those in bivalves and sediments found in other California coastal regions; especially those collected in urban areas.



**Table 5.1-6. Water Quality Parameters from 2008 GSD's NPDES Monitoring Stations**

Parameter	Mean or Range (units vary)
Current speed and direction (meters set at 20 and 62 feet [6 and 19 m])	<u>Direction</u> : to the southwest (251° in the summer to 267° in the winter) <u>Speed</u> : 12.2 to 21.1 feet/minute (6.19 to 10.70 cm/sec)
Temperature (surface to bottom)	10.4° to 18.2° C (thermocline develops in summer)
Salinity	33.2 to 33.8 parts per thousand (ppt)
pH	7.9 to 8.4
Dissolved oxygen	4.9 to 11.8 milligrams per liter (mg/l)
Transparency	3.5 to 11.5 meters from the surface

Source: GSD, 2009

Table 5.1-7 lists the locations of sampling stations used in GSD's bacteria monitoring program. These stations include surf zone and slough stations that are within the Project region. Offshore stations values are expected to be indicative of those found closer to shore except during periods of high runoff.

**Table 5.1-7. Bacteria Monitoring Program for Goleta Wastewater Treatment Facility**

Location	Frequency of Total Coliform, Fecal Coliform and Enterococcus Bacteria Testing
Final effluent prior to ocean discharge	5 days/week
Zone of Initial Dilution in the discharge plume at 25 m and 100 m from outfall pipe	Quarterly: 3 samples at each location; 1m below surface, mid-depth and 1 m above bottom
Far Shore (ocean) Stations; B1, B2, B3, B4, B5 and B6	Quarterly: 3 samples at each location; 1m below surface, mid-depth and 1 m above bottom
Near Shore (ocean) Stations; K1, K2, K3, K4 and K5	Quarterly: 3 samples at each location; 1m below surface, mid-depth and 1 m above bottom
Surf Zone Stations; A, A1, A2, B, C, D, E	Weekly
Goleta Slough	Weekly; Station E is located east of the Goleta Slough while Stations D and C are located west of the mouth of the Goleta Slough and are often affected by the discharge from the slough.  (This sample is not required by permit but is collected voluntarily by GSD for information purposes.)

Source: GSD, 2009

See Figure 5.1-2 for nearshore and offshore station locations



High bacteria levels from surf zone samples are consistent with historical trends, with surf zone stations yielding more frequent and higher amounts of coliform bacteria than at the nearshore and offshore (ocean) stations, and even higher than samples taken from the final effluent that is discharged to the ocean. According to the GSD NPDES Monitoring and Reporting Program 2008 Annual Report (published in 2009), these high bacteria counts often result from the drainage, tidal flushing, and dredging of Goleta Slough. Over the years it has been determined that coastal bird populations, organic beach debris (including dog waste), and most importantly, the urban flushing effects of storm water runoff can be contributors to high surf zone bacteria concentrations. As in previous years, the highest concentrations of bacteria at the surf zone stations were most often associated with storm events and the increased contamination from storm water runoff.

#### 5.1.1.7 Regulatory Setting

##### **Federal**

**Federal Clean Water Act.** Federal regulations for water resources include the Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972 which was enacted with the goal of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires each state to protect, maintain, and restore water quality through the regulation of point and non-point source discharges to surface waters. The U.S. Army Corps of Engineers (Corps) is the Federal agency responsible for enforcing the Clean Water Act. Sections of the CWA that pertain to this Project are listed below.

*Section 401: 33 USC Section 1341.* Authorizes the Corps to issue certification for activities, including construction and operation, which result in any discharge into the navigable waters of the United States. Requires certification for any activities that result in discharge into the navigable waters of the U.S. The 401 certification is usually issued to the Corps by the State's Water Resources Control Board (SWRCB) through the local Regional Water Quality Control Board (RWQCB).

*Section 402: 33 USC Section 1342.* This section of the Act authorizes the USEPA to issue National Pollutant Discharge Elimination System (NPDES) permits to regulate discharges into waters of the U.S. The USEPA regulates stormwater discharges for point and non-point sources pollution, including stormwater discharges that violate water quality standards or significantly contribute pollutants to U.S. waters. Any person responsible for the discharge of a pollutant or pollutants into any waters of the U.S. from any point source must apply for and obtain a permit. Presently the Flood Control and Water Conservation District has a waste discharge permit from the RWQCB, but intends to request a 401 Water Quality Certification during the next renewal period.

*Section 404: 33 USC Section 1344.* Applies to Waters of the United States. Regulates restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters, including rivers, wetlands, and sloughs. Requires a permit for any activity that results in





the deposition or dredging of fill material within the "Ordinary High Water Mark" of Waters of the United States. Federal Rivers and Harbors Act, Section 10: 33 USC Section 401 et seq. The Corps is the Federal agency responsible for enforcing the Rivers and Harbors Act.

## **State**

State water quality resources within the Project area are regulated under the California Porter Cologne Water Quality Control Act of 1967. The Porter Cologne Act (Water Code Section 13000 et seq.) requires that the SWRCB adopt water quality standards to protect State waters. In addition, the Porter Cologne Act regulates the discharge of pollutants and dredging or filling into waters of the state including wetland areas, and authorizes the SWRCBs and Regional Water Quality Control Boards (RWQCBs) to administer the EPA authorized NPDES programs. In addition to the Porter Cologne Water Quality Control Act, the California Coastal Commission, by authority given by the California Coastal Act, regulates flood hazards and disturbances, maintenance of biological productivity, and potential impacts from runoff of waters within the California Coastal Zone. Section 30240 addresses environmentally sensitive areas.

**California Ocean Plan.** The SWRCB and its nine RWQCBs have been delegated the responsibility for administering permitted discharge into the coastal marine waters of California. The SWRCB prepares and adopts the California Ocean Plan (SWRCB 2009), which incorporates the State water quality standards that apply to all NPDES permits and guarantees that the current standards are adequate and are not allowing degradation to marine species or posing a threat to public health. The standards identified in the California Ocean Plan are consistent with the limitations specified in the NPDES Permit.

**Central Coast Basin Plan.** The Water Quality Control Plan (Basin Plan) for the Central Coast Region (1994) was prepared by the SWRCB and RWQCB Central Coast Region to identify the beneficial uses of the inland and coastal waters (surface and groundwaters) of the region and protect/manage water quality consistent with the maintenance of the identified beneficial uses. The RWQCB implements the Basin Plan by issuing and enforcing discharge requirements to entities whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally designated NPDES permits from discharges to surface water.

## **Local**

The Project area falls within the jurisdiction of the County of Santa Barbara, the City of Goleta and the City of Santa Barbara. Each of these governmental agencies have general plans, local coastal plans and municipal codes that address water resources as well as other environmental resources. The primary method cities and counties have with respect to management of water resources as it relates to proposed development is through the environmental review and permitting process. A discussion of Project consistency with local plans and policies is provided as Section 6.0 of this EIR.



## 5.1.2 Impact Analysis and Mitigation Measures

### 5.1.2.1 Thresholds of Significance

**Inland Surface Water Quality.** Based on the County of Santa Barbara Guidelines Manual (last revised September 2008) a significant water quality impact is presumed to occur if the project:

- Is located within an urbanized area of the County and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) acre or more of land;
- Increases the amount of impervious surfaces on a site by 25 percent or more;
- Results in channelization or relocation of a natural drainage channel;
- Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any stream, creek or wetland;
- Is an industrial facility that falls under one or more categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
- Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses of a receiving waterbody;
- Results in a discharge of pollutants into an "impaired" waterbody that has been designated as such by the SWRCB or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act); or
- Results in a discharge of pollutants of concern to a receiving water body, as identified in by the RWQCB.

Projects that are not specifically identified on the above list or are located outside of the "urbanized areas" may also result in project-specific storm water quality impacts. Storm water quality impacts associated with these projects must be evaluated on a project by project basis for a determination of significance. The potential impacts of these projects should be determined in consultation with the County Water Agency, Flood Control Division, and RWQCB. The issues that should be considered are:

- The size of the development;
- The location (proximity to sensitive waterbodies, location on hillsides, etc.);
- The timing and duration of the construction activity;
- The nature and extent of directly connected impervious areas;



- The extent to which the natural runoff patterns are altered;
- Disturbance to riparian corridors or other native vegetation on- or off-site;
- The type of storm water pollutants expected; and
- The extent to which water quality best management practices are included in the project design.

**Surface Water Quantity.** The County of Santa Barbara does not have a specific threshold for surface water quantity impacts. For the purposes of this report, any project-related reduction in surface water available for beneficial use may be considered a significant impact.

**Groundwater Quality.** The County of Santa Barbara does not have a specific threshold for groundwater quality. For the purpose of this report, any project-related effect that would be inconsistent with the Basin Plan objectives for groundwater may be considered significant.

**Groundwater Quantity.** The County of Santa Barbara threshold of significance for groundwater is the point at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse. Specifically, it is the amount at which new pumpage by a proposed project which would place the aquifer in a state of overdraft. This threshold is calculated using an idealized "Standard Reference Basin" based on a percentage loss of remaining life of the available storage.

**Flooding.** The County of Santa Barbara does not have a specific threshold for flooding impacts.

**Marine Water Quality.** A significant impact to the marine water quality is one that would:

- Exceed Ocean Plan general objectives or specific criteria for designated beneficial uses;
- Exceed concentrations specified in the NPDES for beach disposal;
- Alter essential habitat (water) for those marine fish species that are managed by the Pacific Fisheries Management Council under the Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat Assessment); or
- Exceed marine water-related objectives specified in the Central Coast Basin Plan.

#### 5.1.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the impacts to water resources/flooding as identified in the Program EIR (93-EIR-04) for the existing maintenance program.

1. The effects of changes to the channels on flooding would be beneficial (Class IV).



2. Channel migration due to increase in local water velocities would be negligible (Less than Significant - Class III).
3. Although there would be creation of turbid suspensions of sediments, based upon the low levels of hydrocarbons, pesticide and heavy metals from sediment samples, the impact to ocean water quality was determined to be less than significant (Class III).
4. Bacteria in sediments to be dredged were determined to be high by the RWQCB, therefore, the discharge of dredge spoils with potentially high levels of bacterial contaminants was determined to be a significant impact (Significant but Mitigable Impact - Class II).
5. The effects of grain size distribution of spoils in the littoral environment was determined to be less than significant in that the dispersion of the plume of suspended silts and clays from the dredge spoils should be restricted to the nearshore littoral zone and should only affect the water within Goleta Bay (Less than Significant - Class III).
6. The flow of sand as littoral drift and as beach drift is expected to be changed as a result of the dredge discharge in the littoral region off the mouth of the Goleta Slough. Accretion of sand westward to Goleta Point can be expected as a result of dredging activity. This beach nourishment effect is considered a beneficial impact (Class IV).
7. Beach discharge was determined to result in substantially the same effects as discharge to the surf zone.

The following summarizes the impacts to water resources/flooding as identified in the Goleta Slough EIR Supplement (2000) to Program EIR (93-EIR-04) for the existing maintenance program.

1. Impacts on turbidity of water quality were expected to be adverse but not significant due to their short duration and their occurrence during the time of year when storm runoff can produce similar turbidity (Class III).
2. Beach discharge was determined to have the potential for significant impacts in the immediate vicinity of the discharge for short periods of time as bacterial levels near the discharge location were expected to periodically exceed state criteria for protection of public health (Class II).
3. Dragline desilting of Atascadero, San Pedro and San Jose creeks would have negligible impacts on marine water quality (Class III).



### 5.1.2.3 Proposed Updated Maintenance Program

The primary changes proposed as part of the updated maintenance program or changes to the regulatory environment that would modify impacts to water resources/flooding include:

- Utilizing the closed Foothill Landfill for upland disposal of sediments.
- Proposed restoration activities at the landfill and at the Slough not previously addressed.
- The 1993 PEIR did not address the 1994 Water Quality Control Plan for the Central Coast Region. Although it did discuss some beneficial uses and bacterial standards for ocean and fresh water promulgated by the RWQCB.
- The 1993 PEIR does not address the designation of the Goleta Slough as an "impaired" waterbody that has been designated as such by the SWRCB or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act).
- The 1993 PEIR provided a very limited discussion of impacts to groundwaters (Initial Study checklist response only).

The Project impact discussion is based upon the original impact assessment included within the 1993 PEIR (Appendix C), the Goleta Slough Program EIR Supplement (SPEIR) (2000), subsequent information obtained during field maintenance activities over the past 15 years and general updated water resources/flooding setting information as presented above. Please note that information regarding soil characteristics and onshore/offshore geologic processes is included within Section 5.3 (Geology and Soils), and information regarding affects to water quality as a result of risk of upset or hazardous materials exposure is included within Section 5.5 (Risk of Upset/Hazardous Materials).

The Project includes dredging activities within five creeks (including staging of material and access), disposal of sediments within the surf zone at Goleta Beach and/or on the upland closed Foothill Landfill Disposal Site, opening of the Goleta Slough mouth, and specific restoration activities. The impacts to surface water quality from these activities is evaluated below.

**Inland Surface Water Quality.** The Basin Plan includes water quality objectives for inland surface waters, enclosed bays and estuaries. These objectives have been developed for the management of surface waters in compliance with the State water quality anti-degradation policy. The objectives are specific to: dissolved oxygen, pH, radioactivity, color, tastes, odors, floating material, suspended material, oil, grease, biostimulatory substances, sediment, turbidity, toxicity, pesticides, chemical constituents, and other organics. Quantified limits for each of the parameters identified above are provided on a general basis and additional limitations are provided based upon the beneficial uses identified for the receiving water.





For the purposes of the following assessment the definition of “discharge” is as provided in the Clean Water Act and is: “the addition of any pollutant (including animal manure or contaminated waters) to navigable waters.” Further, in this assessment the re-suspension of sediment from dredging operations within the general area from which it was obtained is not considered a discharge based upon the consideration that pollutants are not being added, but rather re-suspended on a temporary basis much like during a storm event.

**Impact WR-1: Dredging activities has the potential to adversely impact inland surface water quality on a periodic basis - Class II.** Dredging of the creeks necessarily disturbs existing sediments. These sediments have the potential to include various toxic substances. Additionally, the movement of the sediments may adversely affect water quality parameters such as dissolved oxygen, color, odors and turbidity adversely during the periodic dredging periods. During the past flood channel maintenance activities, prior to desilting and/or discharge, sediments have been sampled in accordance with a pre-approved Sampling and Analysis Plan (SAP) that includes sampling for various constituents within the sediment (including; but not limited to total petroleum hydrocarbons [TPH], pesticides, Polychlorinated Biphenyls [PCBs], metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (see Table 2-3 for a summary of historic sampling results). This sampling has been in accordance with the requirements of the District’s NPDES permit. The Project as presently proposed includes a continuation of this SAP which should minimize the potential for water quality impacts for the parameters covered in the SAP. Sampling and analysis of the soils subject to removal over the past maintenance seasons (as documented in Table 2-3) have not shown significant levels of contaminants within the five creek channels with the exception of TPH within Atascadero, San Jose and San Pedro creeks. TPH was found at concentrations of 25-140 mg/kg and 1.2-140 mg/kg as reported on June 1, 2000 and August 11, 2000 respectively. This is above the Santa Barbara County Fire Department’s 100 mg/kg regulatory action level for sediment or soil. Bacterial levels in the tested sediments have varied from below detection limits to a one time high of 3,600 MPN/gm (total) at Atascadero Creek on August 11, 2000. The SAP includes a provision for the preliminary soil sampling report to be forwarded to the U.S. Army Corps of Engineers, EPA, RWQCB and the Coastal Commission for review and approval of recommended sediment and disposal methods and locations. The regulatory agencies have the opportunity to provide requirements of the District as to how best to minimize the impact of dredging and the possible release/re-suspension of pollutants.

Water quality parameters such as turbidity, dissolved oxygen, color, floating material are not addressed in the SAP. These parameters have been addressed in part by the various permits required for the implementation of the Project including the Streambed Alteration Agreement with the California Department of Fish and Game and Coastal Development Permits from the California Coastal Commission. The Project as presently proposed would include implementation of construction best management practices (BMPs) and recognized / administered permit conditions of approval based on the past 15 years of sediment removal maintenance experience as described in Section 3.1 of the EIR. Implementation of the SAP and BMPs, as would be fully defined with the implementation of MM WR-1 below, would reduce the impact of dredging on inland surface water quality to the extent feasible.



**Impact WR-2: Sediment stockpiling on creek banks and creek bank restoration activities will impact inland surface waters on a periodic basis - Class II.** The physical activities of stockpiling sediments on the creek banks also has the potential to result in increased turbidity of the creeks, and re-suspension of pollutants in the creeks from drainage from sediment stockpiles and disturbance of creek banks by equipment. As indicated above, the Slough is on the 303(d) for priority organics (chlorinated organic pesticides). Further, the inappropriate use, storage or disposal of pesticides associated with creek bank restoration and enhancement activities would have the potential to result in significant water quality impacts should such material enter surface water. (The District uses glyphosate an organo-phosphate herbicide which is not a chlorinated pesticide. The RWQCB has specified maximum contaminant levels for glyphosate [0.7 mg/l] within waters identified as having domestic or municipal supply beneficial uses.)

**Impact WR-3: Possible leaks and spills of fuel, oil and other constituents associated with equipment use and maintenance has the potential to impact inland surface water quality - Class II.** Project implementation including dredging operations, sediment disposal, and restoration activities will require the use of equipment as described in Section 2.0 of this EIR. During operation and maintenance of this equipment possible leakage of fuel, oil or other toxic substances may result in contamination of surface waters that would be inconsistent with Basin Plan objectives (e.g., objectives for oil and grease which state that waters shall not contain oils, greases, waxes or other similar material in concentrations that result in a visible film or coating the surface of the water or objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses).

**Impact WR-4: Dredging and creek restoration activities will reduce erosion and sedimentation of creeks from a long-term perspective - Class IV.** The Project is designed to remove sediments within the creek channels that diminish capacity of the channels to drain and increase the tidal prism, thereby helping to keep the mouth of the slough open and permitting a healthy exchange of water in the slough. The incidence of overbank flooding would also be diminished with the increased channel capacity, thereby reducing the introduction of pollutants into surface water from overland flooding events. Additionally, restoration of vegetation once established within the restoration area will help prevent erosion of soils into surface water, thereby reducing turbidity. These elements are beneficial to water quality over the long-term.

**Impact WR-5: Deposit of sediment at the closed Foothill Landfill may benefit water quality by increasing the cap over landfill waste - Class IV.** The Project includes possible disposal of sediments at the closed Foothill Landfill. Sediments that are allowed to be deposited at the landfill must meet requirements as clean fill and have a moisture content of 50 percent or less<sup>4</sup> (Leipner, personal communication, June 15, 2009). The site must be graded to prevent ponding of water and provide for proper drainage. Further, the site does not overlay a groundwater basin. Therefore, due to the requirements for disposition of sediment at the landfill, and the characteristics of the landfill, the Project is not expected to adversely impact

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<sup>4</sup> Soil with a moisture content of 50 percent or less looks and feels dry.



surface or groundwater. The Project may benefit water quality by providing additional cap material above the solid waste deposits.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Sediments at the dredge sites to be tested for coliform bacteria. This measure has been implemented through the SAP and is proposed for continued implementation. Additionally, the SAP includes testing of additional constituents including but not limited to total petroleum hydrocarbons (TPH), pesticides, Polychlorinated Biphenyls (PCBs), metals, as well as grain size. Through this process the regulatory agencies can require the necessary measures of the Project to minimize impacts to water quality to the extent feasible associated with the disturbance of sediments during dredging for the pollutants addressed.

The Biological Resources section of the PEIR included a mitigation measure requiring the development and implementation of a site-specific emergency spill contingency plan for hydraulic and drag-line dredging. Please see **MM PBIO-12 Spill Prevention Plan** in Section 5.4, Biological Resources of this EIR.

### Mitigation Incorporated in the Project Description.

**MM Project 1: Sampling and Analysis Plan** - Implementation of Project-incorporated Sampling and Analysis Plan (SAP) in accordance with ASTM and USEPA guidelines.

### Mitigation Recommended by the Subsequent EIR.

**MM WR-1: Defined Best Management Practices (BMPs).** The District shall define and implement all of its existing and proposed BMPs designed to prevent the introduction of pollutants to surface waters including but not limited to: sediment, trash, fuels, and chemicals. These should include, but are not limited to the following, some of which may be added to the Spill Prevention Plan identified in MM PBIO-12 referenced above as appropriate:

- All fueling of vehicles and heavy equipment shall occur in designated areas. Designated areas shall include spill containment devices (e.g., drain pans) and absorbent materials to clean up spills.
- Vehicles and equipment shall be maintained properly to prevent leakage of hydrocarbons and other fluids, and shall be examined for leaks on a daily basis. All maintenance shall occur in designated areas, which shall include spill containment devices and absorbent materials to clean up spills.
- Any accidental spill of hydrocarbons or other fluids that may occur at the work site shall be cleaned immediately. Spill containment devices and absorbent materials shall be maintained on the work site for this purpose. The Governor's Office of Emergency Services (OES) shall be notified immediately in the event of a reportable quantity accidental spill to ensure proper notification, clean up and disposal of waste.



- Waste and debris generated during construction shall be stored in designated waste collection areas and containers away from drainage features, and shall be disposed of regularly.
- Convenient, portable sanitary/septic facilities shall be provided during construction activities. These facilities shall be well maintained and serviced, and wastes shall be treated and disposed of in accordance with state and local requirements.
- Storm water BMP material will be used around the construction area perimeters during construction and around any construction operations that could potentially generate waste.
- Minimize the use of pesticides for creek bank restoration and enhancement activities.
- Pesticides shall only be handled by appropriately trained personnel in accordance with all applicable regulations.
- All manufacturer recommended procedures for use, storage and disposal of pesticides shall be implemented.
- No pesticides shall be stored onsite.

Timing. The BMPs shall be fully defined prior to issuance of contracts for the Project work scope and shall be implemented as appropriate throughout Project activities.

Monitoring. District inspectors shall ensure that these measures are being implemented appropriately in the field.

Residual Impacts. Impacts to surface water quality would be minimized to the extent feasible. However, the production of suspended sediments in surface waters cannot be avoided during dredging operations. Additionally, the chemical and other constituents of the sediments in the proposed dredge areas are not within the control of the District and there is always a potential, although unlikely based upon historic sediment sampling results, that sediments may include concentrations of substances that once dispersed into surface water may not comply with the surface water quality objectives of the Basin Plan.

#### **Inland Surface Water Quantity.**

**Impact WR-6: Project activities would result in less than significant impact on surface water quantity - Class III.** The Project activities would not result in the consumptive use of surface water and would therefore, not reduce the amount of water available for beneficial uses with the exception of incidental drainage of wet sediments that may be lost to evaporation or ground infiltration at the upland disposal site.

**Mitigation Measures.** No inland surface water quantity mitigation measures are required or proposed.



**Groundwater Quality.** The Basin Plan includes water quality objectives for inland groundwaters. These objectives have been developed for the management of groundwaters in compliance with the State water quality anti-degradation policy. The objectives are specific to: radioactivity, tastes, odors, bacteria, organic chemicals and chemical constituents. Quantified limits for each of the parameters identified above are provided on a general basis and by sub-basin/sub-area.

**Impact WR-7: Project activities would result in less than significant impact on groundwater quality - Class III.** Project activities are not expected to introduce sources of contamination to groundwater as the Project is not located in a recharge area of a groundwater basin.

**Mitigation Measures.** No groundwater quality mitigation measures are required or proposed.

#### **Groundwater Quantity.**

**Impact WR-8: Project activities would result in less than significant impact on groundwater quantity - Class III.** The Project would not result in a significant consumptive use of groundwater due to its characteristics as a flood control project. The Project activities would not be expected to significantly change the rates of infiltration of water to a groundwater basin, due to the location and nature of the Project.

**Mitigation Measures.** No groundwater quantity mitigation measures are required or proposed.

#### **Flooding.**

**Impact WR-9: Flooding hazards would be reduced by the Project - Class IV.** As originally discussed within the PEIR (Appendix C), reclaiming the depth of the stream channels would change the flow cross-sections in the channels, which would change the distribution of local flow velocities (hence the amount of erosion and distribution and deposition of sediment during floods and the flow through the channel system). These changes would affect the stage (water surface elevation) and extent of floods in the slough area. These effects were modeled for the 1993 PEIR using the Corps HEC-2 hydraulic model. The model determines the stream surface profile under boundary conditions that represent the geometry and flow regime of the subject stream. The hydraulic modeling of the dredged channel system was performed using existing peak flood discharge data, measured channel cross-sections and 1"-200' topographic maps. The stream surface profiles were modeled using 100-year flood with and without the proposed dredging alternatives. The model was also used to estimate the magnitude of the flood that would be contained in the dredged reaches of the streams under both existing conditions and conditions after maintenance activities were completed each season. The hydraulic modeling results indicated a reduction in the flood stage for Atascadero, San Jose, and San Pedro creeks. The effects of dredging on Los Carneros and Tecolotito creek basins were also expected to be beneficial. The results of the modeling supported the proposed desilting activities and associated beneficial effects of a continued stream maintenance program. Since





that time, nine maintenance desilting events have been completed with beneficial results to adjacent properties; most notably the prevention of substantial flooding to the Santa Barbara Airport and urban development along San Pedro, San Jose, and Atascadero creeks.

**Mitigation Measures.** No flood mitigation measures are required or proposed.

**Marine Waters.** Potential impacts to the marine water quality from the proposed Project include those associated with 1) the reduction of dissolved oxygen concentrations, increase in turbidity, and the introduction of contaminants, including bacteria, into the nearshore waters; and 2) accidental discharge of petroleum products from equipment used in dredging and/or deposition and grading of the beach sand. While short-term negative effects to the marine water quality could be expected from the release of slough water following the opening of the berm that crosses the entrance, the longer-term benefits to the quality of the water within the slough from increased circulation and the introduction of seawater is considered a beneficial effect of the proposed actions.

A discussion of the potential marine water quality effects is provided below, and a list of recommended mitigation measures that will further reduce or eliminate the potential negative effects is provided following the impact discussions.

**Impact WR-10: Degradation of marine water quality would result from discharge of dredged sediment- Class III.** The Ocean Plan includes water quality objectives for marine/ocean waters. The objectives are specific to: bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics and radioactivity. Quantified limits or standards for each of the parameters identified above are provided based upon the beneficial uses (e.g., there are water contact standards and shellfish harvesting standards, etc.) and the parameter of concern (e.g., specific chemical, etc.).

Dredged sediment that is discharged onto the beach could exceed contaminant, bacteria, and biological oxygen demand (BOD) levels specified in the Ocean Plan. Short-term increases in fecal and/or total coliform, or enterococcus bacteria for periods longer than those specified in the Ocean Plan within a REC-1 beneficial use area could result in beach closure and/or health risks and a significant impact. Reducing the dissolved oxygen concentration below the level specified in the Ocean Plan and/or increasing the levels of contaminants or turbidity above Ocean Plan objectives is considered a significant impact.

As stated above, during the past flood channel maintenance activities, prior to desilting and/or discharge, sediments have been sampled in accordance with a pre-approved SAP that includes sampling for various constituents (including; but not limited to total petroleum hydrocarbons, pesticides, Polychlorinated Biphenyls (PCBs), metals, and coliform bacteria) as well as grain size. This sampling and subsequent beach disposal of sediment has been in accordance with the requirements of the District's NPDES permit. The Project as presently proposed includes a continuation of this SAP which should minimize the potential for water quality impacts for the parameters covered in the SAP. Furthermore, the Project will continue to be required to operate in accordance with a current NPDES permit. Historically, based upon District marine water sampling, there have been occasions when sample test results have shown elevated bacteria



counts exceeding state criteria for the protection of public health. These occurrences have been immediately after rain events and therefore are not conclusively associated with sediment discharge. However, to mitigate any possible adverse health effects associated with ocean discharge of sediment, the District posts signs to indicate that no swimming is allowed within the sediment release zone. Recreational users will continue to be directed around, outside and/or up current of the sediment release zone for safety purposes (i.e., to avoid contact with water that could potentially have elevated levels of bacteria).

**Impact WR-11: Degradation of marine water quality would result from accidental discharge of fuel or other petroleum products - Class II.** Petroleum discharge: An accidental release of fuel or other petroleum product from the dredging and/or grading equipment could result in a significant impact to the marine water quality. In addition to the potentially toxic effects on the biota that are contacted by the petroleum, the presence of floating oil products is in violation of the Ocean Plan objectives.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Sediments at the dredge sites to be tested for coliform bacteria. As stated previously, this measure has been implemented through the SAP and is proposed for continued implementation. Additionally, the SAP includes testing of additional constituents including but not limited to total petroleum hydrocarbons (TPH), pesticides, Polychlorinated Biphenyls (PCBs), metals, as well as grain size. Through this process the regulatory agencies can require the necessary measures of the Project to minimize impacts to water quality to the extent feasible associated with the disturbance of sediments during dredging for the pollutants addressed.

The Biological Resources section of the PEIR included a mitigation measure requiring the development and implementation of a site-specific emergency spill contingency plan for hydraulic and drag-line dredging. Please see **MM PBIO-12 Spill Prevention Plan** in Section 5.4, Biological Resources of this EIR.

Mitigation Provided by the Goleta Slough SPEIR. The following measure has been implemented by the District since the preparation of the Goleta Slough EIR Supplement and is part of the ongoing flood control maintenance program in the Goleta Slough.

**MM SWR-1 - Post Advisories.** Post advisories at the beach immediately prior to, during and for two days after dredging discharges occur.

Timing. During beach discharges.

Monitoring. The District shall regularly check to ensure that the signs are visible to the public while discharges are occurring.

Residual Impacts. While periodic, localized, short-term exceedances of bacteria in offshore waters may result from the discharge of sediments, all practical measures have



been implemented to avoid such occurrences and reduce adverse effects on public health; therefore impacts are considered to be reduced to less than significant.

Mitigation Incorporated in the Project Description.

**MM Project 1: Sampling and Analysis Plan** - Implementation of Project-incorporated Sampling and Analysis Plan (SAP) in accordance with ASTM and USEPA guidelines.

Mitigation Recommended by the Subsequent EIR.

**MM WR-1 Defined Best Management Practices (BMPs)** as provided above would also further reduce potential impacts to ocean water quality.

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[http://waterdata.usgs.gov/ca/nwis/annual/?referred\\_module=sw&site\\_no=11120500&por\\_11120500\\_2=2207965,00060,2,1941,2008&start\\_dt=2000&end\\_dt=2008&year\\_type=C&format=html\\_table&date\\_format=YYYY-MM-DD&rdb\\_compression=file&submitted\\_form=parameter\\_selection\\_list](http://waterdata.usgs.gov/ca/nwis/annual/?referred_module=sw&site_no=11120500&por_11120500_2=2207965,00060,2,1941,2008&start_dt=2000&end_dt=2008&year_type=C&format=html_table&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list); and

[http://waterdata.usgs.gov/ca/nwis/monthly/?referred\\_module=sw&site\\_no=11120500&por\\_11120500\\_2=2207965,00060,2,1941-01,2008-09&start\\_dt=2001-01&end\\_dt=2008-01&format=html\\_table&date\\_format=YYYY-MM-DD&rdb\\_compression=file&submitted\\_form=parameter\\_selection\\_list](http://waterdata.usgs.gov/ca/nwis/monthly/?referred_module=sw&site_no=11120500&por_11120500_2=2207965,00060,2,1941-01,2008-09&start_dt=2001-01&end_dt=2008-01&format=html_table&date_format=YYYY-MM-DD&rdb_compression=file&submitted_form=parameter_selection_list)

## **PERSONAL COMMUNICATION**

Adams, Mary, Environmental Scientist, Central Coast Regional Water Quality Control Board, telephone communication with Donna Hebert, June 17, 2009.

Leipner, Joddi, Senior Engineering Environmental Planner, County of Santa Barbara Public Works Resource Recovery and Waste Management, telephone communication with Donna Hebert, June 15, 2009.



## 5.2 AIR QUALITY

This section presents a discussion of the regional air quality within the County of Santa Barbara (County). It identifies the sources and quantities of air emissions associated with the proposed Project located within the southwest portion of the Goleta Valley, between Goleta Beach and the foothills of the Santa Ynez Mountains. The analysis serves as an update to the information provided within the original 1993 PEIR and the SPEIR (2000), which are summarized below. Potential onsite and offsite emissions associated with the proposed Project are assessed with respect to the County CEQA Guidelines and the Santa Barbara County Air Pollution Control District (SBCAPCD) rules and regulations. Air quality in the County is influenced by the magnitude and distribution of air emission sources, together with topographic and meteorologic factors, including wind speed and direction, temperature, solar radiation, and rainfall.

### 5.2.1 Environmental Setting

#### 5.2.1.1 Criteria Pollutants

Criteria air pollutants are those contaminants for which State and Federal ambient air quality standards have been established for the protection of public health and welfare. Criteria pollutants include: ozone ( $O_3$ ), carbon monoxide (CO), oxides of nitrogen ( $NO_x$ ), sulfur dioxide ( $SO_2$ ), particulate matter with a diameter of 10 microns or less ( $PM_{10}$ ) and particulate matter with a diameter of 2.5 microns or less ( $PM_{2.5}$ ).

**Ozone ( $O_3$ ).** Ozone ( $O_3$ ) is formed in the atmosphere through a series of complex photochemical reactions involving oxides of nitrogen ( $NO_x$ ), reactive organic gases (ROG) (also known as ROCs or reactive organic compounds), and sunlight occurring over several hours. Since ozone is not emitted directly into the atmosphere, but is formed as a result of photochemical reactions, it is classified as a secondary or regional pollutant. Because these ozone-forming reactions take time, peak ozone levels are often found downwind of major source areas. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

**Carbon Monoxide (CO).** Carbon monoxide (CO) is primarily formed through the incomplete combustion of organic fuels. Higher CO values are generally measured during winter when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and also can affect mental alertness and vision.



**Nitric Oxide (NO).** Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly oxidize to form NO<sub>2</sub>, a brownish gas. The highest nitrogen dioxide values are generally measured in urbanized areas with heavy traffic. Exposure to NO<sub>2</sub> may increase the potential for respiratory infections in children and cause difficulty in breathing even among healthy persons and especially among asthmatics.

**Sulfur Dioxide (SO<sub>2</sub>).** Sulfur dioxide (SO<sub>2</sub>) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO<sub>2</sub> are found near large industrial sources. SO<sub>2</sub> is a respiratory irritant that can cause narrowing of the airways, leading to wheezing and shortness of breath. Long-term exposure to SO<sub>2</sub> can cause respiratory illness and aggravate existing cardiovascular disease.

**Particulate Matter (PM).** Ambient air quality standards have been set for two classes of particulate matter: PM<sub>10</sub> (coarse particulate matter less than 10 microns in aerodynamic diameter) and PM<sub>2.5</sub> (fine particulate matter 2.5 microns or less in aerodynamic diameter). Both consist of different types of particles suspended in the air, such as: metal, soot, smoke, dust and fine mineral particles. Depending on the source of particulates, toxicity and chemical activity can vary. Particulate matter is a health concern because when inhaled it can cause permanent damage the lungs. The primary source of PM<sub>10</sub> emissions appears to be soil via roads, construction, agriculture, and natural windblown dust. Other sources of PM<sub>10</sub> include sea salt, particulate matter released during combustion processes, such as those in gasoline or diesel vehicles, and wood burning. Fugitive emissions from construction sites, wood stoves, fireplaces and diesel truck exhaust are primary sources of PM<sub>2.5</sub>. Both sizes of particulates can be dangerous when inhaled, however PM<sub>2.5</sub> tends to be more damaging because it remains in the lungs once it is inhaled.

#### 5.2.1.2 Regulatory Overview

The proposed Goleta Slough Project area is located in Santa Barbara County within the South Central Coast Air Basin (SCCAB). In addition to Santa Barbara County, the SCCAB includes San Luis Obispo County and Ventura County. Regulation of air quality within the Project area is presided over by the Santa Barbara County Air Pollution Control District (SBCAPCD). The SBCAPCD is responsible for monitoring air quality levels in compliance with Federal and State regulations. According to the SBCAPCD (2009), Santa Barbara County is currently in attainment of Federal 8-hour ozone standards as well as State 1-hour ozone standards. However, Santa Barbara County is designated as a non-attainment for State 8-hour ozone standard and State Particulate matter (PM<sub>10</sub>). Please refer to Table 5.2-1 for a summary of Federal and State air quality standards.



**Table 5.2-1. Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	CAAQS	NAAQS
Ozone (O <sub>3</sub> )	1 hour 8 hour	0.09 ppm 0.07 ppm	-- 0.075 ppm
Carbon Monoxide (CO)	1 hour 8 hour	20 ppm 9.0 ppm	35 ppm 9 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour Annual	0.18 ppm 0.030 ppm	-- 0.053 ppm
Sulfur Dioxide (SO <sub>2</sub> )	1 hour 3 hour 24 hour Annual	0.25 ppm -- 0.04 ppm --	-- 0.5 ppm 0.14 ppm 0.030 ppm
Inhalable Particulate Matter (PM <sub>10</sub> )	24 hour Annual	50 µg/m <sup>3</sup> 20 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> --
Fine Particulate Matter (PM <sub>2.5</sub> )	24 hour Annual	-- 12 µg/m <sup>3</sup>	35 µg/m <sup>3</sup> 15 µg/m <sup>3</sup>

Source: California Air Resources Board, February 22, 2007.

Notes:

- The CAAQS for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.
- The NAAQS, other than O<sub>3</sub> and those based on annual averages are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
- ppm = parts per million by volume; µg/m<sup>3</sup> = micrograms per cubic meter

#### 5.2.1.2.1 Federal Regulations

**Federal Clean Air Act (CAA).** The Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes Federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed Project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).



Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. The NAAQS were amended in July 1997 to include an 8-hour standard for O<sub>3</sub> and adopt a NAAQS for fine particulate matter (PM<sub>2.5</sub>). Refer to Table 5.2-1 for a summary of Federal air quality standards.

#### *5.2.1.2.2 State Regulations*

**Heavy Duty Diesel Truck Idling Regulation.** The California Air Resource Board (CARB) Heavy Duty Diesel Truck Idling rule became effective in February 1, 2005, and it prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time. Truck idling for longer than 5 minutes while queuing is allowed, however, provided the queue is located beyond 100 feet (30 meters [m]) from any homes or schools (CARB, 2006).

**California Diesel Fuel Regulations.** This rule sets sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles (CARB, 2004). Harbor craft were originally excluded from the rule, but were later included by a 2004 rule amendment (CARB, 2005). Under this rule, diesel fuel used in motor vehicles except harbor craft has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006. (A Federal diesel rule similarly limited sulfur content nationwide for on-road vehicles to 15 ppm beginning October 15, 2006.)

**Statewide Portable Equipment Registration Program (PERP).** The Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB 2005). Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. The PERP generally would apply to shore end and land-based construction equipment such as generators, compressors and power winches. Refer to Table 5.2-1 above for a summary of State air quality standards.

#### *5.2.1.2.3 Climate Change Concerns*

**California Global Warming Solutions Act of 2006 (AB-32).** The California Global Warming Solutions Act (AB-32) requires that the State cap greenhouse gas (GHG) emissions at 1990 levels by the year 2020. AB-32 requires that CARB establish a program for State-wide GHG emission reporting and to monitor and enforce compliance with the program. The regulatory steps established by AB-32 required CARB to:

- Adopt early action measures to reduce GHG emissions;
- Establish a state-wide GHG emissions cap for the year 2020 based on 1990 emissions levels;
- Develop mandatory reporting rules for significant sources of GHG emissions;
- Adopt a scoping plan indicating how emissions reductions will be achieved via regulations, market mechanisms and other actions; and





- Adopt the regulations needed to achieve the maximum technologically feasible and cost-effective reductions in GHGs.

Following Executive Order S-3-05 in June 2005, which declared California's particular vulnerability to climate change, the California Global Warming Solutions Act of 2006 (AB 32) was signed by Governor Arnold Schwarzenegger on September 27, 2006. In passing the bill, the California Legislature found that global climate change "poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems" (California Health & Safety Code, Division 25.5, Part 1).

Greenhouse gases (GHGs) are defined as any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). These greenhouse gases lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the Greenhouse Effect. There is increasing evidence that the Greenhouse Effect is leading to global climate change. The primary source of GHG in the United States is energy-use related activities, which include fuel combustion, as well as energy production, transmission, storage and distribution. These energy related activities generated 85 percent of the total U.S. emissions on a carbon equivalent basis in 1998 and 86 percent in 2004. Fossil fuel combustion represents the vast majority of the energy related GHG emissions, with CO<sub>2</sub> being the primary GHG. Both the legislation and California Climate Action Team (CCAT) currently estimate that the solid waste industry, particularly landfills, is a significant source of the total net GHG emissions in California and should be a major focus of any efforts to reduce GHG emissions.

In response to global climate change, AB-32 requires the CARB to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990 to be achieved by 2020 and requires the CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

In June 2008, CARB developed a Draft Scoping Plan for Climate Change, pursuant to AB-32. This Draft Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, and enhance public health while creating new jobs and enhancing the growth in California's economy. Key elements of the Scoping Plan for reducing California's greenhouse gas emissions to 1990 levels by 2020 include:

- Expansion and strengthening of existing energy efficiency programs and building and appliance standards;
- Expansion of the Renewables Portfolio Standard to 33 percent;



- Development of a California cap-and-trade program that links with other Western Climate Initiative Partner programs to create a regional market system;
- Implementation of existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Targeted fees to fund the State's long-term commitment to AB 32 administration.

Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that greenhouse gas emissions and the effects of GHG emissions are appropriate for CEQA analysis. It directs the California Office of Planning and Research (OPR) to develop guidelines addressing the analysis and mitigation of greenhouse gas emissions by July 1, 2009 and for the California Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

In October 2008, the CARB created a Preliminary Draft Staff Proposal - Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act. In this document the CARB discusses the dangers of global climate change and the need for a defined set of significance thresholds for operations, construction and transportation; and provides a preliminary proposal for a threshold of significance for GHG emissions. The threshold consists of a quantitative threshold of 7,000 metric tons of CO<sub>2</sub> equivalent per year (MTCO<sub>2</sub>E/year) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. The goal of this effort is to provide for the mitigation of GHG emissions from industrial projects on a statewide level. Over time, implementation of AB-32 will reduce or mitigate GHG emissions from industrial sources.

#### 5.2.1.4 Local Regulations

As discussed above, the Santa Barbara County APCD is the local agency primarily responsible for attaining the air quality standards established by the CARB and the U.S. Environmental Protection Agency (U.S. EPA). The SBCAPCD implements programs and regulations to control air pollution released from stationary sources within the District, as well as implementing programs to encourage alternative means of transportation.

In 2007 the SBCAPCD adopted the Clean Air Plan in order to address methods for maintaining the Federal 8-hour ozone standard and methods for reaching attainment of the State 1-hour ozone standard.

#### 5.2.1.5 Local Air Quality

The United States (U.S.) Environmental Protection Agency (EPA) has designated all areas of the U.S. as having either air quality better than (attainment) or worse than (nonattainment) the National Ambient Air Quality Standards (NAAQS). The NAAQS are federal air quality standards established under the Clean Air Act (CAA). The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The SIPs must include pollution control measures that demonstrate how the



standards will be met. “Non-attainment” areas are further categorized as either: marginal, moderate, serious, severe or extreme, depending upon the numerical exceedance of the priority pollutant standard and the measures that are in place to reduce these pollutant levels. These designations are specific to the area and the pollutant. Because the local air basin does not meet State standards for O<sub>3</sub> and inhalable particulate matter (PM<sub>10</sub>), Santa Barbara County is considered a state nonattainment area for those pollutants; however, the air basin is considered to be in attainment for PM<sub>2.5</sub>, CO, NO<sub>2</sub>, and SO<sub>2</sub>. Table 5.2-1 lists Federal and State attainment status for the Santa Barbara County Air Pollution Control District portion of the South Central Coast Air Basin.

Air quality within Santa Barbara County is monitored by a network of 17 stations. The Goleta air quality monitoring station is the closest monitoring station to the proposed Project and is located approximately 2 miles north of the Goleta Slough and 3 miles west of the closed Foothill Landfill Sediment Disposal/Restoration Site. Table 5.2-2 shows the monitored maximum concentrations and number of exceedances of air quality standards at the Goleta Station for the years 2006 through 2008. As shown in Table 5.2-2, ozone concentrations monitored at the Goleta station have not exceeded the State 8-hour standard in the past 3 years.

**Table 5.2-2. Air Quality Summary**

Parameter	Standard	Year		
		2006	2007	2008
Ozone (O <sub>3</sub> ) - parts per million (Goleta)				
Maximum 1-hour concentration monitored (ppm)		0.083	0.081	0.081
Number of days exceeding State standard	0.09 ppm	0	0	0
Maximum 8-hour concentration monitored (ppm)		0.069	0.066	0.066
Number of days exceeding Federal 8-hour standard	0.085 ppm	0	0	0
Number of days exceeding State 8-hour standard	0.070 ppm	0	0	0

## 5.2.2 Impact Analysis and Mitigation Measures

### 5.2.2.1 Thresholds of Significance

Significance thresholds for air emissions are derived from the State CEQA Guidelines, and the County Thresholds and Guidelines Manual, Air Quality Thresholds (2006).

**Santa Barbara County Environmental Thresholds and Guidelines Manual: Air Quality Thresholds.** A significant adverse air quality impact may occur when a project, individually or cumulatively, triggers any one of the following:

- Interferes with progress toward the attainment of the ozone standard by releasing emissions which equal or exceed the established long-term quantitative thresholds for NO<sub>x</sub> and ROC;



- Equals or exceeds the state or federal ambient air quality standards for any criteria pollutant (as determined by modeling);
- Emit (from all sources, except registered portable equipment) greater than the daily trigger for offsets in the SBCAPCD New Source Review Rule (55 pounds per day NO<sub>x</sub> or ROC);
- Emit greater than 25 pounds per day of NO<sub>x</sub> or ROC (motor vehicle trips only);
- Cause or contribute to a violation of a State or Federal air quality standard;
- Exceed the SBCAPCD health risk public notification thresholds (10 excess cancer cases per million, hazard index of greater than 1.0); and
- Inconsistent with adopted State and Federal Air Quality Plans (Clean Air Plan, 2007).

Both CARB (2008) and South Coast Air Quality Management District (2008) have proposed preliminary thresholds for greenhouse gas emissions. However, these thresholds have not been adopted to date, and there are no applicable thresholds for greenhouse gas emissions at this time.

#### 5.2.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the impacts to air quality identified in the Program EIR (93-EIR-04) for the existing maintenance program.

1. During periods of high intensity rainfall and increased siltation, ongoing maintenance could require a level of dredging that could lead to the production of significant levels of NO<sub>x</sub> emissions during a 3 month period (Class II).
2. Traditional Phase I maintenance activities would not exceed any Santa Barbara County Resource Management District (RMD) 3-month emission thresholds (Class III).
3. Traditional Phase II maintenance activities would not exceed any Santa Barbara County RMD 3-month emission thresholds (Class III).
4. Dredging related to maintenance, occurring once every 3 years would produce insignificant levels of NO<sub>x</sub> emissions during a 3 month period (Class III).
5. Air Quality impacts resulting from beach discharge related to ongoing maintenance would be less than significant (Class III).

#### 5.2.2.3 Proposed Project Activities for Updated Maintenance Program

The following sections discuss the areas for which Project activities may impact air quality standards. These include Sediment Removal and Discharge to the surf zone at Goleta Beach for Beach Replenishment Purposes; Stockpiling of Desilted Sediment Prior to Beach



Replenishment or Disposal; and Disposal or Reuse of Sediment within the closed Foothill Landfill Sediment Disposal/Restoration Site. The results of these analyses in relation to continued sediment removal activities as well as additions to the Program including potential restoration activities along the creek banks, at the closed Foothill Landfill Sediment Disposal/Restoration Site, and opening of the Goleta Slough are further discussed in Section 5.2.2.4 (Impact Discussion).

### Methodology and Assumptions.

*Sediment Removal and Surfzone Discharge.* The proposed Project includes the removal of sediment from the five creeks of the Goleta Slough through dragline or hydraulic desilting operations and the subsequent discharge of the removed sediment to the surf line at Goleta Beach for beach replenishment purposes; or **transport** to an upland site (the closed Foothill Landfill) for disposal or reuse. These activities would require the use of combustion emission source equipment as shown in Table 5.2-3. The California Air Resources Board heavy-equipment Off-Road Model (OFFROAD, 2007) and EMFAC On-Road Model (EMFAC, 2007) were used to calculate Project related emission values.

**Table 5.2-3. Project Equipment Lists**

Hydraulic Desilting Operations Equipment List	
<ul style="list-style-type: none"> <li>1 crane (for hydraulic dredge placement)</li> <li>1 hydraulic dredge</li> <li>1 hydraulic dredge booster pump</li> <li>1 welder/torch</li> </ul>	<ul style="list-style-type: none"> <li>1 front end loader</li> <li>1-2 bulldozer(s) for sediment dispersal (if required)</li> <li>Trucks for transport of personnel and sediment (if required)</li> </ul>
Dragline Desilting Operations Equipment List	
<ul style="list-style-type: none"> <li>1-2 crane dragline desilting cranes</li> <li>Trucks for transport of personnel and sediment (if required)</li> </ul>	<ul style="list-style-type: none"> <li>1 excavator</li> <li>1-2 bulldozer(s) for sediment dispersal (if required)</li> </ul>

Source: Equipment lists provided by SBCFCD

Hydraulic desilting of the Goleta Slough is the preferred method of sediment removal for Atascadero, San Pedro and San Jose creeks. However, use of a hydraulic dredge will only occur within these creeks when a sufficient volume of sediment needs to be removed. If sediment levels remain below the amounts necessary to justify hydraulic removal during a single desilting event, desilting activities would be completed through the use of a dragline desilting crane. Hydraulic desilting would not be used for Tecolotito or Los Carneros creeks. Instead, dragline desilting operations would be the sole method of sediment removal for Tecolotito and Los Carneros creeks.

In order to calculate anticipated emissions resulting from Project activities, two scenarios were analyzed: A typical scenario; and an atypical “worst-case” scenario for air emissions. Assessment of the typical scenario included an analysis of emissions from an average sediment





volume removed during desilting of the Goleta Slough (as shown in Table 2-2 from 1994 to 2008), and the assumption that only two dragline cranes will be used at any given time during the Project. The worst-case scenario, as anticipated by Santa Barbara Flood Control, assumed the simultaneous use of the hydraulic dredge and two dragline cranes. The maximum volume of dredged material was calculated by Santa Barbara County Flood Control by estimating the maximum volume of the sediment that could physically be held in the channels that will be removed at one time. This estimation is summarized below in Table 5.2-4. The calculation for the worst-case scenario resulted in a total volume of 192,000 cubic yards of material that could feasibly be removed from the Goleta Slough in a maximum volume event. A summary of the typical and worst-case scenario assumptions are provided below in Table 5.2-5.

The Flood Control District has stated that other possible scenarios may occur for desilting operations, including the possibility that up to four (4) dragline desilting cranes (and no hydraulic dredge) could be in operation simultaneously should conditions require. However, this scenario, and any other scenarios which could conceivably be used to remove sediment from the creeks have not been modeled, since the worst-case and typical scenario for air emissions have already captured the maximum and probable air emission values.

Based on previous desilting events, modeling was based on the assumption that 80 percent of the total desilted material will be suitable for use at Goleta Beach for beach replenishment purposes, and 20 percent will require transportation to the closed Foothill Landfill Sediment Disposal/Restoration Site for restoration purposes (Tables 2-2 and 2-4). As indicated in Table 2-5, approximately 80 percent of all removed sediment will come from Atascadero, San Jose, and San Pedro creeks and 20 percent will come from the Los Carneros and Tecolotito creeks. Based on previous desilting events at Atascadero, San Jose and San Pedro creeks; an average of 50 percent of desilting activities have occurred via draglining operations and 50 percent through hydraulic dredging. Of the sediment removed from Los Carneros and Tecolotito creeks, 100 percent of the sediment will be removed using the dragline desilting method. Based on previous desilting events, modeling was based on the assumption that a 10 hour-per-day and 5 day-per-week work schedule is anticipated for Project activities. However, if hydraulic desilting occurs, the work day could necessitate a 24 hours, 7 days a week schedule.

To compensate for this uncertainty, air emissions for the typical scenario assumed 10 hour workdays (since there will be no hydraulic desilting in the typical scenario), and the worst case scenario assumed 24 hour operations only during hydraulic desilting and 10 hour workdays during dragline desilting. Since the amount of desilted material has varied from year to year, the nine season average (between 1994 and 2008), (approximately 105,000 cy total for all creeks), was used to calculate emissions for the typical scenario. Activities involved in the typical scenario, would therefore result in the lowest emissions.



**Table 5.2-4. Estimate of Dimensions and Volumes of Basins and Creeks to be Desilted**

Basin/Creek	Atascadero Creek (Hydraulic Desilting)	Atascadero Creek (Dragline Desilting)	San Jose Creek	San Pedro Creek	Tecolotito Basin	Los Carneros Basin
Dimensions (feet)	800'x90'x8' and 2800' x 80' x 8'	2800'x80'x8	2500'x50'x8'	2000'x55'x8'	550'x100'x10'	600'x60'x8'
Volume (cubic yards)	89,000	67,000	38,000	33,000	21,000	11,000

**Table 5.2-5. Summary of Typical and Worst-Case Desilting Scenarios Analyzed for Potential Impacts to Air Quality**

<b>Typical Scenario</b>	<ul style="list-style-type: none"> <li>• 2 dragline cranes operating simultaneously in one or more of the 5 creeks.</li> <li>• 10-hour workdays.</li> <li>• Transport of beach worthy sediment to Goleta Beach.</li> <li>• Vehicle trips for employees and County staff.</li> <li>• 105,000 cy of removed material, including sediment from Atascadero Creek-Dragline (67,000 cy), San Jose Creek (38,000 cy), San Pedro Creek (33,000 cy), Tecolotito Basin (21,000 cy), and Los Carneros Basin (11,000 cy), as presented in Table 5.3-4.</li> </ul>
<b>Atypical or "Worst-Case" Scenario</b>	<ul style="list-style-type: none"> <li>• 1 hydraulic dredge and 1 dragline desilting crane operating simultaneously in Atascadero, San Jose, or San Pedro creeks.</li> <li>• 24-hour workdays during hydraulic desilting, 10-hour workdays during dragline desilting.</li> <li>• 1 dragline desilting crane operating in Los Carneros or Tecolotito creeks simultaneous with activities in Atascadero, San Jose, and San Pedro creeks.</li> <li>• Transport of beach worthy sediment from creeks to Goleta Beach.</li> <li>• Vehicle trips for employees and County staff.</li> <li>• 192,000 cy of removed material, including sediment from Atascadero Creek-Hydraulic (89,000 cy), San Jose Creek (38,000 cy), San Pedro Creek (33,000 cy), Tecolotito Basin (21,000 cy), and Los Carneros Basin (11,000 cy), as presented in Table 5.3-4.</li> </ul>



*Sediment Stockpiling.* Prior to transportation to the closed Foothill Landfill Sediment Disposal/Restoration Site, sediment would be stockpiled within designated stockpile areas adjacent to the creeks for dewatering. Removal of the sediment from the staging areas would generate minor amounts of combustion emissions due to equipment usage. These emissions would be limited to a short period of time when this activity occurs. Minor amounts of fugitive dust would be also emitted following the drying process as dozers or other equipment transfer sediment from stockpile areas to trucks for disposal or reuse.

*Transportation to the Closed Foothill Landfill Disposal/Restoration Site for Restoration Purposes.* Haul trucks will be used to transport desilted sediment material from stockpile areas adjacent to the creeks to the closed Foothill Landfill Sediment Disposal/Restoration Site. It is assumed that each haul truck will transport approximately 10 cy of sediment to the closed Foothill Landfill Sediment Disposal/Restoration Site per trip. Emissions will result from combustion of the haul trucks engines, and will be emitted along the roads, sediment stockpile area, and at the closed Foothill Landfill Sediment Disposal/Restoration Site. An excavator used to load and a bulldozer used to spread the off-loaded sediment will produce emissions at the stockpiling sites and at the closed Foothill Landfill Sediment Disposal/Restoration Site. Fugitive dust will result from on and off road vehicle's travel on paved and unpaved roads.

#### 5.2.2.4 Impact Discussion

**Impact AQ-1A: Desilting Activities in the Goleta Slough may result in short-term Project related air emissions during a Typical Scenario - Class I.** Air quality impacts would occur from dragline desilting activities and equipment. As discussed above, in the typical scenario, a total of approximately 105,000 cy of sediment will require removal from the Goleta Slough. Based on 10-hour work day, desilting activities would require approximately 52.6 days for completion, and additional time for mobilization, demobilization and transportation of sediment to the closed Foothill Landfill Sediment Disposal/Restoration Site. Tables 5.2-6 and 5.2-7 show emissions associated with this typical scenario.

For the typical scenario maximum daily emissions will occur when dragline desilting using a 10-hour work day and 2 cranes simultaneously, at one or more of the 5 creeks in the Goleta Slough. In this scenario it is assumed that only dragline cranes will be utilized.

Assuming a 10-hour work day and only dragline desilting during the typical scenario, maximum daily emissions are estimated to be 3.51 pounds of ROG, 64.1 pounds of NO<sub>x</sub>, 17.7 pounds of CO, 2.13 pounds of PM<sub>10</sub>, and 0.07 pounds of SO<sub>2</sub>.

Total Project emissions for the typical scenario is expected to create 0.14 tons of ROG, 2.52 tons of NO<sub>x</sub>, 0.73 tons of CO, and 0.09 tons of PM<sub>10</sub> annually. Under the typical scenario, total daily emissions of NO<sub>x</sub> could be 64.1 pounds, which could interfere with progress toward the attainment of the ozone standard and would exceed the SBCAPCD New Source Review Rule (55 pounds per day of NO<sub>x</sub> or ROG). As such, impacts to air quality from proposed Project activities are significant and unavoidable (Class - I).



**In addition to NO<sub>x</sub> and ROG emissions associated with maintenance activities, equipment and heavy-duty trucks would emit exhaust from diesel engines. Diesel exhaust includes components in the gas and particle phases known to cause cancer in humans. However, the temporary operation of two to three pieces of equipment at the Project site will not be a significant contribution to existing quantities in the atmosphere. Furthermore, it is anticipated that exhaust from engines would dissipate fairly rapidly and would not significantly impact nearby sensitive receptors. Compared with uses such as heavy traffic or industrial warehouse operations, diesel emissions impacts on local residents and nearby sensitive receptors would be less than significant.**

**Table 5.2-6. Estimated Project Emissions for the Typical Scenario**

Source	Pounds per Peak Day				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
Mobilization/Demobilization	0.46	10.8	2.63	0.33	0.01
Dragline Desilting of All 5 Creeks	3.51	64.1	17.7	2.13	0.07
Upland Disposal	2.0	40.1	10.7	1.57	0.04
<b>Daily Maximum Emission Threshold</b>	<b>55</b>	<b>55</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Daily Maximum<sup>1</sup></b>	<b>3.51</b>	<b>64.1</b>	<b>17.7</b>	<b>2.13</b>	<b>.07</b>

1 It is assumed that desilting activities will not overlap with mobilization, demobilization, or upland disposal.

Typical scenario is dependent on total volume, and would not change based on Project duration or number of daily work hours. Total Project related emissions will be larger in the worst case scenario since more sediment will be removed.

**Table 5.2-7. Total Project Emissions - Typical Scenario**

Total Annual Tons				
ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
<b>0.14</b>	<b>2.52</b>	<b>0.73</b>	<b>0.09</b>	<b>0.00</b>

In some Counties it may be possible to mitigate impacts from air quality emissions by purchasing mitigation offsets. An emission offset occurs when a Project compensates for an increase in emissions in one area by decreasing emissions in another area. However, in Santa Barbara County, emissions offsets are scarce and not considered to be a feasible measure for Projects occurring within the County (Goldman, APCD Personnel Communication July 2009). Therefore this impact is Class I - significant and unavoidable.



## **Mitigation Measures**

### Mitigation Provided by the 1993 Program EIR.

***MM PAQ-1 A&B: Efforts to Reduce NO<sub>x</sub> Emissions.*** The following measures originally developed for the 1993 PEIR will be implemented for the proposed Project to reduce air quality impacts where possible.

- Prior to and during project activity, equipment will be maintained in proper tune according to manufacturer's specifications.
- When feasible, the number of pieces of heavy-duty diesel-fueled equipment operating simultaneously during the project shall be minimized.
- Catalytic converters shall be installed on gasoline-powered equipment when feasible.
- Equipment shall be equipped with two to four degree engine retard.

Additional Mitigation Recommended by this Subsequent EIR.

### ***MM AQ-1 A&B: Additional Measures to Reduce NO<sub>x</sub> Emissions.***

- Equipment meeting Tier 2 or higher emission standards will be used to the maximum extent feasible.
- Engine size of equipment shall be the minimum practical size.
- All portable construction equipment shall be registered with the state's portable equipment registration program (**PERP**) or permitted by the District ~~by September 18, 2008.~~
- All diesel powered equipment used during the project will be fueled with 15 ppm sulfur diesel fuel.
- Idling of heavy-duty trucks **and heavy-duty construction equipment** will be limited to 5 minutes.
- Heavy-duty diesel-powered equipment purchased for the project shall comply with federal and California diesel standards that are in force at the time of purchase.
- Diesel oxidation catalysts (DOC), catalyzed diesel particulate filters (CDPF) or other SBCAPCD approved emission reduction retrofit devices will be installed on applicable construction equipment used during the project.
- **Construction worker trips will be minimized by encouraging carpooling.**

Plan Requirements and Timing. Air emissions reduction activities will be applied as necessary throughout Project activities.





**Monitoring.** District staff will be responsible for monitoring air emission reduction measures as necessary throughout Project activities.

**Residual Impacts.** Implementation of these mitigation measures would reduce air emissions; however, residual impacts would still result. Residual impacts would be significant (Class I).

**Impact AQ-1B: Desilting Activities in the Goleta Slough may result in short-term Project related air emissions during a Worst Case Scenario - Class I.** As discussed above, in the worst case scenario, approximately 192,000 cy of sediment will require removal from Goleta Slough using both dragline and hydraulic desilting methods. Based on a 24-hour work day during hydraulic desilting and 10-hour workdays during dragline desilting, desilting activities would require approximately 16 days for completion of hydraulic desilting, and 58 days for completion of draglining. Additional time will be required to complete mobilization, demobilization and disposal of removed sediment at the closed Foothill Landfill Sediment Disposal/Restoration Site. Tables 5.2-8 and 5.2-9 show emissions associated with the “worst case” scenario.

**Table 5.2-8. Estimated Project Emissions for the Worst Case Scenario**

Source	Pounds per Peak Day				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
Mobilization/Demobilization	1.45	35.7	7.43	1.09	0.04
Desilting of Atascadero, San Jose and San Pedro Creeks	10.55	194.4	53.9	6.87	0.22
Desilting of Los Carneros and Tecolotito Creeks	2.16	75.8	9.58	1.31	0.05
Upland Disposal	3.34	73.7	17.2	2.59	0.08
<b>Daily Maximum Emission Threshold</b>	<b>55</b>	<b>55</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Daily Maximum - <sup>1, 2</sup></b>	<b>12.7</b>	<b>270.7</b>	<b>63.5</b>	<b>8.18</b>	<b>0.27</b>

1 It is assumed that hydraulic and dragline desilting activity at Atascadero, San Jose or San Pedro could happen simultaneously with dragline activity at either Los Carneros or Tecolotito creeks.

2 It is assumed that desilting activities will not overlap with mobilization, demobilization, or upland disposal.

**Table 5.2-9. Total Project Emissions - “Worst Case” Scenario**

Total Annual Tons				
ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	SO <sub>2</sub>
0.23	4.11	1.25	0.15	0.00

For the worst-case scenario maximum daily emissions will occur when hydraulic dredging using a 24-hour work day and dragline desilting using a 10-hour workday, occur simultaneously at Atascadero Creek, San Jose Creek or San Pedro Creek while dragline desilting occurs at either



Tecolotito or Los Carneros Creek. In this scenario, maximum daily emissions are estimated to be 12.7 pounds of ROG, 270.7 pounds of NO<sub>x</sub>, 63.5 pounds of CO, 8.18 pounds of PM<sub>10</sub>, and 0.27 pounds of SO<sub>2</sub>.

Total Project emissions for the worst case scenario are expected to be 0.27 tons of ROG, 4.11 tons of NO<sub>x</sub>, 1.25 tons of CO, 0.15 tons of PM<sub>10</sub>, and 0.00 tons of SO<sub>2</sub>. This estimate is dependent on total volume, and therefore will stay the same regardless of duration and daily work hours.

Under the worst-case scenario, total daily emissions of NO<sub>x</sub> could be 270.7 pounds, which could interfere with progress toward the attainment of the ozone standard and would exceed the SBCAPCD New Source Review Rule (55 pounds per day of NO<sub>x</sub> or ROG). As such, impacts to air quality from proposed Project activities are significant and unavoidable (Class - 1). In addition, and as discussed above, some Counties offer emissions offsets for NO<sub>x</sub>. An emission offset occurs when a Project compensates for an increase in emissions in one area by decreasing emissions in another area. However, in Santa Barbara County, emissions offsets are scarce and not be economically feasible for the proposed Project.

**In addition to NO<sub>x</sub> and ROG emissions associated with maintenance activities, equipment and heavy-duty trucks would emit exhaust from diesel engines. Diesel exhaust includes components in the gas and particle phases known to cause cancer in humans. However, the temporary operation of two to three pieces of equipment at the Project site will not be a significant contribution to existing quantities in the atmosphere. Furthermore, it is anticipated that exhaust from engines would dissipate fairly rapidly and would not significantly impact nearby sensitive receptors. Compared with uses such as heavy traffic or industrial warehouse operations, diesel emissions impacts on local residents and nearby sensitive receptors would be less than significant.**

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR.

MM PAQ-1 A&B: Efforts to Reduce NO<sub>x</sub> Emissions applies.

Additional Mitigation Recommended by this Subsequent EIR.

MM AQ-1 A& B Additional Measures to Reduce NO<sub>x</sub> Emissions applies.

Residual Impacts. Implementation of these mitigation measures would reduce air emissions. However, however residual impacts would still result. However, residual impacts would be significant (Class I).

**Impact AQ-2: Project activities may result in short-term emissions of fugitive dust - Class II.** Project activities would require the use of on-road and off-road powered vehicles and heavy equipment for transporting dried sediment. Fugitive dust may be generated in three ways: 1) the drying of sediment prior to transfer; 2) the transfer of dried sediment from staging areas to



trucks for transportation to Goleta Beach or the closed Foothill Landfill Sediment Disposal/Restoration Site; and 3) the placement of the sediment within the surf zone at Goleta Beach for beach replenishment purposes or the closed Foothill Landfill Sediment Disposal/Restoration Site for restoration purposes.

Santa Barbara County is a non-attainment area for the State PM<sub>10</sub> standard; as such any fugitive dust would be considered a significant impact to PM<sub>10</sub> standards. However, as discussed within the original 1993 PEIR, and per Santa Barbara County requirements, fugitive dust would be controlled during these activities through the implementation of the mitigation measures below. Based on these measures fugitive dust emissions caused by Project activities will be reduced to less than significant.

### **Mitigation Measures**

#### **Mitigation Provided by the 1993 Program EIR.**

***MM PAQ-2: Efforts to Reduce Fugitive Dust Emissions.*** The following measures originally developed for the 1993 PEIR will be implemented for the proposed Project to reduce fugitive dust emissions.

- During sediment disposal at the closed Foothill Landfill Sediment Disposal/Restoration Site, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include watering of the active unpaved roads in the morning and after work is completed for the day. Increased watering frequency will occur whenever the wind speed exceeds 15 mph. Reclaimed water will be used when feasible. This mitigation measure was presented in the 1993 Program EIR, and has been changed for the current Project to include more watering during windy days.
- At Project locations, traffic speed shall be limited to 15 mph on any unpaved surface during Project activity. This mitigation measure was presented in the 1993 Program EIR, but did not specify a specific speed for vehicle traffic on unpaved roads.
- At Project locations, amount of disturbed area will be minimized and the disturbed areas will be kept as small as possible.
- After completion of Project activities, treat disturbed soil by watering, revegetating or spreading soil binders to prevent wind erosion.
- Designate personnel to monitor maintenance activities and ensure that excessive dust does not occur from the staging areas.

Additional Mitigation Recommended by this Subsequent EIR.

#### ***MM AQ-2: Additional Measures to Reduce Fugitive Dust Emissions***

- Rumble plates will be installed at all access points at all Project locations to prevent tracking of mud onto public roads.



- Monitoring wind speed during sediment disposal at the closed Foothill Landfill Sediment Disposal/Restoration Site.
- Use of hydro seeding to reduce wind and chemical dust suppressants (e.g., Soil Sement™) to reduce wind erosion from disturbed soil.

Plan Requirements and Timing. Fugitive dust reduction activities will be applied as necessary throughout Project activities.

Monitoring. District staff will be responsible for monitoring fugitive dust reduction measures as necessary throughout Project activities.

Residual Impacts. Implementation of these mitigation measures would further reduce fugitive dust emissions.

**Impact AQ - 3: Desilting Activities in the Goleta Slough may result in short-term odor impacts - Class III.** Construction activities would require the use of diesel powered equipment and machinery. Diesel fuel is considered an objectionable odor; however Project activities are temporary and mobile in nature and would not be located adjacent to any single sensitive receptor for long periods of time. Furthermore, emissions from diesel and other fuels would dissipate rapidly from Project staging areas and would not be a significant cause of odor for sensitive receptors. Therefore due to the temporary and mobile nature of Project activities, as well as the limited amount of time and equipment required for the proposed Project objectionable fumes and odors caused by combustion of fuels is not a significant impact.

Odors may also be emitted from desilting spoils due to the decomposition of organic matter at stockpile areas. However, stockpile areas are located outside of the boundaries of any sensitive receptor. Stockpile areas would be located far enough away from sensitive receptors to allow any odors from organic matter to dissipate. Furthermore, it can be noted that during previous desilting events, the public has not complained about odors. Therefore, impacts to air quality from objectionable odors are less than significant (Class III).

#### **Mitigation Measures**

None required.

**Impact AQ - 4: Desilting Activities in the Goleta Slough would contribute to Greenhouse Gas Emissions- Class III.** According to the Santa Barbara Air Pollution Control District website (July, 2009), the APCD is currently developing capabilities to inventory greenhouse gas emissions (GHGs) in Santa Barbara County, so the "district can serve as a resource for cities and businesses who will be working to reduce their emissions, and to meet the new state regulations that will be established under AB-32." The SBCAPCD provides emission inventories for criteria pollutants and air toxics on an annual basis in connection with preparing Clean Air Plans; however, those criteria pollutants do not currently include greenhouse gas emissions. As such, the SBCAPCD is waiting to provide specific guidelines for CEQA analysis of greenhouse



gas emissions pending CARB or other State agency recommendation (Murphy, 2000, personal communication).

Although no formal regulation currently exists for establishing thresholds for greenhouse gas emissions at the local level, the California Office of Planning and Research (OPR) has prepared a technical advisory for addressing climate change issues in CEQA. The technical advisory, "CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review" (June, 2008) provides guidance for agencies in addressing the emerging role of CEQA in addressing climate change and greenhouse gas emissions.

OPR's recommended approach is for Lead Agencies to make a good faith effort, based on available information to calculate or estimate GHG emissions, and determine significance. Should an impact, based on the good faith effort and research, be determined by the lead agency to be significant, then measures should be made to avoid, reduce, or otherwise mitigate the impacts.

Pursuant to the recommendations contained in OPR's Technical Advisory, the following analysis represents a good faith effort to disclose the GHG emissions associated with operation of the Goleta Slough Desilting Project. Greenhouse gas estimates for both the typical and worst case scenarios for the proposed Project are presented in Table 5.2-10.

**Table 5.2-10. Greenhouse Gas Emissions Estimates**

Source	CO <sub>2</sub> Emissions (metric tons/year)	CH <sub>4</sub> Emissions (metric tons/year)	N <sub>2</sub> O Emissions (metric tons/year)	CO <sub>2</sub> E <sup>1</sup> (metric tons/year)
Typical Scenario	372.8	0.04	0.01	375.6
"Worst-Case" Scenario	484.4	0.05	0.01	489.7

1 CO<sub>2</sub>E conversion factors were provided in California's GHG Inventory, 2008.

2 GHG emissions calculated using CARB's OFFROAD Model and emission factors provided in the California GHG Inventory available at [http://www.arb.ca.gov/cc/inventory/doc/doc\\_index.php](http://www.arb.ca.gov/cc/inventory/doc/doc_index.php).

Because the emission sources associated with the Project are internal combustion engines, the predominant GHG emitted by the Project would be carbon dioxide (CO<sub>2</sub>). As a result, GHG emissions for the Project are calculated based on estimated fuel usage. Emission factors provided in California's GHG Emissions Inventory were used to calculate GHG emissions. The typical scenario will produce a total of 375.6 metric tons of CO<sub>2</sub> equivalent (MTCO<sub>2</sub>E). The worst case scenario will produce a total of 489.7 MTCO<sub>2</sub>E. These emissions would occur only during each desilting event and would result primarily from the dragline or hydraulic dredges and associated equipment.

It is possible that GHG emissions associated with the proposed Project, when combined with emissions throughout the area, the County of Santa Barbara, the South Central Coast Air Basin, and the world, might incrementally contribute to climate change. Locally, there are industrial,





commercial and residential projects in the Project area that contribute to cumulative impacts due to the release of GHG emissions. The Draft GHG Emissions Inventory (CARB, 2008), estimates that the annual CO<sub>2</sub>E for all GHGs produced in California in 2004 to be 468.8 million metric tons. Therefore the GHG associated with either the typical (375.6 MTCO<sub>2</sub>E) or the worst case scenario (489.7 MTCO<sub>2</sub>E) of the proposed Project would represent a negligible percentage of the annual GHG emissions produced statewide.

While global climate change is, by definition, a significant cumulative environmental impact there is currently no agreed upon methodology to adequately identify, under CEQA. However, based on the small percentage of GHG emissions associated with the proposed Project when compared to annual GHG emissions produced statewide, these emissions are expected to be less than significant. As specified in the OPR Technical Advisory, an evaluation is provided below discussing potentially feasible, measures available to reduce these emissions.

### **Review of OPR Recommended Greenhouse Gas Mitigation Measures**

As discussed above, the OPR Technical Advisory provides examples of GHG reduction measures to be implemented during Project activities where feasible. These general measures include: 1) Land Use and Transportation Measures; 2) Urban Forestry; 3) Green Buildings; 4) Energy Conservation Policies and Actions; 5) Programs to Reduce Vehicle Miles; and 6) Programs to Reduce Solid Waste. Based on those areas mitigation areas which are applicable to the proposed Project, the District has incorporated the following mitigation measures to reduce GHG emissions during Project activities.

### **Mitigation Measures**

#### **Mitigation Provided by the 1993 Program EIR.**

No mitigation measures included within the original 1993 PEIR were provided for the specific purpose of limiting GHGs.

#### **Additional Mitigation Recommended by this Subsequent EIR.**

***MM AQ-4: Efforts to Reduce GHG Emissions.*** The following measures included for GHG emissions include several measures described above for MM AQ-1 A&B. These measures will have the dual purpose of reducing air quality impacts and GHG impacts for the proposed Project.

- All portable construction equipment shall be registered with the state's portable equipment registration program or permitted by the District by September 18, 2008.
- Idling of heavy-duty trucks will be limited to 5 minutes.
- Heavy-duty diesel-powered equipment purchased for the Project shall comply with federal and California diesel standards that are in force at the time of purchase.



Plan Requirements and Timing. GHG emissions reduction activities will be applied as necessary throughout Project activities.

Monitoring. District staff will be responsible for monitoring GHG emission reduction measures as necessary throughout Project activities.

Residual Impacts. Implementation of these mitigation measures would reduce GHG emissions; however some residual GHG emissions would result. These residual impacts would be less than significant (Class III).

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**United States Environmental Protection Agency. 2002. *Health Assessment Document for Diesel Engine Exhaust***



### 5.3 GEOLOGY AND SOILS

This section describes the geologic conditions that exist at the five tributaries maintained by the District within the Goleta Slough, the proposed Goleta Beach receiver site, and closed Foothill Landfill Sediment Disposal/Restoration Site. Setting information with respect to regional geology, seismology, physiographic soil characteristics as well as physical oceanography (currents and sediment transport) have been included as applicable to each portion of the Project. In addition, the regulatory framework and changes to the maintenance Program since adoption of the PEIR in 1993 will be discussed.

#### 5.3.1 Environmental Setting

##### 5.3.1.1 Regional Geology

**Onshore.** The Project Site is located within the western portion of the Transverse Ranges geomorphic province of southern California. The Transverse Ranges province is oriented in a general east-west direction, which is transverse to the general north-northwest structural trend of the remainder of California's coastal mountain ranges. The Transverse Ranges province extends from the San Bernardino Mountains in Riverside County (east) to Point Arguello (west). The province is bounded to the north by the San Andreas and Santa Ynez faults, the east by the Mojave geomorphic province, the south by the Peninsular geomorphic province and Pacific Ocean, and the west by the Pacific Ocean.

The western Transverse Ranges are composed of sedimentary, volcanic, and metamorphic rocks ranging in geologic age from the Jurassic (144- to 208-million years ago) to Holocene (recent). North-south tectonic compression has resulted in regional east-west trending faults and folds within rocks of the western Transverse Ranges. The Santa Ynez Mountains are one of the east-west trending mountain ranges of the western Transverse Ranges province. These mountains are formed by a large east-west trending anticline (a fold in the rocks creating a mound or ridge) that has been complexly faulted. The Santa Ynez Mountains have been tectonically uplifted, and are composed mainly of marine sandstone and shale rock formations that range in geologic age from Eocene (36 to 57 million years ago) to Holocene (recent). The highest elevation of the local mountains is at Divide Peak, 4,690 feet above sea level.

Apart from two short stretches of coast, one at Point Pedernales and the other near the mouth of Canada del Rodeo northwest of Jalama where volcanic rocks are present, the entire coastal cliff from two and a half miles south of Surf to the city of Santa Barbara is formed from either the Monterey or the Sisquoc formations. Thus, this coastal cliff can be expected to respond to marine erosion in much the same way throughout. One minor exception occurs on the south coast at More Mesa between Goleta Slough and Santa Barbara, where a massive siltstone forms a particularly high, steep cliff. This siltstone has been assigned to the Pico Formation by several geologists, although the assignment is-disputed (City of Santa Barbara, 2009). The shoreline adjacent to the Project area is similar to much of the mainland shore of the Santa Barbara Channel, i.e., sandy (fine- to medium-grained) beach backed by high bluffs.



According to the geotechnical report prepared on behalf of the PEIR (K-C Geotechnical Associates, 1993) the Goleta Slough lies on the Goleta Coastal Plain. The coastal plain is underlain by a thick sequence of Pleistocene and recent deposits that unconformably overlie Tertiary-age sedimentary rocks at depths greater than 1,000 to 1,500 feet. The near surface units underlying the proposed maintenance sites consist of recently deposited sediments that generally consist of sand and silty sand with interbeds of silt and clay. The sediments exposed at Goleta Beach consist of recent beach deposits.

**Offshore.** Offshore, the mainland shelf slopes gently seaward from the coastline to depths of about 280 feet where it intersects the northern slope of the Santa Barbara Channel. The mainland slope dips relatively steeply toward the center of the Santa Barbara Channel. To the south, the Santa Barbara Channel rises along a submarine slope to a narrow nearshore shelf bordering the four northern Channel Islands: Anacapa, Santa Cruz, Santa Rosa, and San Miguel. These islands represent the western physiographic extension of the Santa Monica Mountains. Maximum elevations of the Channel Islands vary from 830 feet on San Miguel Island to 2,450 feet on Santa Cruz Island. The Santa Barbara Channel is underlain by a thick sequence of upper Mesozoic and Tertiary marine and continental sediments resting on basement rocks of the Jurassic-age Franciscan complex.

#### 5.3.1.2 Seismicity

**Seismic-Related Hazards.** Southern California is a seismically active area that has experienced earthquake-induced ground shaking. Seismic-related hazards resulting from faulting, liquefaction, and tsunami/seiche are described below.

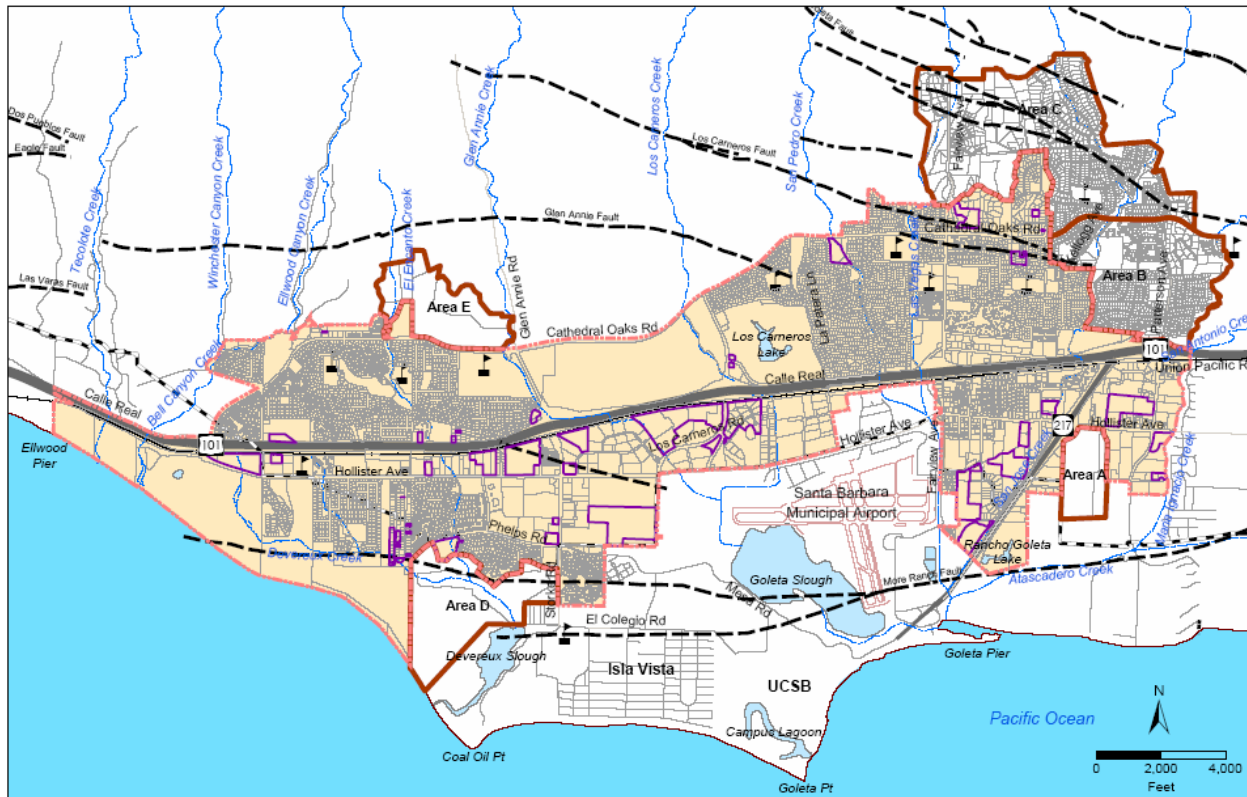
**Geologic Structure/Faulting.** As described within the City of Goleta General Plan EIR (2006) and shown on Figure 5.3-1, the geologic structure that underlies the City of Goleta generally consists of a southerly dipping, east-west trending homocline (i.e., all the rock layers dip uniformly in one direction), similar to the overall structure of the Santa Ynez Mountains. In the foothill area, the Carneros fault is traceable for eight or nine miles and has a vertical displacement of about 1,500 feet upward on the coastal block. The More Ranch, Lavigia, and Mesa faults underlie the heavily developed Goleta - Santa Barbara areas. These faults are poorly exposed, but escarpments such as the northeast-facing mesa overlooking downtown Santa Barbara is recognized as the result of upthrust of the coastal block. According to information contained within the County of Santa Barbara General Plan - Seismic Element (May 2009), maximum vertical displacements on any of these faults is probably not more than 2,500 feet. Though topographic evidence for current movement is meager, indirect evidence suggests that these faults may become active at any time.

Within the vicinity of the Project maintenance activities area, the More Ranch fault is located north of the Goleta Slough mouth and south of the Santa Barbara airport. The More Ranch fault (or fault zone) is classified as Potentially Active based on evidence of Late Quaternary displacement; however, the More Ranch fault is not located within a California Geologic Survey identified Alquist Priolo earthquake fault zone. Near the closed Foothill Landfill, the Carneros fault is one of the several Goleta Valley faults that trends in an east-west direction and has 13,000 and 1,600 feet of horizontal and vertical displacement with the south





side up. The Carneros fault is also not identified as being located within an Alquist Priolo earthquake fault zone.



Source: City of Goleta FEIR, September 2006.

**Figure 5.3-1. Fault Map of Project Vicinity**

**Liquefaction.** Liquefaction occurs when strong, cyclic motions during an earthquake cause water-saturated soils to lose their cohesion and take on a liquid state. Liquefied soils are unstable and can subject overlying structures to substantial damage. The occurrence of liquefaction is highly dependent on local soil properties, depth to groundwater, and the strength and duration of a given ground-shaking event. According to information presented in the County of Santa Barbara Comprehensive Plan, Seismic Element (2009), soils located within the creek channels and banks have a high potential for liquefaction to occur. Within the closed Foothill Landfill Sediment Disposal/Restoration Site, artificial fill soils have not been classified by the County within the Comprehensive Plan.

**Tsunami/Seiches.** Tsunamis are seismically induced sea waves that can be of sufficient size to cause substantial damage to coastal areas. The last major tsunami in Southern California was in 1812. Seiches are oscillating waves that occur in enclosed or semi-enclosed bodies of water such as lakes and bays. Seiches are commonly caused by earthquakes. The five tributaries leading into the Goleta Slough would be subject to seiche in the event of an earthquake.



### 5.3.1.3 Soil Characteristics

As supported by findings within the study originally prepared on behalf of the PEIR (K-C Geotechnical Associates, 1993), soils at the Project site generally consist of alluvial deposits (Ac-Acquents and CA-fine sandy loam soil classifications, USDA, 1970) within the creek maintenance sites and beach deposits (BE) at Goleta Beach (Figure 5.3-2). Soils at the closed Foothill Landfill alternative disposal site are fill material and variable. According to the geotechnical assessment and historic site characterization results, soil conditions encountered within Atascadero, San Pedro, and San Jose creeks are similar and show consistently that the upper 8 to 9 feet of sediment generally consists of very loose to medium dense, poorly graded sand to silty sand. Sediments at Tecolotito and Los Carneros creeks were found to be generally finer than those at the other three basin sites, which would indicate better stability. Table 5.3-1 (taken from Table 2-4 of the Project Description) gives a summary of the soil characteristics (fines percentages) of samples taken from the five creeks from 1993 to present.

**Subsidence.** Subsidence is a lowering of the ground surface elevation as a result of withdrawal of fluids, including groundwater, oil, or gas. Withdrawal of such fluids can result in a net decrease in the pore pressure, thus allowing the soil grains to pack closer together. This closer grain packing results in less volume and the lowering of the ground surface.

Because subsidence due to oil, gas, or groundwater withdrawal generally occurs over a large area, damage as a result of differential settlement is typically only evident in long linear features, such as pipelines, roadways, or aqueducts. No evidence of significant subsidence or problems related to subsidence is known in Santa Barbara County. However, it should be noted that no precise level lines or surveys have been measured in oil, gas, or water producing areas in the county.

**Slope Stability/Landsliding.** According to information presented in the County of Santa Barbara Comprehensive Plan, Seismic Element (2009), soils located beneath the Project maintenance and closed Foothill Landfill Sediment Disposal/Restoration Site are stable and have a low probability rating for landslides. Substantial ground shaking is capable of being generated by nearby faults; however, only the creekbanks may be susceptible to minor slope failures.

**Expansive Soils.** Expansive soils are often associated with those geologic units, which also exhibit poor to marginal stability characteristics. Geologic formations that are most often associated with expansive soil problems because of the soils derived from them are the Rincon, Monterey, and Paso Robles. However, as indicated in the County of Santa Barbara Comprehensive Plan, Seismic Element (2009), the effects of expansive soils can largely be alleviated by proper design, construction and grading procedures. According to information presented in the Seismic Element, the Project Site has a zero to low potential for expansive soils to occur. Within the closed Foothill Landfill Sediment Disposal/Restoration Site, artificial fill soils have not been classified by the County within the Comprehensive Plan.



This is a detailed topographic map of Santa Barbara, California, showing the Santa Barbara Airport, University of California at Santa Barbara, and surrounding areas. The map includes labels for various creeks: Tecolote Creek, Los Carneros Creek, San Pedro Creek, San Jose Creek, and Atascadero Creek. It also shows the Goleta Slough, Santa Barbara Slough, and the Santa Barbara River. The map is oriented with North at the top, indicated by a north arrow in the bottom right corner.



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**Table 5.3-1. Summary of Soil Characteristics within Goleta Slough Tributaries**

Monitoring Report	Sampling Location	Desilting Methodology	Mean Fines (passing #200 sieve)
4/20/93	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	~24%
7/9/93	Tecolotito and Los Carneros	Dragline	Los Carneros: 4% Tecolotito: 30%
7/9/98	Atascadero, San Jose, San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. 13% for 10 composite samples
12/6/00	Tecolotito and Los Carneros	Dragline	Los Carneros: 9% Tecolotito: 11%
6/1/00	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. of 30% for 10 composite samples
8/11/00	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. of 17% for 9 composite samples
3/23/01	San Pedro and Los Carneros	Dragline	San Pedro: 7% Los Carneros: 11%
6/11/01	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 6% San Jose: 12% San Pedro: 17%
11/28/01	Tecolotito and Los Carneros	Dragline	Tecolotito: 21% Los Carneros: 17%
9/22/03	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 9.75% San Jose: 28.5% San Pedro: 8.75%
1/20/05	San Jose Creek, San Pedro Creek Los Carneros Basin	Hydraulic/Dragline	Los Carneros: 28.4% San Pedro: 13.4% San Jose: 23.6%
1/24/05	Tecolotito Basin	Dragline	17.6% (average)
2/2/05	Atascadero Creek	Hydraulic	10.6% (average)
11/7/05	Atascadero*, San Jose, and San Pedro	Hydraulic+ Excavation	Atascadero: 21.9% San Jose: 7.5% San Pedro: 43.5%
10/26/06	San Pedro and Los Carneros	Hydraulic	San Pedro: 33.8% Los Carneros: 36% Goleta Beach West: 13.6% Goleta Beach East: 9.4%
9/17/08	San Jose, San Pedro, and Los Carneros	Dragline	San Pedro: 9% (average) Los Carneros: 15.6% (average) San Jose: 14% (average)





**Soil Creep.** Soil creep is the slow downslope movement of surficial soils. It involves clayey soils and is due - at least in large part, to the volume changes from cyclic wetting and drying. According to information presented in the County of Santa Barbara Comprehensive Plan, Seismic Element (2009), the proposed maintenance areas are identified as having a zero to low potential for soil creep to naturally occur. Within the closed Foothill Landfill Sediment Disposal/Restoration Site, artificial fill soils have not been classified by the County within the Comprehensive Plan.

**Compressible and Collapsible Soils.** Compressible and collapsible soils can cause settlement and damage to structure unless adequate precautions are taken. Compressible soils are fine-grained cohesive soils of low strength, which consolidate and cause settlement when surcharged with fill or structure loads, particularly when saturated. Collapsible soils are low density, fine-grained dominantly granular soils, usually with minute pores and voids. When these soils become saturated with water, they undergo a rearrangement of their grains, resulting in substantial and rapid settlement under relatively low loads. According to information presented in the County of Santa Barbara Comprehensive Plan, Seismic Element (2009), the Project maintenance area is located in an area identified as having a moderate to high potential for compressible and/or collapsible soils. Soils at the closed Foothill Landfill Sediment Disposal/Restoration Site are identified as having a low to moderate potential for compressible and/or collapsible soils.

**Erosion.** Erosion is a function of the soil or rock characteristics, slope gradient, and water flow, which can vary greatly in short distances. Most soils in the County are susceptible to erosion to some degree but the following geologic formations because of their basic granular characteristics - in part or whole - are considered most subject to erosion and where encountered should be evaluated for this problem: Fonglomerate, Terrace and Older Alluvium Deposits, Casitas, Santa Barbara, Pico, Paso Robles, Careaga, and Orcutt formations. Recent and old sand dunes not anchored by vegetation are subject to wind erosion and considerable movement.

#### 5.3.1.4 Currents and Sediment Movement

**Sediment Sources.** The principal components of the area's sediment budget include sediment delivery from the tributary creeks and streams of the Santa Ynez Mountain watershed. The relatively limited sand supply within the shoreline reach and the characteristics of the local geology and bluff morphology explain why the beaches have eroded into the relatively narrow and sediment limited features that exist today. Temporal variation in berm width occurs regularly due to seasonal changes and short-term storm events. During winter, large, short-period waves generated by local storms will erode the beach, carrying sediment seaward. During summer, smaller, long-period waves carry sediment shoreward, regenerating the beach. Seasonal changes have been measured to be about 50 feet (15 m). Short-term storm erosion and recovery sequences can be greater.

As discussed within Section 4.1 of the 1993 PEIR (see Appendix C) and Section 5.1 (Water Resources), the Project area (with the exception of the closed Foothill Landfill) is located



within the Goleta Slough, a coastal wetland at the junction of five major streams that drain the southern flank of the Santa Ynez Mountains. Natural erosion and erosion accelerated by forest fires in the mountain watersheds, agriculture, and community development have contributed sediment to the stream channels. Siltation and the growth of vegetation have led to flooding during intervals of heavy runoff. It is known that floods are exacerbated by the accumulation of sediment and debris in natural stream channels, among other things. To reduce the incidence and severity of future floods, maintenance dredging of several streams in the Goleta Slough area began in 1967. The approximate sediment volumes of the five creeks are shown in Table 5.3-2; however, these volumes have been exceeded as indicated during years of excess runoff or rain conditions.

**Table 5.3-2. Approximate Sediment Volumes**

<b>Creek/Basin</b>	<b>Location (and dimension of basin, if applicable)</b>	<b>Volume (cy)</b>
<b>Tecolotito</b>	Located on Tecolotito Creek just downstream of Hollister Avenue (8' x 100' x 550')	11,300
<b>Los Carneros</b>	Located on Los Carneros Creek downstream of Hollister Avenue (6' x 60' x 600')	10,000
<b>Atascadero</b>	Starting at the Check Structure at the End of Ward Drive	36,000
<b>San Jose</b>	Starting at the Southern end of the Lined Channel	15,500
<b>San Pedro</b>	Starting Just Downstream of the Bridge on James Fowler Road	19,400

**Historic Sediment Removal Volumes.** As indicated in Table 2-2 of the Project Description, approximately 938,796 cubic yards of sediment have been removed to maintain the basins and channels within the Goleta Slough since 1993. Dragline desilting accounts for approximately 569,300 cy removed from the five cumulative tributaries and hydraulic dredging accounts for approximately 369,496 cy removed from Atascadero, San Jose, and San Pedro creeks. It is important to note that both dragline and hydraulic desilting methodologies can be used during any given maintenance year (as shown during the 94/95, 98/99, and 2005 maintenance seasons).

During the nine (9) seasons that desilting activities have been performed an average of 105,000 cubic yards have been removed per season. However, based on seasonal conditions the amount of material accumulated varies; accounting for a range of 10,000 to 238,000 cubic yards removed in any given year to provide the best balance of flood protection, habitat protection, and desilting economy.

**Nearshore Sediment Transport.** Studies have shown that, in the vicinity of Santa Barbara, the volume of daily sand transport past a given point of the coastline ranges from a low of about 300 cubic yards per day during the summer (quiet wave conditions) to highs of more than 4,500 cubic yards per day during stormy periods in winter. The average has been found to be about 700 to 750 cubic yards daily. Nearshore sediment transport is more a function of the wave climate than of oceanographic currents. Currents on the north (i.e., mainland) side of the



Santa Barbara Channel are primarily to the west, while sediment drift is to the east. Circulation patterns in the Santa Barbara Channel are a subset of currents of the Southern California Bight (SCB). While the equatorward-flowing California Current dominates the flow off the western United States, its influence in the SCB is lessened because most of its flow is 200 to 500 km (110 to 270 miles) offshore. The Southern California Countercurrent is formed as an eddy that branches off the California Current near the southern U.S. border. It dominates the surface flow over the continental slope area of the SCB as a poleward-flowing counter current, especially during summer and winter. In spring the countercurrent is essentially absent, with the flow entering the SCB turning equatorward.

#### 5.3.1.5 Regulatory Setting

**State.** The following regulations apply to geologic hazards identification and avoidance within the State of California.

**Alquist-Priolo Act.** The Alquist-Priolo Act was passed in 1972 “to mitigate the hazard of surface faulting to structures for human occupancy.” The Act establishes criteria used to estimate fault activity in California and requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps to affected cities, counties and areas within the State.

**Seismic Hazards Mapping Act.** According to the California Geological Survey - Seismic Hazards Zonation Program, the Seismic Hazards Mapping Act was enacted to “govern the exercise of city, county and state agency responsibilities to identify and map seismic hazard zones and to mitigate seismic hazards to protect public health and safety in accordance with the provisions of Public Resources Code, Section 2690 *et seq.* (Seismic Hazards Mapping Act).” The Seismic Mapping Act requires that in order to receive approval, a project must meet specific criteria including the following:

- A project shall be approved only when the nature and severity of the seismic hazards at the Site have been evaluated in a geotechnical report and appropriate mitigation measures have been proposed.
- The geotechnical report shall be prepared by a registered civil engineer or certified engineering geologist, having competence in the field of seismic hazard evaluation and mitigation. The geotechnical report shall contain Site-specific evaluations of the seismic hazard affecting the project, and shall identify portions of the Project Site containing seismic hazards. The report shall also identify any known off-Site seismic hazards that could adversely affect the Site in the event of an earthquake. The contents of the geotechnical report shall also be required to include specific sections such as a project description and recommendations for appropriate mitigation measures as required in Section 3724(a).
- Prior to approving the project, the lead agency shall independently review the geotechnical report to determine the adequacy of the hazard evaluation and proposed mitigation measures and to determine the requirements of Section 3724(a), above, are satisfied. Such reviews shall be conducted by a certified



engineering geologist or registered civil engineer, having competence in the field of seismic hazard evaluation and mitigation.

**California Coastal Act.** The California Coastal Act of 1972, created the California Coastal Commission to enact policies as standards in its coastal development permit decisions and for the review of local coastal programs, which are prepared by local governments. Among many issues, the local coastal programs require protection against loss of life and property from coastal hazards, including geologic hazards.

**Uniform Building Code.** The Uniform Building Code (UBC) defines regions of the United States within seismic zones to determine the potential for seismic activity at various locations. These maps are then used to determine the extent from which future development would be required to comply with design and engineering standards.

**California Building Code.** The California Building Code provides the State with a minimum standard of building design to protect structures from potential impacts related to geologic hazards. Chapter 23 of the Building Code contains specific guidelines for seismic safety, while Chapter 29 of the Building Code regulates the excavation, foundation and retaining walls of developments. In addition, Chapter 33 contains specific requirements for building and construction in order to protect the public from hazards associated with construction related debris or materials.

## **5.3.2 Impact Analysis and Mitigation Measures**

### **5.3.2.1 Thresholds of Significance**

**CEQA Guidelines.** Impacts are considered potentially significant if the proposed development activity, including all project incorporated measures, could result in substantially increased erosion, landslides, soil creep, mudslides and unstable slopes (Appendix G (q), CEQA Guidelines). In addition, impacts are considered significant when people or structures would be exposed to major geologic hazards upon implementation of the project (Appendix G(r), CEQA Guidelines). Based on the County of Santa Barbara Environmental Thresholds and Guidelines Manual (1992), impacts related to geology have the potential to be significant if the proposed project involves any of the following characteristics:

1. The project site or any part of the project is located on land having substantial geologic constraints, as determined by the County of Santa Barbara Planning and Development (P&D) or the County of Santa Barbara Public Works Department (PWD). Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils or susceptible to landslides or severe erosion. "Special Problems" areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.



2. The project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to 1 vertical.
3. The project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.
4. The project is located on slopes exceeding 20 percent grade.

Additionally, as originally stated within the PEIR prepared in 1993, impacts from the project would be significant if the project created unstable slopes or if the excavated material were incompatible with the receiving beach as defined by project permits from the CCC, RWQCB, or U.S. ACOE.

#### 5.3.2.2 Currently Approved Goleta Slough Maintenance Program

1. Project activities including dredging at Atascadero, San Jose and San Pedro creeks would cause slope instability at the toe of existing creek banks (less than significant - Class III);
2. Project activities including draglining at Tecolotito and Los Carneros creeks would cause slope instability at the toe of existing creek banks (less than significant - Class III); and
3. Soils from desilting activities would be incompatible with existing beach material (less than significant - Class III).

#### 5.3.2.3 Proposed Updated Maintenance Program

The 1993 PEIR was based upon a geotechnical report prepared for the proposed desilting sites (K-C Geotechnical, 1993). The findings of this report indicate that the main issues of concern associated with the proposed maintenance activities include: 1) stability of dredge slopes, 2) excavation characteristics of creek sediments, 3) suitability of dredge materials with respect to disposal options. As indicated within Section 5.3.1.3 (Soil Characteristics), since the original preparation of the PEIR, the District has routinely performed soil analysis and characterization prior to maintenance activities each season. The results of these analyses in relation to continued sediment removal activities as well as additions to the Program including potential restoration activities along the creek banks, at the closed Foothill Landfill Sediment Disposal/Restoration Site, and opening of the Goleta Slough are further discussed below.

### Maintenance Activities

**Impact GEO-1: Removal of creek over-sedimentation will alter existing creek channel structure - Class III.** Desilting of the five creeks would require the removal of up to 1 to 6 feet below existing creek bed elevations. The removal of this over-sedimentation is intended to satisfy one of the District's Program goals to remove sediments that would otherwise fill in the slough and diminish the biological productivity of the marsh as habitat. The Program design depth has averaged approximately -3.5 feet on the Vertical Datum = NAVD88 and Horizontal





Datum = NAD83. The mean lower low water (MLLW) depth is -3.59 feet. The side-slope ratio is 3:1 based on the presence of archaeological sites, the width of the creek channels, and an attempt to keep the dredging operations away from the banks of the creeks. The maximum -3.5 foot dredging depth is utilized in all hydraulic dredging operations and allows for enough sediment to be removed from the three channels in order to maintain sufficient flow capacity in the creeks. Increasing the creeks' capacity to convey flood flows each year increases the tidal prism, and helps to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough. As such, the geologic impacts resulting from sediment removal are less than significant.

**Impact GEO-2: Stockpiling of desilted material along creek banks may contribute to erosion/sloughing of soils - Class III.** Access for draglining of Tecolotito and Los Carneros creeks is via Hollister Avenue turning south on Firestone or South Los Carneros Roads. Stockpiling of soils is located within a designated stockpile area approximately 30 feet away from the creek bank along the eastern bank/access roadway to Los Carneros Creek and along the western and eastern bank/access roadway for Tecolotito Creek. If required, access to Atascadero, San Pedro, and San Jose creeks is via Hollister Avenue to South Fairview Avenue, South Kellogg Avenue, or Ward Drive. Stockpiling of soils would be within a designated stockpile area approximately 30 feet away from the creek bank along the eastern bank/access roadway of San Pedro Creek and along the northern bank/access roadway of the Atascadero Creek Channel. Additionally, desilted material is temporarily stockpiled along the western bank/access roadway along the upper portion of San Jose Creek.

As originally determined for Atascadero, San Jose, and San Pedro creeks, the Program dredge slopes would be excavated at the toe of the existing creek banks. According to the original geotechnical analysis performed within the PEIR (K-C Geotechnical Associates, 1993) all slopes have been engineered at either 2:5:1 or 3:1; and are therefore considered stable. Common to these findings, some sloughing could occur within the dredged slopes, especially during low tides, but this would not be substantially different than the slumping and sloughing that occur under natural conditions regardless of maintenance program implementation. Desilted materials would be placed within designated stockpiling areas used during previous maintenance seasons on stable soils that have not contributed to significant erosion or sloughing along the creek banks. As such, no significant impact would result.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant with previous, project-incorporated measures in place. No mitigation measures proposed.



## **Goleta Beach Replenishment**

**Impact GEO-3: Placement of sediment at Goleta Beach compatibility of material with beach sand - Class III.** Each spring the District surveys the Goleta Slough maintenance area to determine whether desilting activities will be necessary. If maintenance activities are required, the District implements a Sampling and Analysis Plan (SAP) to determine the extent and characterization of material that must be removed. In accordance with current CDP permit conditions, five boring samples are taken from each maintenance location and tested for grain size and chemical composition.

Physical analysis of the sediment includes testing of representative samples for grain size, contaminants, color, particle shape, debris content and compatibility in accordance with ASTM and USEPA guidelines as well as USACE and CCC permit application requirements. Additionally, the SAP includes sampling for various constituents (including; but not limited to total petroleum hydrocarbons, pesticides, PCBs, metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative. Please refer to Table 2-4 within the Project Description for a summary of sediment sampling results.

Based on historic results (depicted in Figure 2-6 taken from the Project Description below) sediment removed from the Goleta Slough tributaries has predominantly been suitable (i.e., fines <25%) for beach replenishment. Sediment samples taken from Atascadero Creek and Tecolotito Basin have always had sediments suitable for beach replenishment. Samples taken from Los Carneros Basin and San Jose/San Pedro creeks have exceeded required percentages of fines on occasion; ranging from a slight overage up to approximately 43.5 percent in San Pedro Creek. Since 1993, approximately 80 percent of dredged materials from the Goleta Slough have been taken/discharged to the surf zone at Goleta Beach for beach replenishment, although 85 percent + of material removed has been tested as suitable, but have sometimes been utilized for upland re-use.

As indicated within a letter to the District received from RWQCB in February of 2009, the Project would be regulated by the USACE and RWQCB through a Clean Water Act Section 404 Permit and Section 401 Water Quality Certification. Under these regulations, "dredge material that contains at least 50% sand is potentially eligible for beach replenishment". However, when beach replenishment material is less than 80% sand, the SAP shall require sediment chemical testing. As such, continued placement of maintenance sediment removed at Goleta Beach for beach replenishment is determined to be less than significant with implementation of the Project-incorporated SAP.

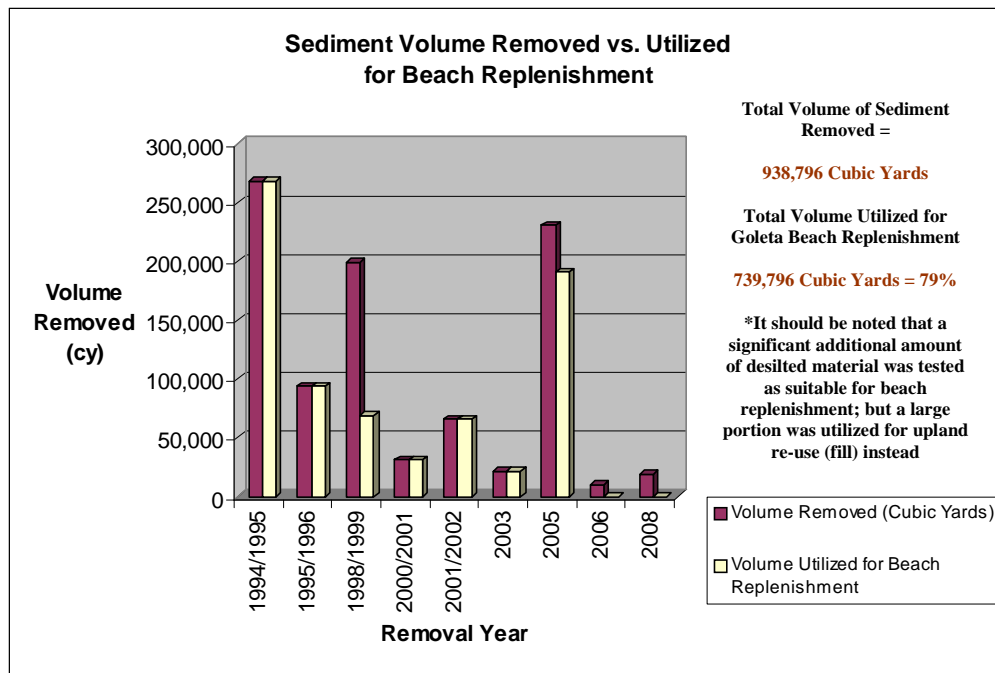
### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Incorporated in the Project Description.



**MM Project-1: Sampling and Analysis Plan** - Implementation of Project-incorporated Sampling and Analysis Plan (SAP) in accordance with ASTM and USEPA guidelines.



**Impact GEO-4: Placement of sediment within surf zone at Goleta Beach effect on beach replenishment - Class IV.** The California Coastal Commission currently permits the District to discharge up to 200,000 cy of sediment at Goleta Beach per year. Due to seasonal fluctuations in the amount of sand available for replenishment/retention; the District's is proposing maintenance activities to discharge compatible sand up to 250,000 cy at Goleta Beach in a maintenance season for beach replenishment. This is considered a beneficial impact.

**Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No mitigation measures proposed.



**Impact GEO-5: Sediment deposition at Goleta Beach will alter existing nearshore sediment movement - Class III.** During desilting activities, beach replenishment could occur from September 15<sup>th</sup> through March 31<sup>st</sup>. Although discharge of sediments to the surf zone would replace sand scoured from the beach during the winter months, it would temporarily add to nearshore sediment movement and offshore turbidity. However, while hydraulic desilting is being conducted or material has been placed within the surf zone from dragline desilting activities; visual observations of water quality will be conducted in the vicinity of the offshore discharge area to ensure compliance. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report. Due to the temporary nature and extent of the effects to nearshore sediment movement, in addition to the Project-incorporated monitoring program, this is a less than significant impact.

#### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No mitigation measures proposed.

#### **Opening of Goleta Slough Mouth**

**Impact GEO-6: Opening of the Goleta Slough mouth will alter existing nearshore sediment transport - Class III.** In accordance with existing conditions of approval and cooperative agreement with the U.S. Army Corps of Engineers, the District must open the mouth of the Goleta Slough within two (2) weeks of it closing. In order to open the Goleta Slough mouth, material from Goleta Beach is pushed aside as necessary to connect the Slough mouth with the tidal influence of Goleta Beach until the inlet areas has stabilized. Opening of the Goleta Slough mouth prevents flooding of the adjacent airport and continues to meet the District's maintenance objectives by increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough. The sediment from the mouth of the Slough at Goleta Beach is quickly redistributed along Goleta Beach and no significant impact would result.

#### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No mitigation measures proposed.



## **Closed Foothill Landfill Restoration**

**Impact GEO-7: Proposed Landfill Restoration Plan Will Alter Existing Topography and Surficial Features - Class II.** The closed Foothill Landfill Sediment Disposal/Restoration Site ranges in elevation from 110 feet above mean sea level (msl) at the southern toe to 283 feet msl at the berm east of the Transfer Station Road. The current topography of the site is a direct result of the historic land filling operations. The proposed restoration/fill area is approximately 20 acres (divided into 3 areas as shown on Figure 3-4). The initial phase of restoration will require the import of sediment and grading/shaping with heavy equipment (most likely one D6 or D8 bulldozer) to reach the designed topography. Sediment fill and grading will follow all RRWMD-required specifications for maintenance of adequate soil cover over the former landfill. Existing vegetation will be removed or filled incrementally as needed to accommodate new sediment as it is imported. The landfill has capacity for approximately 210,000 cy of sediment. The final topography of the site may change slightly in terms of general contouring of the side slopes; however the maximum elevations shown on Figure 3-4 will not change. At each of the fill areas, the side slopes of the landfill will be graded to a 2:1 slope or flatter and the tops will be graded to have a plateau with a 3 percent or flatter grade to allow for drainage. As such, the Project is consistent with County of Santa Barbara County Thresholds and Guidelines and would ensure that construction of cut slopes does not exceeding a grade of 1.5 horizontal to 1 vertical; the Project would not propose construction of a cut slope over 15 feet in height as measured from the lowest finished grade; and the Project is not located on slopes exceeding 20 percent grade. With implementation of a grading plan in conformance with all County requirements impacts would be reduced to less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Incorporated in the Project Description.

***MM Project 2: Restoration/Revegetation Plan for the Proposed Sediment Disposal Areas at the Closed Foothill Landfill*** - Implementation of Project-incorporated restoration and revegetation plan at the closed Foothill Landfill sediment disposal areas.

**Impact GEO-8: Restoration of the landfill may result in temporary erosion of soils - Class III.** The proposed Foothill Landfill restoration would require earth moving activities that may increase temporary erosion of soils prior to re-establishment of vegetative cover. This is a potentially significant impact. As such, Project-incorporated mitigation measures such as jute netting or other biotechnical slope stabilization methods may be used in combination with vegetation to control erosion and to improve the success of the restoration. Additionally, the majority of the areas to receive sediment have been designed with 2:1 slopes, which would minimize erosion, but localized Best Management Practices (BMPs) such as mulching, fiber rolls, or straw bales may be deployed, as needed to control erosion, especially before vegetation is sufficiently established.





Sediment disposal and associated restoration at the closed Foothill Landfill Sediment Disposal/Restoration Site will take many years to implement because the sediment import from Goleta Slough and other County maintenance projects would be periodic in nature. Monitoring will include field inspection, photo-monitoring, and evaluation of soil conditions. Field visits will be performed as needed, generally semi-annually following major sediment imports and planting events. Monitoring shall include at least one site inspection during the wet season each year for erosion. Monitoring will continue for 3 to 5 years after initial planting at each area. Project-incorporated mitigation measures would reduce geologic impacts resulting from erosion to a less than significant level.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Incorporated in the Project Description.

**MM Project 2: Restoration/Revegetation Plan for the Proposed Sediment Disposal Areas at the Closed Foothill Landfill** - Implementation of Project-incorporated restoration and revegetation plan at the closed Foothill Landfill sediment disposal areas.

### **Atascadero Creek Fish Barrier**

**Impact GEO-9: Altered fish barrier would be exposed to geologic hazards - Class III.** Specifically, the grade control structure at Atascadero Creek spans 84 feet across the stream channel. The existing structure is constructed of rough concrete and boulder rip-rap and consists of a 2'11" tall berm at the upstream end that drops to a 45-degree angel at center to a relatively flat apron downstream. The apron measured between 34 and 29 feet in length downstream from the berm to the Goleta Slough water. As indicated within the CCP Report, creating a notch approximately 5 feet wide and 10 inches deep at the center of the berm would allow for greater fish passage. Removal of this material would not create a structure that is changed with relation to exposure to geologic conditions or constraints, therefore no impact would result.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No mitigation measures proposed.



## Other Disposal Alternatives

**Impact GEO-10: Addition of soils to be used as fill in other development projects or within alternate landfill site - Class III.** In the event that sediment cannot be directly discharged for beach replenishment, it will be stockpiled and made available for blending with future desilted material to achieve desired fine percentages, or made available to the public for upland re-use as previously described. In the event that contractors do not want the spoils for fill material, the material can be taken to southern Santa Barbara County dirt stockpile sites or disposed of at a local landfill with available capacity. However, the closed Foothill Landfill is the preferred disposal location. Placement of fill material at alternative disposal area(s) respective locations would be addressed under separate cover within the receiving project locations associated environmental document. If fill material was not determined to be suitable for the proposed use, an alternate use would be selected or the sediment would be retained as discussed above to achieve desired percentage of fines and made available for documented beneficial reuse. As such, no significant impact would result.

### Mitigation Measures

Mitigation Provided by the 1993 Program EIR. No impacts were identified within the 1993 Original Program EIR. As such, no mitigation measures were proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No mitigation measures proposed.

### 5.3.3 References

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U.S. Department of Agriculture, Soil Conservation Service. 1980. *Soil Survey of Santa Barbara County, California - South Coast Part.*



## 5.4 BIOLOGICAL RESOURCES

The focus of this Subsequent EIR is to address proposed changes to the Goleta Slough Maintenance Program, and changes in the distribution and regulatory status of biological resources in the region. The characterization of the biological resources provided in the 1993 PEIR and 2000 supplement have been updated and supplemented with information and data that has been collected since that analysis was completed.

### 5.4.1 Environmental Setting

#### 5.4.1.1 Terrestrial and Aquatic Biological Resources

**Overview of the Goleta Slough.** The Goleta Slough lies within a coastal valley created by vertical displacement to the north along the Santa Ynez fault and to the south along the east-west trending More Ranch fault. The mesas of Isla Vista, UCSB, More Mesa, and what remains of Mescalitan Island are also uplifted along this fault. The Goleta Slough is a structural basin flooded by the sea; the estuary is dominated by marine influences and supports extensive salt marsh. The watershed of the Goleta Slough Ecosystem covers roughly 45 square miles and includes five creeks: Tecolotito (Glen Annie), Los Carneros, San Pedro, San Jose and Atascadero.

A majority of the watershed is steeply sloping undeveloped or agricultural land on the south slope of the Santa Ynez Mountains. Large volumes of sediment and debris are contained in runoff from the mountains and this material tends to fall out of suspension as topography flattens and flow velocities drop where the creeks enter the Goleta Slough Ecosystem. Sedimentation has profoundly affected the ecosystem of the slough and continues to do so, by raising ground surface elevations and affecting patterns of flooding and the development of wetland and non-wetland habitats. High inputs of sediment and debris, funneled into relatively narrow areas as a result of creek channelization and development of the Goleta Valley, diminish the capacity of creek channels to convey floodwaters.

Tidal patterns in Goleta Slough have not been systematically measured. Observations made during 1994-1995 suggest that, similar to Carpinteria Salt Marsh, tides extending up the Goleta Slough are of diminished amplitude and exhibit a time lag relative to predicted tides along the open coast. Tidal action becomes attenuated and eventually eliminated by the periodic closing of the mouth of the Slough, which occurs naturally due to littoral sand drift (SBCWCFCFCD, 1993). Tidal circulation extends from the mouth of the Slough at Goleta Beach up each of the tributary streams of the Slough. This tidal influence extends to Hollister Avenue in Tecolotito and Los Carneros creeks, to about Matthews Street in San Pedro Creek, to the concrete channel at the end of Kellogg Avenue in San Jose Creek, and to the check structure near the end of Ward Drive in Atascadero Creek.



**Vegetation.** Terrestrial vegetation within the Goleta Slough ecosystem is strongly influenced by elevation and man-made disturbance. All affected areas have been previously disturbed during periodic desilting activities conducted at the Goleta Slough for over 40 years. Table 5.4-1 is taken from the Goleta Slough Ecosystem Management Plan and summarizes the vegetation types of the Slough Ecosystem.

**Table 5.4-1. Terrestrial Vegetation Summary of the Goleta Slough Ecosystem**

Vegetation/Cover Type	Acres
Developed	648.7
Grasslands	448.5
Coastal sage scrub & mixed grassland	108.4
Coastal bluff scrub	16.1
Oak woodland	23.0
Non-native woodland	31.6
Agricultural	255.5
Beach	15.6
Estuarine wetlands and deepwater habitats	143.8
Riverine wetlands	27.5
Palustrine wetlands	252.1
Transitional wetland habitats	291.4
Managed ponds	8.9

The following description of vegetation within the Project areas is based on a field survey conducted on April 24, 2009.

**Atascadero Creek Desilting Area.** The northern bank of the upstream portion of the desilting area and the proposed staging area is dominated by weedy, non-native species including slender wild oats (*Avena barbata*), bur-clover (*Medicago polymorpha*), summer mustard (*Hirschfeldia incana*) and bull mallow (*Malva nicaeensis*). The northern bank of the downstream portion of the desilting area supports mostly coyote brush (*Bacharis pilularis*) with non-native herbs. The southern bank is dominated by a stand of blue gum (*Eucalyptus globulus*) in upstream areas, with coyote brush becoming more common downstream. However, a patch of arroyo willow (*Salix lasiolepis*) occurs on the southern bank at the upstream terminus of the desilting area. Pickleweed (*Salicornia virginica*) occurs at the toe of both banks adjacent to surface water, and becomes more extensive at the downstream end of the desilting area.

**San Pedro Creek Desilting Area.** Most of the western bank of the desilting area is dominated by a linear stand of myoporum (*Myoporum laetum*). The eastern bank and the northern portion of the west bank is dominated by big saltbush (*Atriplex lentiformis*) and weedy, non-native herbs such as poison hemlock (*Conium maculatum*) and yellow sweet-clover (*Melilotus indica*). Patches of pickleweed occur along the toe of bank adjacent to surface water.





**San Jose Creek Desilting Area.** Most of the eastern bank is dominated by iceplant (*Carpobrotus edulis*). However, arroyo willow occurs on the eastern bank in the upstream portion of the desilting area. The western bank is dominated by patches of big saltbush, interspersed with weedy species such as yellow sweet-clover and black mustard (*Brassica nigra*). Small patches of pickleweed occur along the toe of bank adjacent to surface water, primarily along the western bank.

**Tecolotito Creek Basin.** This area was disturbed in 2006 as part of the Santa Barbara Airport Channel Realignment project, and the banks of the basin were replanted as part of a restoration effort. About 150 feet of the west bank was affected by desilting activities conducted in August 2008. Currently, the banks support a mixture of native and non-native herbs, dominated by mugwort (*Artemisia douglasiana*) and big saltbush. Due to recent desilting activity, emergent vegetation is lacking; however, based on remnant patches of emergent vegetation, broad-leaf cattail (*Typha latifolia*), and bulrush (*Scirpus maritimus*, *S. californicus*) are expected to occur in the channel between maintenance events.

**Los Carneros Creek Basin.** The basin was desilted in September 2008, which may have removed emergent vegetation, but did not affect vegetation on the banks. The western bank of the basin supports arroyo willow and mulefat (*Baccharis salicifolia*), while the eastern bank is dominated by mugwort and saltmarsh baccharis (*Baccharis douglasii*). Small patches of pickleweed and California bulrush (*Scirpus californica*) occur on the toe of the banks. Emergent vegetation is lacking.

**Closed Foothill Landfill Sediment Disposal/Restoration Site.** This landfill site is a potential sediment disposal area, and has been closed to domestic waste disposal and partially revegetated. Across much of the area, vegetation is dominated by weedy and ruderal species such as rip-gut grass (*Bromus diandrus*), black mustard, castor bean (*Ricinus communis*), wild radish (*Raphanus sativus*), tree-tobacco (*Nicotiana glauca*) and Russian thistle (*Salsola tragus*). In the early 1990s, approximately 350 trees (mostly olive and coast live oaks) were planted for aesthetic screening and erosion control. Most of the planting was conducted in a windrow fashion, in the southern portion of the site.

**Invertebrates of the Goleta Slough.** Past studies of the Slough (Fong et al., 1988) indicate that the invertebrate fauna is not very rich in number of species or in density of organisms present. The California jackknife clam (*Tagelus californianus*) is the dominant infaunal (living in bottom sediments) species. Other infaunal species present include the common littleneck clam (*Protothaca staminea*), bent-nose clam (*Macoma nasuta*) and three species of polychaete worm. The epifauna (living on top of the sediments) is characterized by the California horn snail (*Cerithidea californica*), lined shore crab (*Pachygrapsus crassipes*) and mud crab (*Hemigrapsus oregonensis*). Amphipods, such as *Traskorchestia traskiana* and *Megalorchestia californiana*, reside on the banks.

Along the banks of tide channels and in bordering salt marsh vegetation, the most common invertebrates include amphipods along the water's edge; isopods in adjacent salt marsh; the mud and shore crabs, which burrow into tidal embankments; and, in high numbers at the lower edge of the salt marsh, the California hornsnail. The salt marsh snail (*Melampus*



*olivaceus*) reaches its northern limit at Goleta Slough. Frost's tiger beetle (*Cicindela senilis frosti*) also reaches its northern distributional limit at Goleta Slough.

**Fishes of the Goleta Slough.** A variety of fish use the Slough, at least seasonally, and at least 14 species have been reported. The arrow goby (*Clevelandia ios*) dominates, but other common species include longjaw mudsucker (*Gillichthys mirabilis*), California killifish (*Fundulus parvipinnis*), yellow-fin goby (*Acanthogobius flavimanus*), cheekspot goby (*Ilypnus gilberti*) and fathead minnow (*Pimephales promelas*) (Fong et al., 1988). Staghorn sculpins (*Leptocottus armatus*) and topsmelt (*Atherinops affinis*) were among the species observed killed by stagnant water conditions during the closure of the mouth of the Slough in fall 1995 and again in 2007.

Numerous fish surveys have been conducted in the Goleta Slough over the past 3 years, primarily focusing on determining the distribution of tidewater goby. These surveys have been conducted as part of planned desilting activities by the District and channel relocation conducted by the Santa Barbara Airport. Fishes identified during these surveys include topsmelt, California killifish, staghorn sculpin, tidewater goby (*Eucyclogobius newberryi*), diamond turbot (*Hypsopsetta guttulata*), California halibut (*Paralichthys californicus*), shiner surfperch (*Cymatogaster aggregata*), mosquitofish (*Gambusia affinis*), longjaw mudsucker, shadow goby (*Quietula y-cauda*), cheek-spot goby, yellow-fin goby, arrow goby, three-spined stickleback (*Gasterosteus aculeata*), prickly sculpin (*Cottus asper*), fathead minnow and striped mullet (*Mugil cephalus*) (ECORP 2006 & 2008; URS 2008a, 2008b, 2008c, 2008d).

**Birds.** A maximum of 279 bird species have been reported within the Slough (The Planning Center, 1984). Of these, 121 species are water-associated, and 158 species occur primarily in upland areas. Ducks and shore birds, primarily winter visitors, comprise most of the water-associated birds, and 12 species are known to breed in the Slough (Fong et al., 1988).

The salt marsh vegetation and mudflats offer roosting and resting areas and foraging habitat for several avian species. Sora and Virginia rails, several species of herons, and the endangered Belding's savannah sparrow all feed in the dense saltmarsh vegetation. Raptors including northern harrier, red-tailed hawk, American kestrel, barn owl, and the regionally rare white-tailed kite all forage above the salt marsh vegetation. Peregrine falcons also forage over this area on rare occasions.

The open mudflats offer roosting/rest areas for shorebirds, gulls, and terns, and include migratory species such as whimbrel, greater yellowlegs, least sandpiper, dunlin, western sandpiper, and marbled godwit. A great blue heron rookery consisting of 6 to 9 active nests occurs along the channel at the mouth of the Goleta Slough.

Birds observed within or adjacent to the desilting work areas during the April 24, 2009 field survey included:

- Slough mouth area: great egret (potential nest building), great blue heron (nesting), double-crested cormorant (roosting), rock dove, starling, Caspian tern, brown pelican, snowy egret, mallard, and violet-green swallow;



- Atascadero Creek: coot, great egret, mallard (with chicks), rufous-sided towhee, red-winged blackbird, crow (nest building), brewer's blackbird, mockingbird, black phoebe, great blue heron, starling, Anna's hummingbird, lesser goldfinch, double-crested cormorant, song sparrow, house finch, cliff swallow, ruddy duck, turkey vulture, and California towhee;
- San Pedro Creek: great egret, red-winged blackbird, mockingbird, snowy egret, great blue heron, bushtit, crow, mallard, double-crested cormorant, black-necked stilt, pied-billed grebe, cliff swallow, killdeer, Canada geese (with chicks), turkey vulture, starling, rock dove, black-crowned night heron, and song sparrow;
- San Jose Creek: great egret, crow, mockingbird, song sparrow, double-crested cormorant, western gull, mallard, great blue heron, black-necked stilt, coot, and western sandpiper;
- Tecolotito Creek Basin: mallard (with chicks), mourning dove, rough-winged swallow, snowy egret, Cassin's kingbird, mockingbird, and killdeer;
- Los Carneros Creek Basin: crow, killdeer, great blue heron, mallard, coot, short-billed dowitcher, and mockingbird.

**Mammals.** Mammals recently recorded from the Goleta Slough area include: western harvest mice, California vole, raccoon, long-tailed weasel, striped skunk, Botta's pocket gopher, California ground squirrel, red fox, coyote, and feral cats.

**Wildlife Movement Corridors.** Wildlife migration corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Migration corridors may be local such as between foraging and nesting or denning areas, or they may be regional in nature. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. "Habitat linkages" are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary habitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional ecology of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

The Goleta Slough and its tributary streams may play an important role as migration/movement corridors for fish and wildlife species moving between the Pacific Ocean and coastal areas to the upper watersheds, and the wildlife habitats of the Santa Ynez Mountains. Riparian corridors provide cover and forage, and facilitate wildlife movement through developed areas such as that located north of the Goleta Slough. The Goleta Slough may also function as important habitat for bird species during migration through the Pacific Flyway. Goleta Point provides an excellent view of northward seabird migration in spring (Lehman, 1994).

**Sensitive Communities.** For the purposes of this analysis, sensitive natural communities included those that are considered rare by the California Department of Fish and



Game (CDFG) Natural Diversity Data Base (NDDB), considered sensitive by other trustee agencies or the scientific community. The NDDB has inventoried natural communities and ranked them according to their rarity and potential for loss. South coastal salt marsh occurs at the Goleta Slough and is considered a rare natural community.

**Environmentally Sensitive Habitat Areas.** Sections 30230, 30231, and 30233 of the Coastal Act of 1976 require protection of marine resources and estuaries, such as that found within the Goleta Slough Ecosystem. The Santa Barbara County Coastal Plan provides an overlay designation of Environmentally Sensitive Habitat Area (ESHA) to protect estuaries, wetlands, riparian corridors and other important coastal habitat areas. Policies 9-6 through 9-16b of the Coastal Plan provide measures to protect the Goleta Slough and other wetland ESHAs. The Atascadero Creek, San Jose Creek, and San Pedro Creek desilting areas (including the Slough mouth) have been designated as ESHA by the City of Goleta and the County's Goleta Community Plan. The Tecolotito Creek sedimentation basin is also designated as an ESHA.

**Regulated Waters and Wetlands.** The term wetland is used to describe a particular landscape characterized by inundation or saturation with water for a sufficient duration to result in the alteration of physical, chemical, and biological elements relative to the surrounding landscape. Wetland areas are characterized by prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands provide habitats that are essential to the survival of many threatened or endangered species as well as other wetland dependent species. Wetlands also have value to the public for flood retention, storm abatement, aquifer recharge, water quality improvement, and for aesthetic qualities. Wetlands also play a role in the maintenance of air and water quality and contribute to the stability of global levels of available nitrogen, atmospheric sulfur, carbon dioxide, and methane. Wetlands are rapidly declining within California and efforts are being made to maintain and preserve remaining wetlands within California. Historically, Southern California had extensive wetlands with significant freshwater inflow. Approximately 90 percent have been destroyed, leaving few isolated wetlands comprising fragmented wetland habitat.

Regulatory agencies with jurisdiction over wetlands include the U.S. Army Corps of Engineers (Corps) with authority to enforce two Federal regulations involving wetland preservation; the Clean Water Act (Section 404), which regulates the disposal of dredge and fill materials in waters of the U.S., and the Rivers and Harbors Act of 1899 (Section 10), which regulates diking, filling, and placement of structures in navigable waterways. State regulatory agencies with jurisdiction over wetlands include the State Water Quality Control Board that enforces compliance with the Federal Clean Water Act (Section 401) regulating water quality; the California Coastal Commission, which regulates development within the coastal zone as stipulated in the California Coastal Act (Sections 30230, 30231, 30233, and 30240 apply to preservation and protection of wetlands); and the California Department of Fish and Game, which asserts jurisdiction over waters and wetlands with actions that involve alterations to streams or lakes by issuing Streambed Alteration Agreements under Section 1600 of the Fish and Game Code.



**Definitions.** As defined by the Corps at 33 CFR 328.3(a)(3), "water of the United States" are those that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas. Based on the 2001 U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, and guidance from the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, the Federal government no longer asserts jurisdiction over isolated waters and wetlands under Section 404 of the Clean Water Act based on the "migratory bird rule". Further guidance on the issue of isolated wetlands and waters is expected from the U.S. Army Corps of Engineers.

Under Corps and EPA regulations, wetlands are defined as: *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

In non-tidal waters, the lateral extent of Corps jurisdiction is determined by the ordinary high water mark (OHWM) which is defined as the: *"...line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."* (33 CFR 328[e]).

The U.S. Fish and Wildlife Service, CDFG and Santa Barbara County define wetlands as: *"...lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification, wetlands must have one or more of the following attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season each year."*

**Distribution of Wetlands.** All of the tributary streams of the Goleta Slough support waters of the U.S. and Corps-defined wetlands, at least in areas where wetland vegetation persists and soils have not been recently disturbed. U.S. Fish and Wildlife Service, CDFG-defined wetlands and County-defined wetlands are more common in the Slough, since these definitions only require that wetland-associated plants (hydrophytes) are either present at some time or the area is saturated. Even frequently maintained flood control channels support some hydrophytes.

**Special-Status Plant Species.** Special-status plant species are either listed as endangered or threatened under the Federal or California Endangered Species Acts, or rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (California Native Plant Society), and the scientific community. For the purposes of this project, special-status plant species are defined in Table 5.4-2.





**Table 5.4-2. Definitions of Special-Status Plant Species**

➤	Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
➤	Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register December 10, 2008).
➤	Plants that meet the definitions of rare or endangered species under the CEQA ( <i>State CEQA Guidelines</i> , Section 15380).
➤	Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2 in CNPS, 2001).
➤	Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4 in CNPS, 2001).
➤	Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CCR 670.5).
➤	Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
➤	Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies or jurisdictions.
➤	Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range
➤	Plants listed in "Sensitive Plants of Santa Barbara County" (Wiskowski, 1988)
➤	Plants listed as "Rare Plants of Santa Barbara County" by the Santa Barbara Botanic Garden

The literature search and field surveys conducted for this impact analysis indicates that 24 special-status plant species occur in the vicinity of the Goleta Slough. Table 5.4-3 identifies the current regulatory status and nearest known location of each species, relative to desilting activities.

**Table 5.4-3. Special-Status Plant Species of the Project Area**

Common Name ( <i>Scientific Name</i> )	Status	Nearest Known Location
Pacific foxtail ( <i>Alopecurus howelli</i> )	LC-W, SBBG	Isla Vista, More Mesa
Yerba mansa ( <i>Anemopsis californica</i> )	LC-W, SBBG	Goleta Slough, Los Carneros wetlands
Slim aster ( <i>Aster subulatus</i> var. <i>ligulatus</i> )	SBBG	Goleta Slough (north of Atascadero Creek), Storke wetlands
Mat-scale ( <i>Atriplex watsonii</i> )	LC-W, SBBG	Goleta Slough (along Tecolotito Creek)
Saltwort ( <i>Batis maritima</i> )	SBBG	Goleta Slough (south of Airport)
Southern tarplant ( <i>Centromadia parryi</i> ssp. <i>australis</i> )	List 1B	Saline flats at Goleta Slough, San Jose Creek corridor near Hollister Avenue
Water pygmy weed ( <i>Crassula aquatica</i> )	LC-W, SBBG	Goleta Slough (east end of Airport runway), also More Mesa
Waterwort ( <i>Elatine brachysperma</i> )	LC-W, SBBG	Isla Vista vernal pools
Prickly coyote thistle ( <i>Eryngium armatum</i> )	LC-W, SBBG	Isla Vista vernal pools
Mature coyote thistle ( <i>Eryngium vaseyi</i> )	LC-W, SBBG	Isla Vista vernal pools, also More Mesa
Meadow barley ( <i>Hordeum brachyantherum</i> )	LC-W	Along Airport runway near Goleta Slough, also Isla Vista



**Table 5.4-3. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Location
Low barley ( <i>Hordeum depressum</i> )	LC-W, SBBG	Locally abundant at Goleta Slough
Coulter's goldfields ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	List 1B	Saline flats at Goleta Slough (west of Tecolotito Creek)
Marsh rosemary ( <i>Limonium subterminale</i> )	LC-W, SBBG	Above tidal channels at Goleta Slough, found along Tecolotito Creek at dredge discharge pipe landfall during April 2009 field survey
Salt cedar ( <i>Monanthochloe littoralis</i> )	LC-W, SBBG	Goleta Slough (south of Airport runway), Southern California Gas Company property
Lemmon's canary grass ( <i>Phalaris lemmonii</i> )	LC-W, SBBG	Isla Vista vernal pools, also More Mesa
Pillwort ( <i>Pilularia americana</i> )	LC-W, SBBG	Isla Vista vernal pools
Coast popcorn flower ( <i>Plagiobothrys undulatus</i> )	LC-W, SBBG	Isla Vista vernal pools, also More Mesa
Bitter gooseberry ( <i>Ribes amarum</i> var. <i>hoffmannii</i> )	List 3, E	Atascadero Creek near Kellogg Avenue
Parish's glasswort ( <i>Salicornia subterminalis</i> )	LC-W, SBBG	Saltmarsh, saline flats, estuary margins at Goleta Slough
Estuary sea-blite ( <i>Suaeda esteroa</i> )	List 1B	Upper intertidal saltmarsh at Goleta Slough, may be extirpated
Wooly sea-blite ( <i>Suaeda taxifolia</i> )	List 4	Upper estuary margins at Goleta Slough, also bluffs at More Mesa
Arrow-grass ( <i>Triglochin concinna</i> var. <i>concinna</i> )	LC-W, SBBG	South of Airport runway at Goleta Slough
Purslane speedwell ( <i>Veronica peregrina</i> ssp. <i>xalapensis</i> )	LC-W	West of Beach Park at Goleta Slough

- List 1B Plants rare, threatened, or endangered in California and elsewhere (CNPS)  
List 3 Plants about which we need more information, a review list (CNPS)  
List 4 Plants of limited distribution (CNPS)  
LC-W Local concern-wetland (Wiskowski, 1988)  
E Endemic (Wiskowski, 1988)  
SBBG Rare Plant (Santa Barbara Botanic Garden)

**Special-Status Wildlife Species.** For the purposes of this project, special-status wildlife species are defined in Table 5.4-4. Literature research and field surveys conducted for this impact analysis indicates that 24 special-status wildlife species occur in the vicinity of Project activities. Information regarding regulatory status and known location of these species relative to desilting activities is provided in Table 5.4-5. Additional discussion of endangered species reported from the Goleta Slough is provided below.



**Table 5.4-4. Definitions of Special-Status Wildlife Species**

Special-Status Animal Species	
➤	Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
➤	Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register December 10, 2008).
➤	Animals that meet the definitions of rare or endangered species under the CEQA ( <i>State CEQA Guidelines</i> , Section 15380).
➤	Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5).
➤	Animal species of special concern to the CDFG (Remsen, 1978 for birds; Williams, 1986 for mammals).
➤	Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
➤	Marine mammals protected under the Marine Mammal Protection Act (Public Law 103-238).

**Table 5.4-5. Special-Status Fish and Wildlife Species of the Project Area**

Common Name (Scientific Name)	Status	Nearest Known Occurrence(s)
<b>Fish</b>		
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	FE, CSC	Recorded from Los Carneros Creek and Tecolotito Creek sedimentation basins (ECORP, 2008), and Atascadero Creek (URS, 2008b)
Southern California steelhead ESU ( <i>Oncorhynchus mykiss</i> )	FE, CSC	Reported from Atascadero, San Jose and San Pedro creeks (Stoecker et al., 2002)
California grunion ( <i>Leuresthes tenuis</i> )	Sport fish	Goleta Beach
Arroyo chub ( <i>Gila orcuttii</i> )	CSC	Goleta Slough tributaries (Swift et al., 1993)
<b>Reptiles</b>		
Southwestern pond turtle ( <i>Actinemys marmorata pallida</i> )	CSC, P	Reported from Atascadero Creek, upstream of the Project limits
<b>Birds</b>		
Belding's savannah sparrow ( <i>Passerculus sandwichensis beldingi</i> )	SE	68 breeding territories found in the Goleta Slough in 2001, mostly north of Tecolotito Creek, in Basins A-D (Zemba & Hoffman, 2002)
Brown pelican ( <i>Pelecanus occidentalis</i> )	FE, SE	Forages/rests along Slough channels, coastal waters and at Goleta Beach
Western snowy plover ( <i>Chardrius alexandrinus nivosus</i> )	FT, CSC	Breeds and winters at Coal Oil Point (UCSB, 2008)
Burrowing owl ( <i>Athene cunicularia</i> )	CSC	No current breeding records in region (Lehman, 1994), observed in winter at More Mesa
California gull ( <i>Larus californicus</i> )	WL (nesting)	Reported in winter and summer (non-breeder) at the Goleta Slough
Cooper's hawk ( <i>Accipiter cooperi</i> )	WL (nesting)	Reported nesting at More Mesa, may forage within the Goleta Slough
Double-crested cormorant ( <i>Phalacrocorax auritus</i> )	WL (nesting)	Common non-breeding visitor in the Goleta Slough and Goleta Beach



**Table 5.4-5. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Occurrence(s)
Elegant tern ( <i>Sterna elegans</i> )	WL (nesting)	Common winter visitor in the Goleta Slough and Goleta Beach
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	CSC (nesting)	Regularly observed foraging near the Goleta Slough (non-breeder)
Long-billed curlew ( <i>Numenius americanus</i> )	WL (nesting)	Common visitor in the Goleta Slough and Goleta Beach (non-breeder)
Sharp-shinned hawk ( <i>Accipiter striatus</i> )	WL (nesting)	Common visitor in the Goleta Slough (non-breeder)
White-tailed kite ( <i>Elanus caeruleus</i> )	SA, P (nesting)	Nests at More Mesa, does not breed but forages within the Slough
California horned lark ( <i>Eremophila alpestris actia</i> )	WL	Forages in the vicinity of the Airport (non-breeder)
Black-crowned night heron ( <i>Nycticorax nycticorax</i> )	SA (nesting)	Roosts near Slough mouth, does not breed here
Caspian tern ( <i>Sterna caspia</i> )	SA (nesting)	Common visitor in the Goleta Slough and Goleta Beach (non-breeder)
Forster's tern ( <i>Sterna forsteri</i> )	SA (nesting)	Common visitor in the Goleta Slough and Goleta Beach (non-breeder)
Great blue heron ( <i>Ardea herodias</i> )	SA (nesting)	Consistently nests in eucalyptus trees immediately north of the Slough mouth
Great egret ( <i>Camerodius albus</i> )	SA (nesting)	Common at the Goleta Slough, breeding behavior observed at great blue heron rookery at Slough mouth on April 24, 2009
Snowy egret ( <i>Egretta thula</i> )	SA (nesting)	Common visitor at the Goleta Slough, does not breed here
<b>Mammals</b>		
Yuma myotis ( <i>Myotis yumanensis</i> )	SA	Roosts within expansion joints at the Hollister Avenue bridge over Maria Ygnacio Creek

CSC California Species of Special Concern (CDFG)  
FE Federal Endangered (USFWS)  
FT Federal Threatened (USFWS)  
P Protected under the California Fish & Game Code (CDFG)  
SA Special Animal (CDFG)  
SE State Endangered (CDFG)  
WL Watch List (CDFG)

**Tidewater goby (*Eucyclogobius newberryi*)**. This species was listed as endangered by USFWS in 1994 and critical habitat was re-designated in 2008, which did not include the Goleta Slough or its tributaries. Tidewater goby was reported from the Goleta Slough in the 1960's (Speth et al., 1970), but collecting efforts were negative in the 1990's. Tidewater goby was listed as extirpated from the Goleta Slough in the Recovery Plan (USFWS, 2005). Recent protocol surveys conducted as part of periodic channel desilting and channel re-alignment at the Santa Barbara Airport indicate this species occurs in Los Carneros Creek, Tecolotito Creek and Atascadero Creek (ECORP, 2008; URS, 2008a, 2008b). Surveys of San Jose Creek and San Pedro Creek in August 2008 did not detect tidewater goby (URS 2008a, 2008b) and its status in these areas is unclear. However, population levels of tidewater goby are relatively low in



August (URS, 2008d) and this species may have been overlooked. For the purposes of this assessment, tidewater goby is assumed present within all areas affected by desilting.

**Steelhead (*Oncorhynchus mykiss*)**. Steelhead have been divided into 15 evolutionary significant units (ESU) based on similarity in life history, location, and genetic markers. The southern California ESU includes 15 populations from the Santa Ynez River in the north to San Mateo Creek in the south. The Goleta Slough and tributaries was designated as Critical Habitat on September 2, 2005 as a part of the South Coast Hydrologic Unit. Steelhead have been historically reported from Atascadero, San Jose, and San Pedro creeks, and trout were historically stocked in upper San Jose Creek. However, it is unclear if steelhead can traverse developed areas to upstream spawning areas due to barriers, such as grade stabilizers (Patterson Avenue and Southern California Gas on Atascadero Creek), concrete channel in San Jose Creek and the railroad bridge on San Pedro Creek. Recent anecdotal reports of rainbow trout (presumably steelhead) indicate this species may occur in Maria Ygnacio Creek and Atascadero Creek, indicating steelhead enter the Goleta Slough during high flow periods. However, it is unclear if steelhead can traverse concrete-lined channels, grade stabilizers and other potential barriers to upstream movements. For the purposes of this assessment, steelhead is assumed present during migratory periods within all areas affected by desilting.

#### 5.4.1.2 Nearshore Marine Biological Resources

For this impact assessment, the Project region for the marine biological resources includes the beach and the area seaward (south) of the mean high tide line to the -40 feet (mean lower low water [MLLW]) isobath extending 3 nautical miles (18,230 feet) east of Goleta Point.

**Intertidal Habitat and Resources.** Although the width and depth of cover varies, the intertidal area within the region is characterized as a sand beach with rocky intertidal habitats present at Goleta Point and approximately 1 mile (5,300 feet) to the east of the mouth of Goleta Slough (CCC, 2005). The intertidal area immediately west of the Park up to Goleta Point is covered by sand in the summer, but rock may be exposed in the winter when sand moves offshore (Chambers, 2007). That report also provides the results of sampling as part of the BEACON beach restoration project within the sandy habitat at Goleta Beach. Intertidal sand samples taken in June and November 2004 and January 2005 were dominated by the filter feeding mole crab, *Emerita analoga* and polychaete bloodworm (*Euzonus* sp.), which was also common in the mid to lower intertidal zone. In the upper intertidal zone, drift kelp is an important source of food for many invertebrates. Common organisms associated with macrophyte wrack include beach hoppers (*Megalorchestia* spp.), kelp flies (*Coleopa vanduzeei*), isopods (*Alloniscus perconvexus* and *Tylos punctata*), and various species of beetles (Chambers, 2007). That report also suggests that the sandy beach habitat also supports the March to August spawning of the California grunion (*Leuresthes tenuis*).

The California grunion is a member of the New World silversides family, Atheriniopsidae, along with the jacksmelt and topsmelt. They normally occur from Point Conception, California, to Point Abrejos, Baja California. Occasionally, they are found farther north, to Monterey Bay, California, and south to San Juanico Bay, Baja California. They inhabit the nearshore waters





from the surf to a depth of 60 feet (CDFG, 2009). Grunion leave the water at night to spawn on beaches during the spring and summer months. For four consecutive nights, beginning on the nights of the full and new moons, spawning occurs after high tides and continues for several hours. As waves break on the beach, grunion swim as far up the slope as possible. Spawning occurs from March through August, and occasionally in February and September. Peak spawning is late March to early June and although CDFG does not predict which beaches will be used, it does provide the anticipated spawning periods from March through August of each year. Padre Associates, Inc. (pers. comm.) has observed grunion spawning on Goleta Beach near the slough mouth during monitoring surveys for previously-completed projects.

Chambers (2007) characterize the rocky intertidal habitat at Goleta Point as consisting of large rock benches and boulders. Characteristic species within that intertidal habitat include California mussels (*Mytilus californianus*), green sea anemones (*Anthopleura elegantissima*), and feather boa kelp (*Egregia menziesii*). The rocky intertidal habitat off Goleta Point has been designated an Environmentally Sensitive Habitat Area (ESHA) in the Santa Barbara County Local Coastal Plan. Chambers (2007) also reports that significant rocky intertidal habitat approximately 4,700 feet east of Goleta Pier off More Mesa supports surfgrass (*Phyllospadix torreyi*), a sensitive biological resource.

**Subtidal Habitats and Resources.** Seaward (south) of the surf zone, the seafloor habitat is predominantly sandy sediments; finer-grained sediments are present in deeper water (Aquatic Bioassay and Consulting, 2009). According to Chambers (2007), the nearshore subtidal habitat off Goleta Beach consists primarily of sand. Rocky reef habitat supporting giant kelp occurs in about 15 to 20 feet water depth, approximately 1,700 feet east of Goleta Pier. Eelgrass (*Zostera asiatica*) has been documented within the sedimentary habitat approximately 1,500 offshore and east of the Goleta pier in 18 to 40 feet of water (CCC, 2005 and Chambers, 2007).

According to Chambers (2007), epibiota (organisms living on the seafloor) associated with sedimentary habitat in water depths of up to 40 feet include the tubeworm (*Diopatra ornata*), the sea pen (*Stylatula elongate*), the sand star (*Astropecten armatus*), and the speckled sanddab (*Citharichthys stigmaeus*). Other epibiota that would be expected within these water depths and which have been reported in the 1993 PEIR include the sea pansy (*Renilla kollikeri*), and a sand dollar (*Dendraster excentricus*). Fishes commonly associated with nearshore, sedimentary habitat within this region would include those listed in the 1993 PEIR (California halibut [*Paralichthys californicus*], speckled sanddab [*Citharichthys stigmaeus*], and white surfperch [*Phanerodon furcatus*]). Aquatic Bioassay and Consulting (2009) reports that speckled sanddabs were the most common fish collected in trawls taken as part of their NPDES monitoring and Chambers (2007) observed a tubesnout (*Aulorhynchus flavidus*) during dive surveys within the aforementioned eelgrass bed.

Historically, a sediment-founded kelp bed was present offshore Goleta Beach, however kelp is now limited to a low-relief rock reef approximately 1,700 feet east of Goleta Pier in 15 to 20 feet of water and offshore Goleta Point (Chambers 2007). Kelp can also be found along the nearshore portions of the Goleta wastewater facility outfall. Fishes associated with this kelp bed include kelp bass (*Paralabrax clathratus*), sand bass (*P. nebulifer*), black surfperch (*Embiotoca*



*jacksoni*), kelp surfperch (*Brachyistius frenatus*), pile surfperch (*Damalichthys vacca*) and dwarf surfperch (*Micrometrus minimus*). Common invertebrates in the kelp bed include giant keyhole limpet (*Megathura crenulata*), stalked tunicate (*Styela montereyensis*), the sea stars *Pisaster brevispinus* and *P. giganteus*, and the sea urchins *Strongylocentrotus franciscanus* and *S. purpuratus*. Reef habitat supporting kelp also occurs off Goleta Point, about 2,500 feet southwest of Goleta Beach. The substrate in the Goleta Point kelp bed is low relief mudstone interspersed with extensive sandy areas and occasional rocky outcrops (Foster and Schiel 1985, cited in Chambers, 2007). The Goleta Point kelp forest is characterized at its inner edge by patches of feather boa kelp.

Armor rock placed over the Goleta wastewater discharge pipeline and the pilings that support the Goleta Pier comprise the other subtidal solid substrate within the Goleta Beach area. The discharge pipeline extends offshore approximately 1 mile to about 93 feet water depth west of Goleta Pier. From about 11 feet depth to its end, the pipeline is covered by about three feet of armor rock (Aquatic Bioassay and Consulting Laboratories, 2000, cited in Chambers, 2007). The armor rock supports giant kelp, other algae, including *Gigartina* spp., *Cryptopleura* sp., *Ulva lactuca*, and *Cystoseira osmundacea*, and a variety of encrusting invertebrates, including hydroids, bryozoans, and solitary tunicates. Marine invertebrates associated with the armor rock include purple sea urchins (*S. purpuratus*), spiny lobsters (*Panulirus interruptus*), giant keyhole limpets, and ochre sea stars (*P. ochraceus*). These species are common within the southern California nearshore marine rocky habitats (de Wit, pers. observation).

**Special Status Marine Species.** Table 5.4-6 lists the special status (federal or state-listed rare, threatened, and endangered species and all species that are otherwise protected by federal or state regulations) marine organisms that could occur within the Santa Barbara Channel. While all marine mammals are protected under the federal Marine Mammal Protection Act, some are also “listed” through the federal and/or state Endangered Species Acts. A notation has been provided in Table 5.4-6 to indicate which of the species are most likely to occur within the Project region. Not listed here, but of concern to fisheries agencies are several species of concern, including other abalone and rockfish which could inhabit rocky substrates within and near the marine waters of the Project region.

**Table 5.4-6. Special-Status Marine Species of the Santa Barbara Channel**

Common Name (Scientific Name)	Status	Likelihood of Occurrence within the Project Area
<b>Invertebrates</b>		
White abalone ( <i>Haliotis sorenseni</i> )	FE	Low
Black abalone ( <i>Haliotis cracherodii</i> )	FE	Low
<b>Fish</b>		
Southern steelhead ( <i>Oncorhynchus mykiss</i> )	FE	High
Green sturgeon ( <i>Acipenser medirostris</i> )	FT	Low



**Table 5.4-6. (Continued)**

Common Name (Scientific Name)	Status	Likelihood of Occurrence within the Project Area
<b>Reptiles</b>		
Loggerhead sea turtle ( <i>Caretta caretta</i> )	FT	Low
Pacific Ridley sea turtle ( <i>Lepidochelys olivacea</i> )	FT	Low
Leatherback sea turtle ( <i>Dermochelys coriacea</i> )	FE	Low
<b>Birds</b>		
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	FT; SE	Low (rare visitor to nearshore waters)
Xantus' murrelet ( <i>Synthliboramphus hypoleucus</i> )	ST	Low (rare visitor to nearshore waters)
<b>Mammals</b>		
Guadalupe fur seal ( <i>Arctocephalus townsendi</i> )	FT	Low
Stellar sea lion ( <i>Eumetopias jubatus</i> )	FT	Low
Southern sea otter ( <i>Enhydra lutris nereis</i> )	FT	Low (small numbers irregularly appear south of Pt. Conception)
Blue whale ( <i>Balaenoptera musculus</i> )	FE	Low
Sei whale ( <i>Balaenoptera borealis</i> )	FE	Low
Finback whale ( <i>Balaenoptera physalus</i> )	FE	Low
Humpback whale ( <i>Megaptera novaeangliae</i> )	FE	Low
Northern right whale ( <i>Balaena glacialis</i> )	FE	Low
Sperm whale ( <i>Physeter catadon</i> (=macrocephalus))	FE	Low

FE Federal Endangered (USFWS)  
FT Federal Threatened (USFWS)  
SE State Endangered (CDFG)

## 5.4.2 Impact Analysis and Mitigation Measures

### 5.4.2.1 Thresholds of Significance

The criteria for determining significant impacts on biological resources were developed in accordance with Section 15065(a) and Appendix G of the State CEQA Guidelines and the Santa Barbara County Environmental Thresholds and Guidelines Manual Biological Resources Section (Santa Barbara County 1992, updated 2008).

**CEQA Guidelines Section 15065(a).** A project may have a significant impact on the environment if the project has the potential to (1) substantially degrade the quality of the



environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below a self-sustaining level, (4) threaten to eliminate a plant or animal community, and/or (5) reduce the number or restrict the range of an endangered, rare, or threatened species.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. A substantial impact is an impact that diminishes, or results in the loss of, a sensitive biological resource or that significantly conflicts with local, State, or Federal resource conservation plans, goals, and/or regulations. Sometimes impacts can be locally adverse, but not significant. In such a case, the impacts may result in an adverse alteration of a local biological resource, but they may not substantially diminish or result in the permanent loss of an important resource on a population- or region-wide basis.

**CEQA Guidelines Appendix G.** Implementation of the proposed project may have potentially significant adverse impacts on biological resources if it would result in any of the following:

- Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the CDFG or the USFWS;
- Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS;
- Have a substantial adverse impact on State or federally protected wetlands as defined by USACE, CDFG, RWQCB, or California Coastal Commission, including but not limited to marsh, coastal, etc., through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance; and/or
- Conflict with the provisions of any adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or State HCP.



## **Santa Barbara County Environmental Thresholds and Guidelines Manual: Biological Resources**

**General Impacts.** Disturbance to habitats or species may be significant, based on substantial evidence in the record (not public controversy or speculation), if they substantially impact significant resources in the following ways:

- (1) Substantially reduce or eliminate species diversity or abundance;
- (2) Substantially reduce or eliminate quantity or quality of nesting areas;
- (3) Substantially limit reproductive capacity through losses of individuals or habitat;
- (4) Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources;
- (5) Substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes); and/or
- (6) Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

**Wetland Impact Assessment Guidelines.** The following types of project-created impacts may be considered significant:

- (1) Projects which result in a net loss of important wetland area or wetland habitat value, either through direct or indirect impacts to wetland vegetation, degradation of water quality, or would threaten the continuity of wetland-dependant animal or plant species are considered to have a potentially significant effect on the environment.
- (2) Projects which substantially interrupt wildlife access, use and dispersal in wetland areas would typically be considered to have potentially significant impacts.

**Coastal Salt Marsh Impact Assessment Guidelines.** Project-created impacts may be considered significant due to the potential to change species composition and habitat value as outlined below.

- (1) Substantial alteration of tidal circulation or decrease of tidal prism.
- (2) Adverse hydrologic changes (e.g., altered freshwater input), substantial increase of sedimentation, introduction of toxic elements or alteration of ambient water temperature.
- (3) Construction activity which creates indirect impacts such as noise and turbidity on sensitive animal species, especially during critical periods such as breeding and nesting.





- (4) Disruption of wildlife dispersal corridors.
- (5) Disturbance or removal of substantial amounts of marsh habitats. Because of the high value and extremely limited extent of salt marsh habitat in the County, small areas of such habitat may be considered significant.

**Riparian Impact Assessment Guidelines.** The following types of project-related impacts may be considered significant:

- (1) Direct removal of riparian vegetation.
- (2) Disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation.
- (3) Intrusion within the upland edge of the riparian canopy (generally within 50 feet in urban areas, within 100 feet in rural areas, and within 200 feet of major rivers listed in the previous section), leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion.
- (4) Disruption of a substantial amount of adjacent upland vegetation where such vegetation plays a critical role in supporting riparian-dependent wildlife species (e.g., amphibians), or where such vegetation aids in stabilizing steep slopes adjacent to the riparian corridor, which reduces erosion and sedimentation potential.
- (5) Construction activity which disrupts critical time periods (nesting, breeding) for fish and other wildlife species.

**Native Tree Impact Assessment.** In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant.

#### 5.4.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the impacts to biological resources identified in the Program EIR (93-EIR-04) for the existing maintenance program.

- 1. Drag-line desilting in Tecolotito and Los Carneros creeks would result in loss of invertebrates and fish (less than significant - Class III);
- 2. Drag-line desilting in Tecolotito and Los Carneros creeks would increase turbidity and adversely affect invertebrates and fish (less than significant - Class III);
- 3. Drag-line desilting in Tecolotito and Los Carneros creeks would remove vegetation from the streambed (less than significant - Class III);



4. Stockpiling of materials removed from Tecolotito and Los Carneros creeks would result in temporary loss of upland vegetation (less than significant - Class III);
5. Noise and human activities associated with drag-line desilting in Tecolotito and Los Carneros creeks would disturb wildlife near the basins (less than significant - Class III);
6. Accidents resulting in a large spill of fuel or hydraulic fuel may affect aquatic wildlife, vegetation and birds (significant - Class I);
7. Hydraulic dredging in Atascadero, San Jose, San Pedro creeks and Goleta Slough would result in loss of invertebrates and fish (less than significant - Class III);
8. Hydraulic dredging in Atascadero, San Jose, San Pedro creeks and Goleta Slough would increase turbidity and adversely affect invertebrates and fish (less than significant - Class III);
9. Hydraulic dredging in Atascadero, San Jose, San Pedro creeks and Goleta Slough would increase habitat available to fish and water-associated birds (beneficial - Class IV);
10. Hydraulic dredging in Atascadero and San Pedro creeks and Goleta Slough would remove vegetation from the streambed (less than significant - Class III);
11. Hydraulic dredging in San Jose Creek would remove wetland and riparian vegetation from the streambed (significant but mitigable - Class II);
12. Noise and human activity associated with hydraulic dredging in Atascadero, San Jose and San Pedro creeks and Goleta Slough would impact common wildlife species (less than significant - Class III);
13. Desilting activities would disturb raptor and heron roosts, and swallow nesting (significant but mitigable - Class II);
14. Dredging near the mouth of the Slough and use of the booster pump may adversely affect brown pelican and Belding's savannah sparrow (less than significant - Class III);
15. A large spill associated with refueling, maintenance or mechanical failure of the hydraulic dredge may adversely affect aquatic wildlife, vegetation and birds (significant - Class I);
16. Disturbance (including lighting) at Goleta Beach may adversely affect spawning grunion, if spawning was precluded for the duration of dredging (significant but mitigable, Class II);



17. Increased turbidity associated with discharge of sediment at Goleta Beach would adversely affect the marine ecosystem (less than significant - Class III);
18. Deposition of sediment discharged at Goleta Beach would adversely affect the marine ecosystem (less than significant - Class III);

The following summarizes impacts to biological resources identified in the Goleta Slough EIR Supplement (2000) to the Program EIR (93-EIR-4) for the existing maintenance program:

- Periodic opening of the Slough mouth could allow predatory fish to enter the Slough and feed on young steelhead. Steelhead could also enter the ocean before they have developed enough to increase their survival rate in the ocean (Class III).
- Hydraulic dredging may impact migrating steelhead in early rainfall years in that steelhead migrating past the dredge (if it is operating at that time) could be potentially injured by the suction cutterhead - Class II);
- Discharge of sediment at the west end of Goleta Beach may temporarily effect foraging area for Belding's savannah sparrows (Class III);

#### 5.4.2.3 Proposed Updated Maintenance Program

The primary changes proposed as part of the updated maintenance program or changes in the regulatory environment that would modify impacts to biological resources include:

- Impacts to listed fish species were not fully addressed in the 1993 Program EIR;
- Expanding the seasonal period of desilting activities (drag-line only) from October-November to September 15 to March 31;
- Expanding the seasonal period of beach disposal of dredged sediments from October-November to September 15 to May 15; and
- Utilizing the closed Foothill Landfill for upland disposal of sediments.

**Listed Fish Species.** The Goleta Slough is known to support two endangered fish species (southern steelhead, tidewater goby) which were not specifically addressed in the 1993 Program EIR. As discussed in Section 5.4.1.1 of this SEIR, these two species are assumed present within all areas affected by desilting. Dredging in estuaries is known to have the following adverse effects on fish (San Francisco Estuary Institute, 2008):

- Reduced dissolved oxygen (DO) due to uptake of oxygen by resuspended sediments. DO levels would need to remain at or below 2-3 mg/l for significant mortality to occur. Generally, reduced DO concentrations due to sediment resuspension from dredging is localized and short-term with minimal impacts.



- Release of hydrogen sulfide, during hypoxic conditions (very low dissolved oxygen). Fish show a strong avoidance of hydrogen sulfide, which would only be released at near lethal DO concentrations, which are unlikely to occur.
- Oxidation and release of heavy metals (primarily cadmium, copper, mercury, nickel, lead, zinc, silver, chromium, arsenic) from the sediments to the water column. Sediment testing by the District has not identified heavy metals above action levels in sediments of the Goleta Slough.
- Release of organic contaminants (primarily polycyclic aromatic hydrocarbons [PAH], polychlorinated biphenyls [PCB], pesticides) from the sediments to the water column. Sediment testing by the District has not identified PAH, PCB or pesticides in sediments of the Goleta Slough.
- Increased bioavailability of contaminants may occur due to exposure of contaminated sediments to oxygenated water. Sediment testing by the District indicates no contaminants above action levels occur in the Goleta Slough.

Dredging increases turbidity, which reduces light penetration and primary productivity, and may clog gills and feeding apparatus of fish and filter-feeding organisms. Increased turbidity may also reduce foraging success for listed fish species, as prey is difficult to find. Dredging also causes siltation, which may bury bottom-dwelling invertebrates and result in some mortality. Food sources for tidewater goby (ostracods, amphipods, snails, fly larvae) may be substantially reduced by dredging-related increased turbidity and siltation.

**Impact BIO-1: Desilting may adversely affect steelhead migration - Class III.** Proposed desilting activities may confuse and/or deter migrating steelhead. Migration occurs during high flow periods, typically in the fall/early winter when adults enter from the ocean and in early spring when smolts leave for the ocean.

Measures from the 2000 Supplemental EIR were adopted to mitigate impacts to steelhead migration, including conducting hydraulic dredging earlier in the year, and restricting hydraulic dredging when the flow rate exceeds 20 cubic feet per second (cfs) at the Maria Ygnacio Creek stream gauge, and limiting drag-line desilting to 10 hours per day. Based on data from the Maria Ygnacio Creek stream gauge, the peak annual flow is typically several hundred cfs. Steelhead migration would be entirely unimpeded during high flow periods (hydraulic desilting), or limited to off-work hours (drag-line desilting). Steelhead are unlikely to feed in the Goleta Slough and would avoid active desilting areas. Therefore, significant water quality and foraging impacts to steelhead are not anticipated.

A partial steelhead barrier exists on Atascadero Creek at the upstream end of the desilting area. As part of the proposed maintenance program, this concrete and rock rip-rap structure would be notched to improve fish passage during smaller storm events. In addition, as part of maintenance dredging, sediment is removed from the mouth of the Goleta Slough to maintain flow continuity with the ocean, which benefits steelhead migration to/from the ocean. Overall, impacts to migrating steelhead are considered less than significant.



## **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. A recommendation to conduct desilting from upstream to downstream and during the dry season after animal breeding (about July through October) to reduce turbidity impacts was provided as part of a restoration and enhancement plan measure (measure No. 4 in the Program EIR). However, this measure was not implemented due to permit restrictions. Please see Section 3.0 - Proposed Updated Maintenance Program, regarding scheduling of operations.

### Mitigation Recommended by the SPEIR.

***MM SBIO-1 - Hydraulic Dredging Schedule.*** Hydraulic dredging activities should be scheduled to begin earlier in the fall (15 October) if permitting agencies will authorize this, thereby increasing the probability that dredging would be completed prior to the rains that result in runoff and creek flow to the ocean triggering steelhead to enter the streams. Beginning dredging two weeks earlier in the fall (15 October) would have no increased impacts to biological resources in the Slough or at the discharge location.

Timing. Scheduling the dredging activities should occur at least two months before the work.

Monitoring. The District shall verify that the contractor has begun work on 15 October.

***MM SBIO-2 - Hydraulic Dredging Reduced Timing.*** Hydraulic dredging will be reduced to less than 24 hours per day after rainfall events that results in a runoff pulse (10 to 20 cfs as measured at the Maria Ygnacia Creek gauge). The threshold flow amount will be determined through the Section 7 (of the Endangered Species Act) consultation process associated with the issuance of a Corps of Engineers permit for work.

Timing. Flow event size and dredge schedule will be established in the permitting process prior to dredging activities. Flow will be measured during runoff events..

Monitoring. The District will monitor flow rates at the Maria Ygnacia Creek gauge and will verify that the contractor dredges according to the permitted hourly schedule.

Residual Impact. Less than significant.

Mitigation Recommended by this Subsequent EIR. No additional measure required.

**Impact BIO-2: Desilting may adversely affect survival and foraging of tidewater goby - Class I.** Due to the lack of contamination in the Goleta Slough, gill uptake of dissolved contaminants is not expected to result in acute toxicity. In addition, reductions in DO associated with desilting would be localized and short-term and mortality of tidewater goby is not expected.

Tidewater goby feeds on ostracods, amphipods, mysid shrimp, and insect larvae (especially midge larvae), by plucking prey from the substrate surface, sifting sediment in their mouth and





mid-water capture (Swift et al., 1989; USFWS, 2005). Desilting would result in direct removal of prey (drag-line bucket, hydraulic slurry), and elevated turbidity and siltation would adversely affect survival of prey and foraging success by tidewater goby. Desilting activities typically last about one month and in peak desilting years would affect a large proportion of the tidewater goby habitat in the Goleta Slough. Based on a review of the literature, adverse effects of maintenance dredging to benthic communities persist for several months to several years, depending on substrate characteristics, geographic location, ecosystem complexity and disturbance history. Tidewater goby mortality may occur as a result of starvation caused by desilting-related degradation of foraging habitat. In addition, mortality may occur as a result of direct contact with desilting equipment and entrainment by the hydraulic dredge. Although desilting activities would avoid periods of high population density (March-June), mortality is considered a significant and unavoidable impact.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. A recommendation to conduct desilting from upstream to downstream and during the dry season after animal breeding (about July through October) to reduce turbidity impacts was provided as part of a restoration and enhancement plan measure (measure No. 4 in the Program EIR). However, this measure was not implemented due to permit restrictions on project timing. Please see Section 3.0 - Proposed Updated Maintenance Program, regarding scheduling of operations.

Mitigation Recommended by the SPEIR. Tidewater goby was not addressed in the 2000 SPEIR.

Mitigation Recommended by this Subsequent EIR. The following measures shall be implemented to reduce degradation of tidewater goby habitat during desilting events, and provide refuges.

#### ***MM BIO-2: Tidewater Goby Refuge.***

- Tecolotito Creek and Los Carneros Creek downstream of the basins provides high quality tidewater goby habitat and shall not be desilted;
- Desilting at the Tecolotito and Los Carneros basins shall not be conducted simultaneously, to minimize total habitat disturbance in this part of the Slough.
- Hydraulic dredging and dragline desilting in Atascadero Creek shall be designed and implemented so as to leave an undisturbed 10 foot-wide strip of streambed along the entire south edge of the channel.

Plan Requirements and Timing. These requirements shall be included in the dredging and drag-lining contracts.

Monitoring. District inspectors shall ensure the measure is fully implemented during each desilting event.



Residual Impacts. Implementation of these mitigation measures would reduce the maximum extent of habitat degradation during each desilting event; however, residual impacts to the tidewater goby population would be significant.

**Impact BIO-3: Breaching the berm at the mouth of the Goleta Slough may result in mortality of tidewater goby - Class III.** As part of maintenance dredging, sediment is removed from the mouth of the Goleta Slough to maintain flow continuity with the ocean. The mouth is typically opened within two weeks of its closing. In the past, the Corps of Engineers have restricted the sediment removal to a trench with the maximum dimensions of 50 feet wide, 6 feet deep and 150 feet long. It is anticipated that future permits would have similar restrictions.

Artificial breaching of berms between coastal lagoons and the ocean has been prohibited at many sites supporting tidewater goby, including Mission Creek, Arroyo Burro and Malibu Lagoon. Data collected by ECORP (2005) in Mission Creek and Arroyo Burro indicate tidewater goby populations declined after an October 2005 breaching event. However, these systems are small and have substantial hydraulic gradient, resulting in a rapid loss of surface water following breaching. The Goleta Slough is a large system of channels with little hydraulic gradient and loss of tidewater gobies to the ocean associated with increased flows following breaching is not anticipated. In addition, opening the mouth of the Slough would increase water circulation and reduce the potential for hypoxic conditions to develop and result in fish kills, which would benefit the tidewater goby. Overall, impacts to tidewater goby associated with opening the mouth of the Slough are considered less than significant.

**Impact BIO-4: Disposal of sediment at the closed Foothill Landfill Sediment Disposal / Restoration Site would result in the loss of about one hundred coast live oak trees - Class I.** Sediment disposal and associated earthwork would result in the loss of most of the coast live oak trees at the site. ~~These trees were planted in a disturbed site for ornamental and screening purposes.~~ These oak trees were planted as part of the County's Revegetation/Restoration Plan, and are primarily clustered in the southern portion of the landfill site. The planted trees form a patch of oak woodland habitat within a developed area bounded by the Sheriff's station, U.S. 101 and residential development. A community restoration project focused on coastal scrub plantings lies immediately to the east and south of this oak woodland, which increases the area and habitat diversity of this area. The woodland habitat provided by the planted oak trees is of sufficient area and habitat diversity to be considered biologically valuable for the purposes of the County's Environmental Thresholds and Guidelines Manual. The project would result in the loss of more than 10 percent of the trees of biological value at the closed Foothill Landfill; therefore, loss of these trees is considered a significant impact. ~~However, they have matured and are considered specimen native trees as defined in the County's Environmental Thresholds and Guidelines Manual.~~

#### **Mitigation Measures**

**MM BIO-4: Oak Tree Replacement.** Mature coast live oak trees (>8" at breast height) removed shall be replaced at the closed Foothill Landfill Sediment Disposal/Restoration



Site. Approximately 50 to 100 oak trees shall be planted as habitat clusters and as screening along the site perimeter.

Plan Requirements and Timing. The Restoration/Revegetation Plan for the closed Foothill Landfill Sediment Disposal/Restoration Site shall be revised to include oak tree planting.

Monitoring. Planted trees shall be monitored after planting, consistent with Restoration/Revegetation Plan.

Residual Impacts. Due to rooting depth restrictions and space limitations at the closed Foothill Landfill Sediment Disposal/Restoration Site, oak trees cannot be fully replaced. Therefore, residual impacts are considered significant.

**Impact BIO-5: Desilting in Tecolotito and Los Carneros creeks would adversely affect invertebrates and fish, and remove vegetation - Class III.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-6: Stockpiling of materials removed from Tecolotito and Los Carneros creeks would result in temporary loss of upland vegetation - Class III.** Proposed staging areas (see Figure 3-1) have been used in the past and do not support native vegetation. These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-7: Noise and human activities associated with drag-line desilting in Tecolotito and Los Carneros creeks would disturb wildlife near the basins - Class III.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-8: Desilting in Atascadero, San Jose, San Pedro creeks and the Goleta Slough would adversely affect invertebrates and fish - Class III.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-9: Desilting in Atascadero, San Jose, San Pedro creeks and the Goleta Slough would increase habitat available to fish and water-associated birds - Class IV.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain beneficial. In addition, the maintenance program includes opening the mouth of the Slough to improve water circulation, which benefits fish (and fish-eating birds) by minimizing the potential for hypoxic conditions and fish kills.

**Impact BIO-10: Hydraulic dredging in Atascadero, San Jose and San Pedro creeks and the Goleta Slough would remove vegetation from the streambed - Class III.** Due to periodic dredging associated with the current maintenance program, aquatic or emergent



vegetation is sparse in these creeks. These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-11: Noise and human activity associated with hydraulic dredging in Atascadero, San Jose and San Pedro creeks and the Goleta Slough would impact common wildlife species - Class III.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

**Impact BIO-12: Spills of fuel or hydraulic fluid would adversely affect aquatic wildlife, vegetation and birds - Class I.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain significant and unavoidable.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR.

**MM PBIO-12: Spill Prevention Plan.** A site-specific emergency spill contingency plan for hydraulic and drag-line dredging shall be developed and implemented.

Plan Requirements and Timing. The spill prevention plan shall include:

- Containment and cleanup procedures that minimize impacts to biological resources. These include specifying access locations, precautions to take in areas of native vegetation, types of materials to be used (non-toxic), and notifications to resource management agencies such as the California Department of Fish and Game and U.S. Fish and Wildlife Service;
- Cleanup equipment and materials to be stored at the staging areas for immediate use in case of an accident;
- Specifications for disposal of any contaminated materials resulting from cleanup activities;
- Measures to be taken to restore any significant environmental damage caused by the spill or cleanup activities. Such measures are to be taken only when natural recovery would be very slow (more than 3 years) or not likely to occur without help.

The plan shall be prepared prior to sending the request for proposal for dredging activities.

Monitoring. All cleanup activities for accidental spills shall be monitored by the District biologist and a report documenting the cleanup and any damage to biological resources shall be prepared and kept in the District files.

Residual Impacts. Implementation of these mitigation measures would reduce the probability and possibly the extent of spills. However, residual impacts would be significant (Class I).



**Impact BIO-13: Desilting would disturb raptor and heron roosts, and swallow nesting - Class II.** Based on the 2009 field survey, affected areas include:

- Great blue heron and great egret rookery north of the Slough main channel near mouth;
- Double-crested cormorant roost north of the Slough main channel near mouth;
- Cliff swallows nesting on the Route 217 bridge over San Pedro Creek, the pipe bridge over Atascadero Creek, and Hollister Avenue bridge at Tecolotiito Creek; and
- Raptor nesting habitat along the south side of Atascadero Creek.

**Mitigation Measures**

Mitigation Provided by the 1993 Program EIR.

**MM PBIO-13: Time Restrictions or Monitoring.** Mitigate potential adverse impacts to raptor and heron roosting/perching by limiting dredging to daytime hours or by developing a plan to monitor the response of the birds to Project activities. Perform dredging in the Goleta Slough and drag-line desilting in Tecolotito Creek after the swallow breeding season has been completed and before the next season begins (between August 1 and April 1).

Plan Requirements and Timing. A raptor and heron roosting monitoring plan shall be developed and include:

- Methodology for observing birds including a schedule of surveying prior to desilting (baseline conditions) and to coincide with periods of activity, including at night that could affect the birds.
- Criteria for determining an adverse impact is occurring.
- Measures to be taken if adverse impacts occur, and procedures to follow in implementing these measures

The plan shall be prepared and approved by the District biologist prior to commencing dredging activities.

Monitoring. Monitoring will be done by the District biologist or qualified ornithologist.

Additional Mitigation Recommended by this Subsequent EIR.

**MM BIO-13: Breeding Bird Monitoring and Avoidance.** If desilting activities are anticipated to occur or extend into the bird breeding season (February 15 through August 1), breeding bird monitoring and avoidance shall be implemented, and include:

- A breeding bird survey shall be completed by a qualified biologist within all areas within 200 feet of desilting activities;





- Active nests shall be identified and monitored by a qualified biologist;
- If desilting activities are found to substantially affect breeding and/or foraging behavior at the nest site, a buffer shall be established by a qualified biologist and desilting work postponed within the buffer area until the nest is abandoned or young have fledged.

Plan Requirements and Timing. Measures shall be included in the desilting contract specifications and implemented according to the desilting schedule, when activities would occur within the bird breeding season.

Monitoring. District staff shall ensure measures are fully implemented.

Residual Impacts. Implementation of these mitigation measures would minimize adverse effect on roosting and breeding birds and reduce impacts to a level of less than significant.

**Impact BIO-14: Dredging near the mouth of the Slough and use of the booster pump may adversely affect brown pelican and Belding's savannah sparrow - Class III.** These impacts would be the same as evaluated in the 1993 Program EIR and 2000 Supplement, and would remain less than significant.

Mitigation Provided by the 1993 Program EIR. Although impacts were considered less than significant, mitigation measures were provided to reduce disturbance to saltmarsh vegetation and Belding's savannah sparrow associated with installation/removal of hydraulic dredge discharge pipelines.

**MM PBIO-14: Avoid Native Vegetation.** Areas of native vegetation shall be avoided when placing the pipeline in upland areas. The locations where the pipeline could be placed with negligible effect on vegetation and sensitive species shall be shown on plan maps of the site and shall be marked (using flagging) in the field by a qualified biologist working with the dredge operator.

Timing. The pipeline locations shall be determined prior to commencing dredging activities.

Monitoring. The District shall assist the dredge operator when locating pipeline routes.

**Impact BIO-15: Disposal of dredged sediments at Goleta Beach may adversely affect grunion spawning - Class II.** Based on the proposed Project schedule, beach disposal may occur from September 15 through May 15, which includes grunion spawning periods. The presence of wheeled or tracked vehicles on the beach to place the discharge pipe and excavate a trench at the mouth of Goleta Slough may crush spawning grunion and their buried eggs and larvae. This impact is considered significant but mitigable.

Mitigation Provided by the 1993 Program EIR.



**MM PBIO-15: Grunion Survey and Avoidance.** Prior to pipelaying across the beach and discharge of sediments during grunion spawning season, conduct a survey (on high tides at night) to determine if grunion use Goleta Beach. If they do, suspend dredging and pipe moving activities as night and minimize vehicle activities on the beach to prevent damage to eggs in the sand.

Alternative Mitigation Recommended by this Subsequent EIR.

**MM BIO-15: Grunion Surveys and Avoidance.** If equipment activity is anticipated to occur on the beach during the documented grunion spawning season (March through September) nightly field observations (during favorable tide conditions as designated by CDFG) for grunion spawning activities at Goleta Beach shall be completed for two weeks prior to the proposed deposition and grading of sand on the beach. No sediment discharge or equipment activity shall be allowed if grunion spawning has occurred at anytime during the prior two week period without specific authorization from state and federal resource agencies (CDFG and NOAA Fisheries).

Timing. Surveys shall be initiated two weeks prior to equipment activity on Goleta Beach, if work would occur during the spawning season.

Monitoring. The District shall ensure surveys are completed, and activity is terminated if grunion spawning occurs.

Residual Impacts. Implementation of these mitigation measures would minimize adverse effects on grunion reproduction and reduce impacts to a level of less than significant.

**Impact BIO-16: Turbidity and siltation caused by disposal of dredged sediments at Goleta Beach may adversely affect sensitive nearshore marine habitats - Class II.** While the sandy sediment in the beach discharge is expected to rapidly settle, fine material (silts and clays) which could comprise up to 50 percent of disposed material, would remain in the water column and be transported offshore. The analysis of nearshore currents in the 1993 Program EIR indicated that the prevailing flow is to the southwest (offshore and toward Goleta Point), which was confirmed by Aquatic Bioassay and Consulting (2009). Kelp beds, eelgrass, and rocky bottom habitat have been documented within the area offshore of the proposed beach disposal site and could be affected by the deposition of a substantial amount of fine sediment and/or by increased turbidity. The potential impacts of siltation and/or turbidity are considered significant but mitigable.

**MM BIO-16: Marine Turbidity Plume Monitoring.** The proposed updated maintenance program includes onshore visual monitoring of the turbidity plume during beach disposal operations. If the turbidity plume is observed to reach kelp beds or eelgrass beds (east of Goleta Pier, off Goleta Point) beach disposal shall be terminated until the turbidity plume has dissipated.

Timing. Monitoring shall be conducted during beach disposal of dredged sediments.



Monitoring. The District shall ensure monitoring is conducted, and activity is terminated if kelp beds are affected.

Residual Impacts. Implementation of these mitigation measures would prevent significant impacts to sensitive nearshore habitats.

**Impact BIO-17: Turbidity and siltation caused by disposal of dredged sediments at Goleta Beach would degrade water quality and adversely affect marine biological resources - Class III.** Potentially significant effects to the marine biological resources could result from the reduction of dissolved oxygen concentrations below that specified in the California Ocean Plan or from the effects of potentially toxic contaminants during beach deposition of the dredged material. The turbulence of the discharge and the natural turbulence within the surf zone location of the discharge are expected to reduce the biological oxygen demand (BOD). The existing NPDES permit specifies the number of samples and contaminant testing that is required prior to the discharge of the beach material and prohibits the discharge of material that exceeds those limits. As proposed and as currently permitted, the dissolved oxygen concentration is not expected to be substantially reduced nor are contaminants expected to exceed specified levels. Therefore, no significant impacts to marine biological resources from sediment discharge at Goleta Beach are anticipated.

#### 5.4.3 References

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## **5.5 RISK OF UPSET/HAZARDOUS MATERIALS**

### **5.5.1 Environmental Setting**

The Goleta area is a diverse coastal area within Santa Barbara County, California. The landscape ranges from coastal bluffs to chaparral covered mountains. A significant ecological feature of the area is the Goleta Slough. Land uses in the Goleta area include a mix of urban uses (e.g., residential, commercial, high-tech industry, a local airport) as well as agricultural and open space land use.

General categories of hazards that are present in the Goleta area and are addressed in this EIR section include:

- Wildfire hazards;
- Oil and gas pipelines/facilities;
- Hazards associated with aircraft operations at the Santa Barbara Municipal Airport; and
- Storage, handling, and transportation of hazardous materials.

#### **5.5.1.1 Fire Hazards**

As described in the County of Santa Barbara Seismic Safety and Safety Element, Santa Barbara County residents live with a wildfire problem that is unique in the world. Recent fire events and updates to the County's mapping system have shown that the possibility of fires and fire storms is now a year round phenomenon. On dry, extremely windy days, the woodland, brush land, and chaparral and grasslands become volatile tinder boxes. A spark from any source such as debris burning, machine use or a carelessly thrown cigarette can start a fire that has the potential to spread across thousands of acres in thirty to forty hours, if unchecked. Over 90 per cent of wildland fires are caused by man. Based upon a review of the County of Santa Barbara Fire Hazard Map, no portion of the Project impact area is located within an extreme or high fire hazard area. The Santa Barbara County Fire Department provides the Goleta area with fire suppression and fire prevention services. They have identified low and high-preparedness operational scenarios within the County. Fire stations are located within at least approximately 2.5 miles of all Project impact areas.

The closed Foothill Landfill Sediment Disposal/Restoration Site produces some methane gas. Methane gas is flammable. Presently, there is no collection system in place or required. However, the County does have gas probes to monitor offsite migration (Zertuche, personal communication June 10, 2009).

#### **5.5.1.2 Oil and Gas Pipelines and Facilities**

Southern California Gas Company has facilities in the Goleta Slough area including: numerous wells located in proximity to Atascadero, San Jose and San Pedro creeks, and



Goleta Beach; aboveground storage field pipelines including one that crosses Atascadero Creek south of the confluence with San Pedro and San Jose creeks; subsurface pipelines; a gas injection and storage facility immediately south of Atascadero Creek; and miscellaneous associated facilities such as roads, towers, etc. (Southern California Gas Company, 2009). According to the County of Santa Barbara Energy Division, no oil or gas facilities other than the Southern California Gas facilities are located within the Project area of impact (Anthony, personal communication, May 20, 2009). A review of the California Department of Conservation Division of Oil, Gas and Geothermal Resources (DOGGR) online mapping system for the Project area yielded no additional listing of active oil or gas wells (DOGGR, May 20, 2009). However, additional plugged wells were shown to be located in the general vicinity of the Goleta Slough and closed Foothill Landfill. DOGGR regulates oil, gas, and geothermal well operations throughout the state. Oil and gas facilities are also regulated on the state or local level by agencies within the jurisdictions in which they are located.

Natural gas pipelines operating outside of industrial and public works facilities are expected to be located in most public rights-of-way within the Project area based upon information presented in the County and City General Plan Elements addressing hazards. Oil pipelines are less common but are also typically located within public rights-of-way. These pipelines are regulated by the U.S. Department of Transportation and the California Public Utilities Commission. In part because of regulatory oversight, oil and gas pipelines within public rights-of-way are not subject to frequent leaks. However, third party damage to pipelines remains a major cause of pipeline leaks, and third-party-caused gas leaks can result in an explosion.

#### 5.5.1.3 Santa Barbara Municipal Airport

Although it is a non-contiguous part of the City of Santa Barbara, the Santa Barbara Municipal Airport (SBMA) is located near the geographical center of the City of Goleta. There are two designated airport hazard areas associated with the SBMA: Safety Area 1, the clear zone (virtually all non-agricultural land uses are incompatible in this area due to the high hazard); and Safety Area 2, the approach zone (any concentration of people within the approach zone is strongly discouraged by the County Airport Land Use Commission) (City of Goleta, June 2008). The entire Project area is located within the Airport Influence Area (AIA) with the exception of the closed Foothill Landfill. The risk of accidents associated with aircraft operation at the airport is highest during takeoffs and landings, including approaches and ascents.

#### 5.5.1.4 Transport and Storage of Hazardous Materials

As defined by the State of California, a hazardous material is a substance that is toxic, ignitable or flammable, or reactive and/or corrosive. Hazardous materials may be used in certain manufacturing or industrial operations, in construction, and in other land uses such as gas stations. As a result of the history of industrial and commercial development, several sites within the Goleta area have the potential to have been impacted by previous or current releases of contaminated materials (City of Goleta, June 2008). The primary concern associated with the



release of a hazardous material is the short- and long-term effects that exposure to a hazardous substance may have on the public and the environment.

Hazardous materials are governed by regulations that require proper storage, handling, employee and public noticing, spill contingency planning, business/environmental management plans, and other emergency response measures necessary to ensure public safety and to minimize the risk of accidental releases or environmental impacts. In the Project area, the administering agencies are the Santa Barbara County Fire Department, Fire Prevention Division (SBCFPD) and the Santa Barbara County Office of Emergency Services (SBCOES). While both agencies require a Hazardous Materials Business Plan (HMBP), the SBFPD administers the HMBPs. A HMBP is a program that requires a business that handles and/or stores hazardous materials to provide an inventory of hazardous materials stored on site, emergency response and contingency procedures, and an employee training program. In addition, businesses that store, in total, at least 1,320 gallons of oil (e.g., gasoline, diesel, fuel, lubricating oil, mineral/transformer oil, etc.) in aboveground storage tanks (ASTs), vessels, and/or equipment are required to prepare a Spill Prevention Control and Counter measures (SPCC) Plan pursuant to the Code of Federal Regulations, Title 40, Part 112 (40 CFR 112), and to provide secondary containment for each oil-containing AST and/or vessel greater than 55 gallons. The secondary containment shall be capable of containing 110 percent of the respective tank or vessel size, or 110 percent of the largest AST or vessel clustered together in a common containment basin/structure. Like a HMBP, a SPCC Plan would provide an inventory of oil-containing ASTs and vessels stored on site, the amounts of oil stored in each, emergency response and contingency procedures, and an employee training program.

Some of the land uses in the Project area with the greatest potential to pose hazards related to their activities, the hazardous materials used, and the potential for release include: aircraft-related support operations; the Southern California Gas Company gas injection and storage facility and associated above- and below-ground pipelines; the University of California; and the Goleta Sanitary District Wastewater Treatment Plant. Other land uses including various research, commercial and industrial facilities in proximity to and upstream of the Project sites also have the potential to affect the Project sites in the event of a release to surface water including sediments that may be transported downstream.

A search of the Department of Toxic Substances Control Envirostore Database of Federal Superfund Sites (NPL), State Response Sites, Voluntary Cleanup Sites, School Cleanup Sites, Permitted Sites and Corrective Action Sites for the Goleta area yielded four site records. The facilities identified included: Ratheon EW Operations, Ratheon Vision Systems, Shell Western Gas Plant and The Direct TV Group. All of the identified site except the Shell Western Gas Plant are in the general Project area, but north of Hollister Avenue. Based upon a review of the site reports for these facilities, they do not present a hazard for the Project impact areas. A search of the California State Water Resources Control Board Geotracker database covering leaking underground Tank (LUST) cleanup sites, other cleanup sites, land disposal sites, military sites and monitoring wells for the Goleta area yielded numerous sites in proximity to the Project impact areas. Many of these sites were closed (i.e., clean up is completed to regulatory standards). Other sites such as the Chevron (6470 Hollister Avenue), United Parcel Service (505 Pine Avenue), Santa Barbara Airport Terminal, Midway Electric (5775 Thornwood



Drive), Discount Muffler and Brake (6410 Hollister Avenue), Hertz Corporation (5919 Corta Street) are still open (have not been remediated to regulatory standards), but their potential effects would not likely be of relevance to the proposed Project activities due to the type of medium affected (e.g., groundwater aquifers) or geographical limits of the contamination. Although contaminated groundwater from these sites may have a potential to surface and affect downstream surface water bodies, this is considered to be an unlikely scenario. One open site, Channel Industries located at 939 Ward Drive, has surface water (including sediment contamination) as well as soil and groundwater contamination. As reported by Trak Environmental Group (January 25, 2008), soils test results indicate that lead was detected at elevated concentrations at the site with the greatest concentrations appearing to be located in the drainage channel located immediately west of the site and east of Highway 217, and in surficial sampling locations. There is no indication that any sediments with elevated lead have entered into the Project impact areas as sampling was not conducted beyond the site with the exception of the adjacent drainage channel. The Central Coast Regional Water Quality Control Board has cleanup authority over this site.

In addition to the risks associated with land uses as described above, major transportation corridors are also a potential source of accidental releases or environmental incidents involving hazardous materials. Transport of hazardous materials in the Project area is most likely to occur along US- 101, State Route 217 (SR-217), Hollister Avenue, and the Union Pacific Railroad tracks. The California Highway Patrol (CHP) and the California Department of Transportation (DOT) enforce federal and state regulations and respond to incidents associated with transport of hazardous materials.

The County of Santa Barbara has a County Multi-Jurisdictional Hazard Mitigation Plan. The County of Santa Barbara and participating cities, in cooperation with the Federal Emergency Management Agency (FEMA), and the State Offices of Emergency Services, is responsible for emergency preparedness and response. The Hazard Mitigation Plan would be utilized to identify evacuation routes and secondary emergency accesses and to provide information to the community regarding appropriate individual actions in the event of accidental releases from vehicles and railcars transporting hazardous materials or wastes. The CHP enforces DOT, Caltrans, and state and local regulations. The CHP and SBCFPD would respond to incidents associated with transport of hazardous materials.

#### 5.5.1.5 Site Specific-Setting

The main components of the Project are situated in the Goleta Slough. However, an upland sediment disposal site is located north of U.S. Highway 101 and about 3.5 miles east of the Goleta Slough. Any known potential existing hazards specific to each of the direct impact areas of the Project are described below:

- Atascadero Creek - Southern California Gas Company gas injection and storage facility located to the south; downstream toward Goleta beach there is a high pressure above-ground gas line crossing the creek. The Atascadero Creek impact area is outside of the airport safety zones.



- San Jose Creek - The Project impact area appears to be just south of the airport safety zones. Highway 217 is located immediately east of the creek and presents a potential transportation corridor hazard.
- San Pedro Creek - The Project impact area is just south of the airport safety hazard zone (clear zone). The Goleta Sanitary District Wastewater Treatment Plant is located immediately west of San Pedro Creek.
- Los Carneros Creek - The Project impact area is outside of the airport safety hazard zone. However, airport-related land uses are located on both sides of the creek in this area.
- Tecolotito Creek - The Project impact area is located just outside of the airport safety hazard area. Hollister Avenue is north of the Project impact area and presents a potential transportation corridor hazard.
- Goleta Beach County Park - The Project impact area is located just outside of the airport safety hazard area. Ward Memorial Drive/217 is north of the Project impact area and presents a potential transportation corridor hazard.
- Closed Foothill Landfill Sediment Disposal/Restoration Site. The Project impact area is not within any hazard zones. However, the site is a closed landfill and as such is likely producing methane.

## **5.5.2 Impact Analysis and Mitigation Measures**

### **5.5.2.1 Thresholds of Significance**

The California Environmental Quality Act (CEQA) sets forth a legal framework for identifying significant effects on the environment. Among other criteria, a project may have a significant effect on the environment if it will cause substantial adverse effects on human beings, either directly or indirectly (Public Resources Code Section 21083(c) and CEQA Guidelines Section 15126.2(a) and (b)). Accordingly, Santa Barbara County's Environmental Thresholds and Guidelines Manual includes thresholds to define the significance of public exposure to acute risks posed by certain types of facilities or activities that involve hazardous materials as defined in its Public Safety Thresholds section. However, because of the nature of the Project which is not a hazardous facility, and does not introduce a permanent population to an area in proximity to a hazardous facility, these thresholds do not apply. Further as stated in the Thresholds and Guidelines Manual, the thresholds do not apply to land uses with transitory populations where populations are sporadic, nor does it apply to occupational safety or chronic risks. Therefore, the following criteria are based on Appendix G of the CEQA Guidelines are applied herein for the purposes of identifying the potential Project impacts associated with risk of upset and hazardous materials and their significance. For the purposes of this document, the Project may have a significant adverse impact related to hazards and hazardous materials if it would result in any of the following:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;





- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- include a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, creates a significant hazard to the public or the environment;
- create a safety hazard for people residing or working in an area within two miles of a public or public use airport;
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

#### 5.5.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the risk of upset/hazardous materials-related impacts as identified in the Program EIR (93-EIR-04).

1. Leaks of fuels, hydraulic oil and lubricants during transfer (less than significant - Class III).
2. Fuel storage tank leaks (less than significant - Class III).
3. Fuel storage tank fires (less than significant - Class III)
4. Dredge or crane fire (less than significant - Class III)
5. Discharge pipeline accident (less than significant - Class III)
6. Storm conditions impact on operations (less than significant - Class III)
7. Impact to Southern California Gas Company gas line pilings at Atascadero Creek (significant but mitigable - Class II).

#### 5.5.2.3 Proposed Updated Maintenance Program

The primary changes proposed as part of the updated maintenance program or changes in the environment that would modify risk of upset/hazardous materials-related impacts include:

- Utilizing the closed Foothill Landfill for upland disposal of sediments.
- Proposed restoration activities at the landfill.



- Changes in existing conditions of the Project area as it relates to soil and groundwater contamination.

#### 5.5.2.2 Project Impacts

### **Use, Transport and Disposal of Hazardous Materials Required for Project Operations**

**Impact RU-1: The use, maintenance and fueling of equipment has the potential to result in the discharge of hazardous material to the environment from leaks and accidental spills (potentially significant - Class II).** Equipment associated with the Project for hydraulic dredging operations include: hydraulic dredge Ellicot 270/370 or DMC Barracuda 10 series, and a crane. The hydraulic dredge operates on diesel fuel and contains onboard pumping equipment. Additionally, booster pumps may be floated like the dredge or staged on the bank approximately 3,000 feet from the working area. Other equipment that would be used for hydraulic dredging operations include: forklift, loader/dozer, welding machine, fusion machine, and rubber track dump truck.

For dragline dredging the main piece of equipment is a crane (rated at 100-tons or larger) rigged as a dragline that would operate from the sides of the creeks or basins. Additional equipment for the dragline dredging operations include trucks for hauling, an excavator for loading sediment into trucks, and a bulldozer.

The fuel for the hydraulic dredge is stored in the staging area located in the eastern portion of Goleta Beach County Park in an enclosed cargo trailer (Zertuche, June 10, 2009). The lubricants, oils and chemicals for the hydraulic dredge are stored in a trailer also at the staging area at the eastern portion of Goleta Beach County Park. The fueling and maintenance of Project equipment for the hydraulic dredge takes place on the dredge or in the staging area located in the eastern portion of Goleta Beach County Park. Fuel is transported to the dredge in smaller fuel containers on a skiff. The fuel for the crane is stored in a temporary portable tank inside of a pickup truck. The lubricants, oils and chemicals for the crane are stored in a locked container inside the back of a pickup truck. The truck does not stay onsite. The fueling and maintenance of Project equipment for the crane takes place onsite in the staging area. Fueling and maintenance of equipment takes place one to two times per day for both the crane and the hydraulic dredge. A spill kit is provided in all cranes and in all county trucks and equipment. The spill kits are by Target Industries and each kit has Spill Response Kit Instructions. In the event a booster pump is required to maintain the appropriate desilting discharge rate, if the booster pump is located on land, a temporary, above-ground fuel storage tank would be installed in accordance with applicable government regulations pertaining to the siting, construction and use of such tanks.

As indicated above numerous pieces of equipment that require fueling and maintenance are part of the Project. Several safeguards are presently in effect to prevent the contamination of soil or water resources. However, due to the sensitivity of the Project environment, any discharge of hazardous materials may be significant. This issue is also addressed in Section 5.1 - Water Resources and 5.4 - Biological Resources of this EIR.



**Impact RU-2: Discharge of pesticides associated with restoration activities have the potential to significantly impact human and environmental health (potentially significant and mitigable - Class II).** Proposed site enhancement activities may result in the use of pesticides. In appropriate use, storage or disposal of such substances may result in adverse impacts to human and environmental health. The significance of such effects is dependent upon the type of chemical, quantity, and location of release among other factors. Because of the sensitivity of the environment for all of the creek-side enhancement areas, this impact is considered potentially significant.

**Impact RU-3: The Project would not impact school facilities (Class III - Less than Significant Impact).** Based upon a review of the Goleta Valley Community Plan - Focus on Zone 2 Public Facilities Map (County of Santa Barbara, January 6, 2009), the Project sites are not located within 0.25 mile of a school.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. The Biological Resources section of the PEIR included a mitigation measure requiring the development and implementation of a site-specific emergency spill contingency plan for hydraulic and drag-line dredging. Please see **MM PBIO-12 Spill Prevention Plan** in Section 5.4, Biological Resources of this EIR.

Mitigation Recommended by the Subsequent EIR. Section 5.1 - Water Resources and Flooding, includes **MM WR-1 Defined Best Management Practices (BMPs)** which would also serve to reduce Project impacts associated with the use transport and disposal of hazardous materials.

### **Upset and Accident Conditions**

**Impact RU-4: Impacts from upset and accident conditions from facilities proximate to the Project site on Project personnel are considered less than significant (Class III)** As indicated above, there are several facilities that use or generate hazardous material in the Project vicinity such as the Southern California Gas facilities, airport-related uses, the University of California, etc. Additionally, hazardous materials are transported through the area. All of these facilities and the transport of hazardous materials are regulated as described in the Setting Section above. Because only a limited temporary population would be introduced to the Project area and existing environmental safeguards are in place (such as County-wide and facility emergency response plans), impacts from upset and accident conditions from facilities proximate to the Project site on Project personnel are considered less than significant.

**Impact RU-5: Potential impacts associated with dredging effects on the pipeline supports are expected to be less than significant (Class III).** Southern California Gas aboveground pipeline supports are located at Atascadero Creek. Southern California Edison has historically expressed concern over the potential for dredging operations in the channel to impact the integrity of the pipeline supports. The District presently communicates with Southern



California Edison prior to dredging operations. Any issues pertaining to the Project affecting the pipelines are resolved at that time.

### **Mitigation Measures**

No mitigation measures are required.

### **Proximity to Hazardous Sites**

**Impact RU-6: The Project would result in less than significant impacts to human health and the environment in the event contaminated soils are identified through the sediment analysis procedures implemented as part of the Project SAP (soil stockpiling and disposal issues only, water quality issues are addressed in Section 5.1 of this EIR) (Class III).** The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, as described in the Setting Section above, there are numerous facilities that use and store hazardous material in the Project vicinity. At any time, one of these facilities could experience a release of hazardous materials to the environment. The Project includes implementation of a pre-Project SAP. The SAP includes sampling for various constituents (including; but not limited to total petroleum hydrocarbons (TPH), pesticides, Polychlorinated Biphenyls (PCBs), metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (see Table 2-4 for a summary of historic sampling results). The SAP includes a provision for the preliminary soil sampling report to be forwarded to the U.S. Army Corps of Engineers, EPA, RWQCB and the Coastal Commission for review and approval of recommended sediment and disposal methods and locations. Should the sediments be determined to have amounts of hazardous substances above regulatory thresholds, the above-referenced permitting agencies would advise the District on the proper sediment disposal procedures. In addition, the SBCOES would be a local responsible agency involved in the appropriate management of the hazardous materials. The storage, transport and disposal of material with concentrations of hazardous substances above regulatory thresholds would be conducted in accordance with all local, state and federal requirements. As such it is not anticipated that these activities would result in significant impacts to public and environmental health. Water quality issues relating to the presence of hazardous substances in sediment and associated public health and safety issues are addressed in Section 5.1 of this EIR.

### **Mitigation Measures**

Mitigation Incorporated in the Project Description.

**MM Project 1: Sampling and Analysis Plan** - Implementation of Project-incorporated Sampling and Analysis Plan (SAP) in accordance with ASTM and USEPA guidelines.

No further measures are required.



## **Airport Hazards**

**Impact RU-7: Impacts associated with airport safety (e.g., possible aircraft impact on Project operations) are considered less than significant (Class III).** No portion of the Project is within an airport safety hazard area; however, the Project sites (except the closed Foothill Landfill Disposal/Restoration Site) are within the influence area of the SBMA. No permanent structures are proposed and no permanent population would be introduced to an airport safety hazard area as a result of the Project.

### **Mitigation Measures**

No mitigation measures are required.

## **Emergency Response**

**Impact RU-8. There are no elements of the Project that would adversely affect emergency response (Class III - Less than Significant Impact).** Due to the nature of the proposed activities as a flood channel maintenance project, it would not significantly affect emergency response (e.g., no road closures required).

### **Mitigation Measures**

No mitigation measures are required.

## **Wildland Fire**

**Impact RU-9: The wildland fire impact of the Project is considered to be less than significant (Class III).** The Project includes elements that have risk of fire associated with them. They are: use of heavy equipment, which could create sparks; and concentration of substantial amounts of fuel (e.g., equipment fuel tanks and stand-alone fuel tank). Due to government-regulated storage tank placement and design (e.g., fire code requirements), a tank fire is considered unlikely. The impact associated with potential fire starts from equipment operation or careless workers is reduced by the water environment of the creek wherein some operations would occur and proximity of emergency fire response to the Project area. Additionally, fire suppression equipment is expected to be provided on the dredge and crane. Workers at the closed Foothill Landfill implement standard fire prevention and response measures including no smoking by equipment operators, spark arrestors and having fire extinguishers available (Zertuche, personal communication, June 10, 2009).

### **Mitigation Measures**

No mitigation measures are required.





### 5.5.3 References

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### **PERSONAL COMMUNICATIONS**

Anthony, Douglas, Deputy Director, County of Santa Barbara Community Development Department, Energy Division. Telephone, facsimile and email communication with Donna Hebert, Padre Associates, Inc., May 20, 2009.

Zertuche, Dana, Environmental Planner, Santa Barbara County Flood Control and Water Conservation District. Email communication to Donna Hebert of Padre Associates, Inc. June 10, 2009.



## 5.6 NOISE AND VIBRATION

### 5.6.1 Environmental Setting

#### 5.6.1.1 General Characteristics of Noise

**Characteristics of Sound/Noise.** Noise is defined as unwanted or objectionable sound. Measurement of sound involves determining three variables: 1) magnitude; 2) frequency; and 3) duration. The magnitude of variations in air pressure associated with sound waves results in the quality commonly referred to as loudness. Human ears respond to a very wide range of sound pressures producing numbers of awkward size when sound pressures are related on an arithmetic (1, 2, 3...) scale. It has therefore become customary to express sound pressure level in decibels (dB) which are of less than 3 decibels are not generally perceptible to the average human ear. Some sample typical sound pressure levels for common sounds are: rustle of leaves - 10 dB; ordinary conversation at 3 feet - 60 dB; power mower at 5 feet - 100 dB.

Because decibels are logarithmic ratios they cannot be manipulated in the same way as arithmetic numbers. Addition of decibels produces results such as  $70 \text{ dB} + 70 \text{ dB} = 73 \text{ dB}$  (approximately). When the difference between two sound levels is greater than about 10 decibels, the lesser sound is negligible in terms of affecting the total level.

Sound level diminishes as distance from the source increases. For a "point" source of sound in free space, the rate at which the sound attenuates is inversely proportional to the square of the distance from the source. This means the sound level will drop 6 dB each time the distance from the source is doubled. A stream of vehicles on a busy highway represents a "line" source of sound and the attenuation rate is only about 3 dB for each doubling of distance.

A second characteristic of sound which must be considered is frequency. The unit of measurement of frequency is Hertz (Hz). One vibration per second equals one Hz. The human ear responds to sounds in the frequency range from 20 Hz to 20,000 Hz. While loudness depends primarily on sound pressure, it is also affected by frequency, and while pitch is closely related to frequency, it also depends on sound pressure. Thus, a 2,000 Hz tone at 5 dB sound pressure level sounds just as loud as a 20 Hz tone at 70 dB sound pressure level. A 20 Hz sound at 20 dB is quiet to the ear while a 2,000 Hz sound at 70 dB is quite loud. Because of these variations systems have been developed to relate physical measurements of sound to human response. Presently, the most widely used measure of loudness for community noise evaluation is the A-weighted sound level. Sound levels using this system are referred to as dB(A).

The duration of noise and the time period at which it occurs are important factors in determining the human response to sound. For example noise induced hearing loss is directly related to the magnitude, frequency and duration of exposure. Annoyance due to noise is also associated with how often noise is present and how long it persists. One approach to quantifying time-varying noise levels is to calculate the Energy Equivalent Sound Level (LEQ) for the time period of interest. The LEQ represents a sound level which, if continuous would



contain the same total acoustical energy as the actual time-varying noise, which occurs during the observation period.

In a residential or certain other noise sensitive noise receptor environments, noise is more disturbing at night than during the day. Thus, noise indices have been developed to account for the differences in intrusiveness between daytime and nighttime noise. The Community Noise Level Equivalent (CNEL) and the Day-Night Average Level (DNL or LDN) are such indices. CNEL and Ldn values result from the averaging of hourly LEQs for a 24-hour period, with a weighting factor applied to the nighttime LEQ values (and the evening values for CNEL). The CNEL penalizes noise levels during the night (10 p.m. to 7 a.m.) by 10 dB to account for the increased sensitivity of people to noise after dark. Evening noise levels (7 p.m. to 10 p.m.) are penalized 5 dB by the CNEL. The LDN also penalizes nighttime noise levels by 10 dB, but does not penalize evening levels. These two indices are generally equivalent.

In general, the CNEL may be thought qualitatively as an accumulation of the noise associated with individual events occurring throughout a 24-hour period. The noise of each individual event is accounted for in a separate, discrete measurement that integrates the changing sound level over time as, for example, when an aircraft approaches, flies overhead, then continues off into the distance. These integrated sound levels for individual operations are referred to as Sound Exposure Levels or SELs. The accumulation of the SELs from each individual operation during a 24-hour period determines the CNEL for the day.

As discussed above, the duration of noise and the time period at which noises occur are important factors in determining the human response to sound. Areas where humans would be most sensitive to loud noise levels would be those where activities are generally more quiet or restrained such as residential housing, hospitals, libraries or other sensitive receptor areas. As such, acceptable noise levels are those which are compatible with nearby land uses. The following Table 5.6-1 indicates common noise and land use compatibility criteria.

#### 5.6.1.2 Site Specific

**Ambient Noise Measurements.** The Project area is located within the lower reaches of the Goleta Slough. The five creeks feeding into the slough that are subject to maintenance activities are Tecolotito, Los Carneros, Atascadero, San Jose, and San Pedro. Los Carneros and Tecolotito creeks are within the Santa Barbara city limits (due to their location within the jurisdictional boundaries of the City of Santa Barbara Airport, which is surrounded by the jurisdiction of the City of Goleta, refer to Section 4.0 - Land Use and Policy Consistency, for detail); the remaining creeks are in the unincorporated area of Santa Barbara County. As shown in Figures 5.6.1 and 5.6-2, for the purposes of this analysis, ambient noise measurements were taken at four locations along the proposed Slough and tributaries and at one location near the closed Foothill Landfill Sediment Disposal/Restoration Site for a total of five measurements. In addition, for the two tributaries located within the jurisdictional area of the Santa Barbara Municipal Airport (Tecolotito Creek and Los Carneros Creek) ambient noise levels were gained from the noise contour maps included within the Goleta Community Plan Noise Level Map (2005). Refer to Appendix D for copies of Noise Calculations and Measurement Field Notes.



**Table 5.6-1. Noise and Land Use Compatibility Criteria**

Land Use Category	Community Noise Exposure (LDN or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential (Low Density)	50-60	60-65	65-75	75-85+
Residential (Multi-Family)	50-60	60-65	65-75	75-85+
Lodging (Motels/Hotels)	50-65	65-70	70-80	80-85+
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-65	65-80	80-85+
Auditoriums, Concert Halls, Amphitheatres	NA	50-65	NA	65-85+
Sports Arenas, Outdoor Spectator Venues	NA	50-70	NA	70-85+
Playgrounds and Parks	50-70	NA	70-75	75-85+
Golf Courses, Cemeteries	50-70	NA	70-80	80-85+
Office Buildings, Commercial, Professional	50-67.5	67.5-75	75-85+	NA
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-75	75-85+	NA

**Source:** Goleta General Plan/Coastal Land Use Plan 2006 as modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

**Methodology.** Ambient noise measurements were taken by Padre Associates, Inc. using a Larson Davis LXT noise meter in the spring of 2009. Table 5.6-2 below summarizes the results of these measurements. Sound levels were measured for this study using an A frequency weighting. Measurements were taken for 15 minute intervals (LEQ); and therefore are representative of daytime noise levels within that time frame only.

**Table 5.6-2. Noise Measurements**

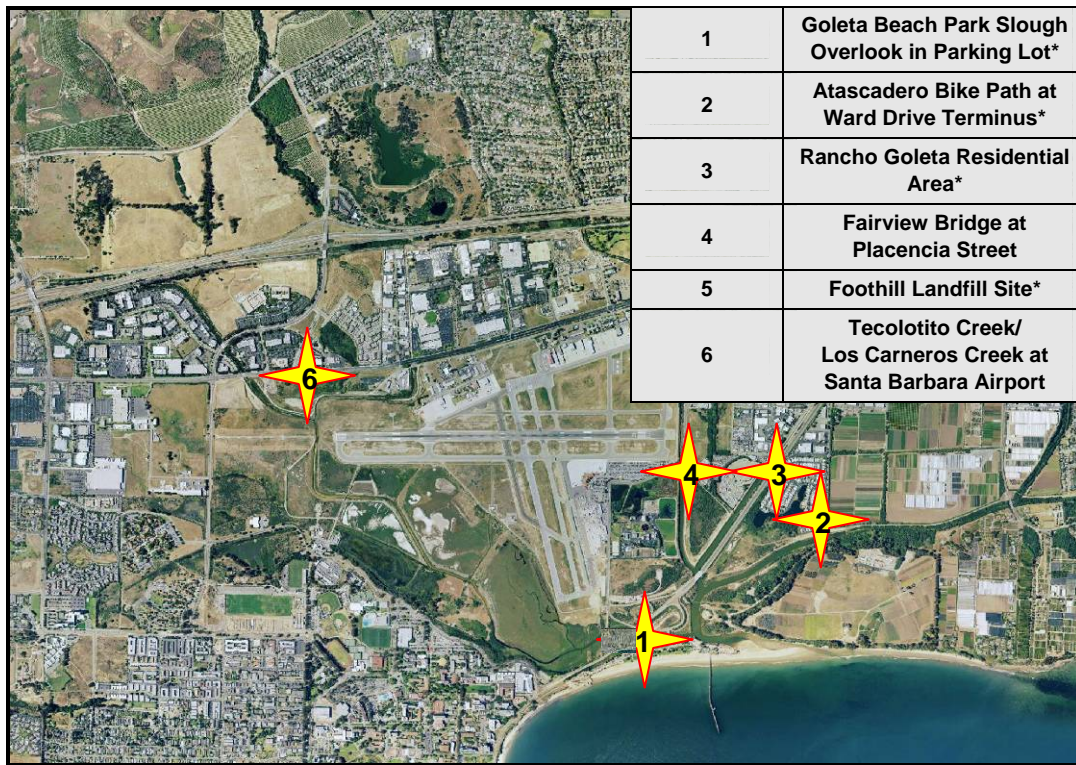
Figure Reference Number	Location	Nearest Sensitive Receptor	Approximate Distance to Nearest Desilting Component	Ambient Noise Level (15-minute LEQ dBA)
1	Goleta Beach Park Slough Overlook in Parking Lot*	130 feet from Goleta Beach Park	15 feet from Slough Banks	60.2
2	Atascadero Bike Path at Ward Drive Terminus*	75 feet from Rancho Goleta Residential Area	50 feet from Atascadero Creek Bank	45.0
3	Rancho Goleta Residential Area*	Within Rancho Goleta Residential Area	300 feet from San Jose Creek Bank	51.7
4	Fairview Bridge at Placencia Street	215 feet from Industrial Area at Placencia Street	30 feet from San Pedro Creek Bank	55.8
5	Foothill Landfill Site*	Adjacent to 243 Sherwood Drive	430 feet from Landfill	56.2
6	Tecolotito Creek/ Los Carneros Creek at Santa Barbara Airport	NA	NA	70-74**

Notes:

\*Noise measurement location adjacent to sensitive receptor

\*\*Noise levels are approximation based on Goleta Community Plan Airport Noise Map (2005). For the purposes of analysis 72 dBA has been used.





**Figure 5.6-1. Noise Measurement Locations**



**Figure 5.6-2. Noise Measurement Locations**



### 5.6.1.3 Regulatory Setting

Noise is regulated at the Federal, State and local levels. Regulation is obtained through laws, policies as well as local ordinances. In general, local regulations are adapted from State or Federal regulations depending on circumstances and issues of importance within the local area.

**Federal.** Federal regulation of noise has been addressed through Environmental Protection Agency Guidelines as well as Federal Aviation Administration (for air traffic noise), and the Department of Transportation, Federal Highway Administration. The following summaries have been provided regarding those regulations and policies affecting the proposed Project area.

**Environmental Protection Agency (EPA).** The Noise Control Act of 1972 required the EPA to establish noise emission criteria as well as noise testing methods (40 CFR Chapter 1, Subpart Q). These criteria generally apply to interstate rail carriers and to some types of construction and transportation equipment.

**Department of Transportation (DOT).** The DOT regulates noise levels for motor vehicles (49 CFR Chapter III, Part 325). These standards address measurement protocols for measuring highway noise, instrumentation, and stationary testing procedures.

**State.** State regulations for limiting population exposure to physically and/or psychologically significant noise levels; include established guidelines and ordinances under the California Department of Transportation (for roadway noise) as well as the now defunct California Office of Noise Control. The California Office of Noise Control land use compatibility guidelines provided the following: An exterior noise level of 60 to 65 dBA CNEL is considered "normally acceptable" for residential uses. A noise level of 70 dBA CNEL is considered to be "conditionally acceptable" and a noise level of greater than 75 dBA CNEL is considered "clearly unacceptable" for residences. The 70 dBA CNEL noise level is considered to be the upper limit of "normally acceptable" noise levels for other sensitive uses such as schools, libraries, hospitals, nursing homes, churches, parks, offices, and commercial and professional businesses.

**Local.** The proposed Project is located within the jurisdictions of the County of Santa Barbara (Goleta Slough and Goleta Beach County Park), the City of Santa Barbara (Santa Barbara Airport vicinity) and the City of Goleta (portions of San Jose Creek). As such the local coastal plans for each jurisdiction would be applicable to portions of the proposed Project (refer to Section 4.0 - Land Use and Policy Consistency, for detail).

In addition to City General Plan policies, the County of Santa Barbara, within its Thresholds and Mitigations Guidelines Manual, offers a comprehensive method for determining significant impacts on noise sensitive areas. These guidelines have been incorporated into the significance thresholds listed below.





## **5.6.2 Impact Discussion and Mitigation Measures**

### **5.6.2.1 Thresholds of Significance**

The County of Santa Barbara Environmental Thresholds and Guidelines Manual (2006) contains discussion regarding noise thresholds. Although the thresholds are intended to be used with flexibility and each project is to be viewed in its specific circumstances, the following apply:

- a. A proposed development that would generate noise levels in excess of 65 dB(A) CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.
- b. Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65dB(A) CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dB(A) CNEL or less.
- c. A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise sensitive receptor adjoining areas. In accordance with item a., this may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dB(A) CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dB(A) CNEL, as determined by a case-by-case level.
- d. Noise from grading and construction activity proposed within 1600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to EPA guidelines average construction noise is 95 dB(A) at a 50-foot distance from the source. A 6 dB(A) drop occurs with a doubling of the distance from the source. Therefore locations within 1,600 feet of the construction site would be affected by noise levels over 65 dB(A). To mitigate this impact, construction within 1600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 a.m. to 5 p.m. only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dB(A) may require additional mitigation.

### **5.6.2.2 Currently Approved Goleta Slough Maintenance Program**

The following summarizes the impacts to sensitive receptors caused by Project related noise as identified in the Program EIR (93-EIR-04) for the existing maintenance program.

1. Dredging activities would increase noise levels at residencies located at the Rancho Goleta Mobile Home Park (Atascadero Creek). (Less than significant - Class III).



2. Dredging activities would increase noise levels at the Goleta Beach Park ranger residencies (Less than significant - Class III).

#### 5.6.2.3 Proposed Updated Maintenance Program

**Goleta Slough.** Construction noise modeling of the proposed Project was based on noise levels published within the Goleta Community Plan Noise Map (2005) and ambient noise levels obtained on-site during the spring of 2009. The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) (2006) was then used to determine anticipated construction noise levels based on a typical equipment spread(s) for Project operations. Modeled results were then added to the measured ambient noise levels based on guidance provided within the RCNM User's Guide as well as communications with the FHWA.

The District routinely assesses conditions within each of the creeks to determine if and when desilting is necessary to fulfill the program objectives of increasing biological function of the system and protecting public and private land interests. The Tecolotito and Los Carneros Creek Basins are typically desilted utilizing dragline methodology. When dragline desilting is required, a 100-ton crane rigged as a dragline is utilized and the material is stockpiled and dewatered prior to beach replenishment or upland disposal. Atascadero, San Jose, and San Pedro creeks are primarily hydraulically desilted; however they may also be proposed for draglining if conditions are appropriate for this methodology. During hydraulic desilting of Atascadero, San Pedro and San Jose creeks, sediment removed is directly discharged to the surf zone at Goleta Beach for beach replenishment.

For the purposes of this analysis, impacts are assessed for three primary activities: desilting activities using the hydraulic dredge; desilting activities using the dragline crane; and activities at the closed Foothill Landfill Sediment Disposal/Restoration Site. Since hydraulic dredging is the most likely operation within the lower portion of the Goleta Slough and due to the fact that hydraulic dredging, in general, would require more equipment and create a slighter greater amount of construction noise (hence, hydraulic dredging is considered a worse-case noise scenario for noise impacts), draglining of the Atascadero Creek, San Pedro Creek and San Jose Creek has not been included within this analysis. Refer to Table 5.6-3 for detail regarding anticipated construction noise levels during Project operations.

**Closed Foothill Landfill Sediment Disposal/Restoration Site.** In addition to desilting activities at Goleta Slough, the District is proposing restoration activities within the upland disposal/receiver site to accommodate the sediment removed during desilting operations (Figure 3-3). The closed Foothill Landfill has been identified as the potential upland disposal/restoration site for sediment from County maintenance activities (including desilting material from Goleta Slough maintenance not suitable for Goleta Beach replenishment). As indicated within the Restoration/Revegetation Plan prepared by the District (Appendix F), sediment imports to the landfill would increase the depth of the soil cap cover and provide substrate for native plant vegetation and restoration efforts. The landfill site is currently used for passive recreation and areas of the site are leased to non-profit organizations. Current uses on the closed Foothill Landfill include a native plant nursery operated by Growing Solutions



**Table 5.6-3. Anticipated Noise Levels for Desilting Operations**

Noise Measurement Location	Approximate Distance From Nearest Dredging Component	Project Activity Modeled	Ambient Noise Level (LEQ dBA)	Estimated Construction Noise Level (LEQ)*	Est. Difference in Ambient Noise Level (dBA)	Difference Between Project Noise Level and 65 dBA Threshold
Goleta Beach Park Slough Overlook in Parking Lot*	15 feet from Slough Banks	Desilting - Hydraulic Dredging	60.2	83.8	23.6	18.3
Atascadero Bike Path at Ward Drive Terminus*	50 feet from Atascadero Creek Bank	Desilting - Hydraulic Dredging	45.0	79.8	34.8	14.8
Rancho Goleta Residential Area*	300 feet from San Jose Creek Bank	Desilting - Hydraulic Dredging	51.7	65.2	13.5	0.2
Fairview Bridge at Placencia Street	30 feet from San Pedro Creek Bank	Desilting - Hydraulic Dredging	55.8	84.0	28.2	19.0
Tecolotito Creek/ Los Carneros Creek at Santa Barbara Airport	NA	Desilting - Draglining	72.0	70.1/69.7**	0.0	7.0
Residential Neighborhood along Sherwood Drive	432 feet from landfill area	Restoration	56.2	61.9	5.7	-3.1

Notes: Worst case scenario; does not account for natural noise barriers such as landform contours, vegetation and buildings. Noise calculation for Tecolotito and Los Carneros creeks based on L10 (10 minute average) and noise data from the City of Goleta General Plan. Construction noise at Tecolotito and Los Carneros would likely be imperceptible.





**Table 5.6-4. Anticipated Noise Levels for Nighttime Desilting Operations (Hydraulic Dredging Only)**

Noise Measurement Location	Desilting Method Modeled	Estimated Nighttime Ambient (LEQ dBA)	Modeled Noise Level* (LEQ dBA)	Est. Difference in Ambient Noise Level (dBA)	Difference Between Project Noise Level and 55 dBA Threshold
Goleta Beach Park Parking Lot*	Hydraulic Dredging	Nighttime operations will not be conducted within 1,600 feet of residencies or other sensitive receptors			
Atascadero Bike Path*	Hydraulic Dredging				
Rancho Goleta Residential Area*	Hydraulic Dredging	41.7	64.8	23.1	9.8
Fairview Bridge at Placencia St	Hydraulic Dredging	45.8	83.9	38.1	28.9
Tecolotito/Los Carneros creeks at Santa Barbara Airport	Draglining	Draglining activities will not occur during nighttime hours			

\* Worst case scenario; does not account for natural noise barriers such as landform contours, vegetation and/or buildings.

Nighttime threshold determined by assuming a 10 dBA attenuation for nighttime noises.



Restoration and Education institute, dirt access roads (used as trails), an experimental jatropha (bio-diesel) plot, and a grant-funded revegetation project being conducted by RRWMD. For the purposes of this analysis, impact discussion is based on restoration activities requiring heavy equipment including dump trucks and wheeled loader/dozer.

**Impact NOI-1: Hydraulic desilting activities may increase noise levels during daytime hours near sensitive receptors - Class III.** The proposed Project will require the temporary installation and operation of a hydraulic dredge within the Goleta Slough and its tributaries. Noise impacts during these activities would result from operation of equipment including: crane (for placement of the dredge), hydraulic dredge, booster pump (if necessary), welding machine, and front-end loader. Although these activities would not likely occur at the same time, noise analysis was conducted as a worst-case scenario which assumes that all equipment would be in operation simultaneously.

**Goleta Beach Park.** For the lower reaches of the Slough adjacent to Goleta Beach Park (i.e., near Sandspit Road) the crane will be staged with other equipment (including the booster pump if necessary) and personnel vehicles within an area in the western portion of the Goleta Beach Park parking lot (Figure 3-1). The hydraulic dredge would likely be launched from this location as well, but would stay in relative constant motion traversing all portions of the lower slough. Due to the uses of the Goleta Beach Park as a recreational area, this would be considered a sensitive receptor for noise impacts. Based on Table 5.6-1 (Goleta, 2006) the “normally acceptable” levels for noise presented for recreational areas and playgrounds is 50 to 70 dBA. However, in addition to recreational usage, several ranger residencies are located within the western portion of the Goleta Beach Park parking lot directly adjacent to the Slough. Although this area is not zoned for residential use specifically, the presence of the ranger residencies would lower the “normally acceptable” range of ambient noise level from 50 to 70 - 50 to 60 dBA. The ambient noise level for this area was measured at 60.2 dBA, which is well within the range of normally acceptable levels for recreational land use, and is only slightly above the range for low density residential.

With the simultaneous operation of all equipment necessary for desilting activities using the hydraulic dredge, it is anticipated that daytime ambient noise levels within the Goleta Beach Park parking lot would increase to 83.8 dBA, which is approximately 23.6 dBA greater than ambient and 18.8 dBA greater than the County of Santa Barbara threshold of 65 dBA. Therefore, the operation of all construction equipment simultaneously would be a significant impact to sensitive receptor. However, as stated previously, due to the nature of Project operations it is not likely that all equipment would be operating simultaneously. Crane operation would occur only as necessary for moving the hydraulic dredge from its transportation trailer into the Slough and then back out again at the end of lower slough desilting operations. Crane use would be temporary, and limited to mobilization and demobilization activities only, and would not likely occur simultaneously with the operation of dredging pumps. Furthermore, the hydraulic dredge (and its primary pumps) would be mobile, moving along the length of the lower slough distributing any applicable noise over a greater area hence reducing any impact caused by desilting activities.



As discussed within the 1993 original Program EIR, further reductions in noise are quite likely due to the difference in elevation of the noise receptors and the noise-generating equipment. The waters along much of the Slough and its tributaries may be at an elevation of approximately 4 to 10 feet lower than the banks. This difference in elevation would create a natural barrier between the hydraulic dredge and sensitive receptors located adjacent to the Slough. This barrier would become more effective at blocking equipment noise the further away the receptor. According to the 1993 original Program EIR the barrier may attenuate noise levels by between 5 and 20 dBA. The degree of shielding would depend on the relative position of the equipment and the receptor in question. Further attenuation would be achieved by barriers formed by natural landform contours and even by the presence of some vegetation along the Slough banks.

Additionally, several adopted mitigation measures from the 1993 original Program EIR will be employed to further reduce the noise levels caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time restrictions, public noticing, proper maintenance of equipment and shielding of the booster pump as identified in detail under the mitigation section below.

Based on these factors (Project topography, vegetation, previously incorporated mitigation measures and timing, etc.) noise impacts at Goleta Beach Park will be reduced to less than significant and no further mitigation measures are required.

**Atascadero Creek.** For Atascadero Creek, the staging area would be located along the northern banks directly adjacent to the bike path. This area is approximately 80 feet wide providing abundant space for crane operations and staging while leaving the bike path and walking trails available for public use. No stockpiling of sediment would be necessary for hydraulic desilting operations. Atascadero Creek is located adjacent to the bike path, and nearby Rancho Goleta Mobile Home; both considered sensitive receptors for noise impacts. Based on Table 5.6-1 (Goleta, 2006) the "normally acceptable" levels for noise presented for recreational areas and playgrounds is 50 to 70 dBA. The presence of the residences would lower the "normally acceptable" range of ambient noise level from 50 to 70 - 50 to 60 dBA. The ambient noise levels for this area were measured at 45.0 and 51.7 dBA respectively. These ambient levels are well within the range of normally acceptable levels for recreational land use, and low density residential.

With the simultaneous operation of all equipment necessary for desilting activities using the hydraulic dredge, it is anticipated that daytime ambient noise levels within the Atascadero Creek area may increase to as much as 79.8 (for the bike path area) and 65.2 (within Rancho Goleta Mobile Home Park), which is approximately 34.8 and 13.5 dBA greater than ambient and 14.8 and 0.2 dBA greater than the County of Santa Barbara threshold. Therefore the operation of all construction equipment simultaneously would be a significant impact to sensitive receptors. However, as stated previously, due to the nature of Project operations it is not likely that all equipment would be operating simultaneously. Crane operation would occur only as necessary for moving the hydraulic dredge from its transportation trailer into the Slough and then back out again at the end of lower slough desilting operations. Crane use would be temporary, and



limited to mobilization and demobilization activities only, and would not likely occur simultaneously with the operation of dredging pumps. Furthermore, the hydraulic dredge (and its primary pumps) would be mobile, moving along the length of the lower slough distributing any applicable noise over a greater area hence reducing any impact caused by desilting activities.

As discussed within the 1993 original Program EIR, further reductions in noise are quite likely due to the difference in elevation of the noise receptors and the noise-generating equipment. The waters along much of the Slough and its tributaries may be at an elevation of approximately 4 to 10 feet lower than the banks. This difference in elevation would create a natural barrier between the hydraulic dredge and sensitive receptors located adjacent to the Slough. This barrier would become more effective at blocking equipment noise the further away the receptor. According to the original Program EIR/Draft EA for Routine Maintenance Activities within the Goleta Slough (1993), the barrier may attenuate noise levels by between 5 and 20 dBA. The degree of shielding would depend on the relative position of the equipment and the receptor in question. Further attenuation would be achieved by barriers formed by natural landform contours and even by the presence of some vegetation along the Slough banks.

Additionally, several adopted mitigation measures from the 1993 original Program EIR will be employed to further reduce the noise levels caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time restrictions, public noticing, proper maintenance of equipment and shielding of the booster pump as identified in detail under the mitigation section below.

Based on these factors (Project topography, vegetation, previously incorporated mitigation measures and timing, etc.) noise impacts to sensitive receptors located adjacent to Atascadero Creek would be reduced to less than significant and no further mitigation measures are required.

**San Jose Creek/San Pedro Creek.** Desilting operations for the San Jose Creek and San Pedro Creek would require equipment staging along the western side of the channel for San Jose Creek and the eastern side of the channel for San Pedro Creek. No stockpiling of sediment would be necessary for hydraulic desilting operations. No public access or recreational opportunities are currently gained from this location. However, along the northern portion of San Pedro Creek, along Placencia Road, are several residences within an area designated general industrial within the City of Goleta Land Use Map (2008). These residences are considered sensitive receptors. The ambient noise levels for this area were measured at 55.8 dBA.

With the simultaneous operation of all equipment necessary for desilting activities using the hydraulic dredge, it is anticipated that daytime ambient noise levels within this portion of San Pedro Creek area may increase to as much as 83.9 dBA, which is approximately 28.1 dBA above ambient and 18.9 dBA greater than the County of Santa Barbara threshold. Therefore the operation of all construction equipment simultaneously would be a significant impact to sensitive receptors. However, as stated previously, due to the nature of Project operations it is not likely that all equipment would be operating simultaneously. Crane operation would occur



only as necessary for moving the hydraulic dredge from its transportation trailer into the Slough and then back out again at the end of lower slough desilting operations. Crane use would be temporary, and limited to mobilization and demobilization activities only, and would not likely occur simultaneously with the operation of dredging pumps. Furthermore, the hydraulic dredge (and its primary pumps) would be mobile, moving along the length of the lower slough distributing any applicable noise over a greater area hence reducing any impact caused by desilting activities.

As discussed within the 1993 original Program EIR, further reductions in noise are quite likely due to the difference in elevation of the noise receptors and the noise-generating equipment. The waters along much of the Slough and its tributaries may be at an elevation of approximately 4 to 10 feet lower than the banks. This difference in elevation would create a natural barrier between the hydraulic dredge and sensitive receptors located adjacent to the Slough. This barrier would become more effective at blocking equipment noise the further away the receptor. According to the 1993 original PEIR, the barrier may attenuate noise levels by between 5 and 20 dBA. The degree of shielding would depend on the relative position of the equipment and the receptor in question. Further attenuation would be achieved by barriers formed by natural landform contours and even by the presence of some vegetation along the Slough banks.

Additionally, several adopted mitigation measures from the 1993 original Program EIR will be employed to further reduce the noise levels caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time restrictions, public noticing, proper maintenance of equipment and shielding of the booster pump as identified in detail under the mitigation section below. Based on the factors described above (Project topography, vegetation, previously incorporated mitigation measures and timing, etc.), noise impacts to sensitive receptors located adjacent to San Pedro be reduced to less than significant and no further mitigation measures are required.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. As discussed above, the following mitigation measures were included within the original 1993 Program EIR and are considered to be incorporated into the Project.

***MM PNOI-1a: Time Restrictions.*** Dredging shall be limited to weekdays between 7:30 a.m. and 5:30 p.m.

Timing: Weekdays between 7:30 a.m. and 5:30 p.m.

Monitoring: The District biologist or engineer will act as the Noise Control Officer and shall assure that these mitigation measures are implemented.

***MM PNOI-1b: Public Notification.*** The Program shall inform the affected public of the expected duration and frequency of the Project, as well as the need for and the benefits of the Project. Property owners adjacent to the Project activities shall be given the





dredging schedule seven (7) days in advance. Any alterations or additions shall require three (3) day notification.

Timing: A dredging schedule shall be mailed to the affected public at least seven days in advance of commencement of dredging activities.

Monitoring: The District biologist or engineer shall prepare and mail dredging schedules.

**MM PNOI-1c: *Proper Equipment Maintenance.*** All noise-generating equipment shall be properly maintained. Equipment shall be muffled to the extent feasible. Engine enclosure covers shall be used during operation of the equipment.

Timing: Immediately prior to commencement of dredging activities.

Monitoring: The District biologist or engineer shall assure that these recommendations have been implemented.

**MM PNOI-1d: *Booster Pump Noise Reduction.*** The booster pump shall be located more than 400 feet from the Ranger's residence or a noise barrier shall be constructed around the booster pump.

Timing: Immediately prior to commencement of dredging activities.

Monitoring: The District biologist or engineer shall assure that these recommendations have been implemented.

Mitigation Recommended by this Subsequent EIR. Based on previous desilting events and due to updates to the County of Santa Barbara requirements, the District has made modification to its construction schedule as identified in mitigation measure NOI-1a below. These changes take into account the distance of sensitive receptors and would preempt PNOI-1a as identified above, thereby becoming the District's new standard for construction timing. MM PNOI-1b has been revised based upon the practical experience gained by the District through the past implementation of the Goleta Slough Maintenance Program. Additionally MM PNOI-1d has been modified as MM NOI-1c to reflect applicable elements of County of Santa Barbara Coastal Development Permit conditions. As described above, all of the measures below are limited to minor updates/modifications of measures already incorporated into the Goleta Slough Maintenance Program through the adopted PEIR mitigation measures.

**MM NOI-1a: *Construction Timing Limits.*** Construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8:00 a.m. to 5:00 p.m. only (per County of Santa Barbara, Environmental Thresholds and Guidelines Manual, 2006).

Timing: Weekdays between 8:00 a.m. and 5:00 p.m.

Monitoring: The District biologist or engineer will act as the Noise Control Officer and shall assure that these mitigation measures are implemented.



***MM NOI-1b: Construction Notification.*** The Program shall inform the affected public of the expected duration and frequency of the Project, as well as the need for and the benefits of the Project. Property owners adjacent to the Project activities shall be given the dredging schedule seven (7) days in advance.

Timing: A dredging schedule shall be mailed to the affected public at least seven days in advance of commencement of dredging activities.

Monitoring: The District biologist or engineer shall prepare and mail dredging schedules.

***MM NOI-1c: Booster Pump Noise Reduction.*** The second booster pump (if required) shall be located more than 400 feet from the Ranger's residence (located within an enclosure in the Goleta Beach Parking Lot area) or a noise barrier shall be constructed around the booster pump.

Timing: Immediately prior to commencement of dredging activities.

Monitoring: The District biologist or engineer shall assure that these recommendations have been implemented.

Residual Impacts: Implementation of these mitigation measures would reduce noise impacts to a level of less than significant.

**Impact NOI-2: Hydraulic desilting activities may increase noise levels during nighttime hours near sensitive receptors - Class III.** Hydraulic desilting has historically been performed a minimum of 10 hours a day, but may also be done up to 24 hours a day, seven days a week. Project operations would not include 24-hour operations within 1,600 feet of sensitive receptors. Hydraulic desilting takes approximately 38 days (excluding holidays) if 10 hour days are assumed, and 16 days if desilting takes place 24 hours a day. Noise impacts during these activities would result from operation of equipment including: crane (for placement of the dredge), hydraulic dredge, booster pump (if necessary), and welding machine. Project operations would not include 24-hour operations within 1,600 feet of sensitive receptors.

**Goleta Beach Park.** Goleta Beach Park is closed for nighttime recreational use. As such Project activities would not interfere with recreational areas during nighttime hours due to noise. Therefore, the Goleta Beach recreational area is not considered a sensitive receptor during nighttime hours. However, due to the presence of the park ranger station within the Goleta Beach Park recreational area parking lot, this area would be considered a sensitive receptor for nighttime noise impacts.

Construction noise impacts during nighttime hours would likely increase noise levels within the vicinity of the Goleta Beach Park Ranger Station to above the County of Santa Barbara threshold. This impact is significant. However, based on previous desilting events as well as mitigation discussed within the original Program EIR, several mitigation measures will be employed to reduce the noise levels at the ranger's residence caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time



restrictions, public noticing, proper maintenance of equipment and shielding of the booster pump.

Due to implementation of approved mitigation from the PEIR, no Project operations would occur with at least 1,600 feet of the ranger's residence. According to the County of Santa Barbara Environmental Thresholds and Mitigations Guidelines, EPA guidelines state that average construction noises are 95 dBA 50 feet from the source. As such, a 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8:00 a.m. to 5:00 p.m. only. Due to Project mitigation measures including the cessation of construction activities within 1,600 feet of residential receptors after 5:00 pm, impacts to ambient noise levels caused by the proposed Project would be less than significant.

**Atascadero Creek.** Portions of Atascadero Creek are located near the sensitive residential receptor Rancho Goleta Mobile Home Park off of Ward Drive. Construction noise impacts during nighttime hours would increase noise levels within the vicinity of the Rancho Goleta Mobile Home Park to above the County of Santa Barbara threshold. However, based on previous desilting events as well as mitigation discussed within the original Program EIR, several mitigation measures will be employed to reduce the noise levels at the Rancho Goleta Mobile Home Park caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time restrictions, public noticing, proper maintenance of equipment and shielding of the booster pump.

Due to implementation of approved mitigation from the PEIR, no Project operations would occur with at least 1,600 feet of the Rancho Goleta Mobile Home Park residences. According to the County of Santa Barbara Environmental Thresholds and Mitigations Guidelines, EPA guidelines state that average construction noises are 95 dBA 50 feet from the source. As such, a 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 a.m. to 5 p.m. only. Due to Project mitigation measures including the cessation of construction activities within 1,600 feet of residential receptors after 5:00 pm, impacts to ambient noise levels caused by the proposed Project would be less than significant.

**San Jose Creek/San Pedro Creek.** Hydraulic desilting operations for the San Jose Creek and San Pedro Creek would require staging along the western side of the channel on San Jose Creek and the eastern side of San Pedro Creek. No public access or recreational opportunities are currently gained from this location. However, along the northern portion of San Pedro Creek, along Placencia Road, several residences are located within an area designated general industrial within the City of Goleta Land Use Map (2008). These residences are considered sensitive receptors.

Construction noise impacts during nighttime hours would increase noise levels to above the County of Santa Barbara threshold. This impact is significant. However, based on previous desilting events as well as mitigation discussed within the original Program EIR, several



mitigation measures will be employed to reduce the noise levels at sensitive residential receptors caused by Project operations to less than significant. These would include, but not necessarily be limited to, the following: time restrictions, public noticing, proper maintenance of equipment, and shielding of the booster pump.

Due to implementation of approved mitigation from the PEIR, no Project operations would occur within at least 1,600 feet of the Placencia Street residences. According to the County of Santa Barbara Environmental Thresholds and Mitigations Guidelines, EPA guidelines state that average construction noises are 95 dBA 50 feet from the source. As such, a 6 dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8:00 a.m. to 5:00 p.m. only. Due to Project mitigation measures including the cessation of construction activities within 1,600 feet of residential receptors after 5:00 p.m., impacts to ambient noise levels caused by the proposed Project would be less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Mitigation measures PNOI-1a through PNOI-1d as identified above would mitigate the impacts as described above

Mitigation Recommended by this Subsequent EIR. As described above, MM NOI-1a, MM NOI-1b and MM NOI-1c provide revisions to previous measures PNOI-1a and PNOI-1b and PNOI-1s and would be applied to future Project operations.

Residual Impacts. Because all practical construction noise reduction measures would be implemented, noise impacts are considered less than significant.

**Impact NOI-3: Dragline desilting activities may increase noise levels during daytime hours near sensitive receptors - Class III.**

**Tecolotito Creek/Los Carneros Creek.** Dragline desilting operations would be conducted during daytime hours only. Desilting at Tecolotito Creek and Los Carneros Creek would require staging and sediment stockpiling along the channel south of Hollister Avenue. Stockpiling of soils would be located at least 30 feet from Tecolotito and Los Carneros Creek banks (Figure 3-1). Desilting operations for these areas would likely be conducted by dragline requiring staging of the crane to occur at multiple locations along the channels for very brief periods. The areas surrounding these creeks are primarily commercial and industrial. Noise within these areas is heavily influenced by the adjacent Santa Barbara Municipal Airport. No sensitive receptors are located within this portion of the proposed Project.

Table 5.6-3 indicates that construction noise calculations for these activities with ambient noise levels would be approximately 70.1 dBA for Tecolotito Creek and 69.7 dBA for Los Carneros Creek. Since ambient would be approximately 72 dBA, construction noise would be imperceptible. Due to the nature of Project activities as well as the lack of sensitive receptors located within the Tecolotito and Los Carneros creeks area, noise impacts caused by Project



activities will be less than significant. Furthermore, as with other portions of the proposed Project, natural sound barriers within the Project area will likely help reduce construction noise levels by shielding direct impact of sound waves. As discussed within the original Program EIR for Routine Maintenance Activities within the Goleta Slough (1993), several mitigation measures will be employed to further reduce the noise levels caused by Project operations to less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. As discussed above, MM PNOI-1c was included within the original 1993 Program EIR for the

Mitigation Recommended by this Subsequent EIR. No additional mitigation measures required for desilting activities within the Tecolotito and Los Carneros creeks area.

Residual Impacts. Noise impacts within the Tecolotito and Los Carneros creeks area are less than significant.

**Impact NOI-4: Closed Foothill Landfill Sediment Disposal/Restoration Site restoration activities may increase noise levels near sensitive receptors- Class III.** The proposed Project will require the restoration of an approximately 20 acre area within the closed Foothill Landfill. Noise impacts during these activities would result from operation of restoration equipment including a loader/dozer for sediment placement and dump trucks for sediment transportation. Restoration of the site is anticipated to occur over several years and will occur within portions of the restoration area as fill becomes available. Restoration activities would also include monitoring and maintenance activities (such as watering and weeding) throughout the first few years of initial plant growth; however, these activities are likely to be less noise-producing than the activities during the initial phase of restoration including grading and other uses of heavy equipment. Restoration activities would not occur during nighttime or weekends.

Although the restoration area is currently used for some passive recreation activities including walking and wildlife viewing, the area is not designated for recreation or open space use. The nearest sensitive receptor is a residential neighborhood located approximately 430 feet east of the restoration area along Sherwood Drive. Access to the closed Foothill Landfill Sediment Disposal/Restoration Site from the residential area, although relatively close in distance, is hindered by steep slopes and dense oak woodlands type vegetation. These natural conditions would influence the transmission of noise from the closed Foothill Landfill Sediment Disposal/Restoration Site to the residential area.

The primary noise sources for residential receptors located near the closed Foothill Landfill Sediment Disposal/Restoration Site include vehicular traffic (on U.S. Highway 101 and Calle Real), railroad traffic (on tracks located adjacent to U.S. Highway 101) and some overhead air traffic. As shown in Table 5.6-4, construction noise during restoration activities may cause increases in the ambient noise levels at residential receptors by as much as 5.7 dBA as a worst-case scenario. However, the model used to estimate these noise levels does not account for barriers to noise transmission such as topography or vegetation. Due to the high levels of noise





from the adjacent transportation uses, it is likely that the majority of residents will not be able to distinguish construction noise from ambient noise conditions. Furthermore, an increase in ambient levels from 56.2 dBA to 61.9 dBA will still be slightly below the 65 dBA threshold.

It is important to note however that although noise levels will likely be below County of Santa Barbara Thresholds, due to the contours and elevations at the site, sound waves may travel from the site to nearby residential receptors in a manner not anticipated by the Federal Highway Administration (FHWA) roadway construction noise model. During projects conducted by the owner of the landfill (County of Santa Barbara Solid Wastes Division) within the vicinity of the closed Foothill Landfill, residents have historically complained about noise (e.g., from sediment disposal activities conducted under emergency permitting).

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. MM PNOI-1c will be implemented by the District for operations at the closed Foothill Landfill Sediment Disposal/Restoration Site.

Mitigation Recommended by this Subsequent EIR.

***MM NOI-4a: Timing Restriction.*** Project activities within the closed Foothill Landfill Sediment Disposal/Restoration Site shall be limited to weekdays between the hours of 8:00 a.m. to 5:00 p.m.

Timing: During Project activities.

Monitoring. District inspectors shall ensure that Project construction complies with all District requirements including those associated with noise reduction.

***MM NOI-4b: Public Notification.*** The District shall inform the affected public of the expected duration and frequency of Project activities within the closed Foothill Landfill Sediment Disposal/Restoration Site.

Timing: Prior to initiation of Project activities.

Monitoring. District inspectors shall ensure that Project construction complies with all District requirements including those associated with noise reduction.

Residual Impacts. Noise impacts are less than significant.

### **5.6.3 References**

#### **5.6.3.1 Bibliography**

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- University of California Santa Barbara. 2008. LRDP Draft Environmental Impact Report Noise Section.



#### 5.6.3.2 Personal Communications

Reherman, Clay, Personal Communication. Email dated August 1, 2008 from Clay Reherman, Acoustics Engineer, Volpe National Transportation Systems Center, Federal Highway Administration



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## **5.7 CULTURAL RESOURCES**

The following section is based upon an Archaeological Surface Survey and Updated Records Search for the Goleta Slough Flood Control Dredging Project, Goleta, Santa Barbara County, California (July 28, 2009), prepared by Thor Conway of Heritage Discoveries, Inc. The complete report is available for review by request on a need to know basis at the District office located at 123 East Anapamu Street, Santa Barbara, CA 93101. The scope of work conducted by Heritage Discoveries, Inc., as documented in the above referenced, report included an updated records search for previous archaeological surveys and recorded sites, an historic resources search, and ground survey for each specific work area, access route, staging and stockpile area for the Project. Due to the confidential nature of archaeological site locations, maps depicting the ground survey area performed on behalf of the Project within proximity to known archaeological resource areas can be reviewed by authorized individuals. A copy of the Archaeological Report prepared by Heritage Discoveries is available at the District office.

### **5.7.1 Environmental Setting**

#### **5.7.1.1 Regional Archaeology and Prehistoric Overview**

Santa Barbara County was home to the Barbareno Chumash for over 9,000 years. Archaeologists have established a detailed cultural chronology based upon excavations and site surveys across the County.

The Chumash history in Santa Barbara County is long and very complex. Because it is believed that the same genetic population has been in the County for over 9,000 years, research involving the same culture in the same overall environment, can offer unique perspectives and opportunities. Based on general research designs developed for the Chumash in Santa Barbara County, five aspects of human behavior have been outlined. These provide a focus for research—subsistence, technology, social organization, religion and ideology as well as trade and economic exchange (King, 1990).

For prehistoric sites, a detailed chronology established for the Santa Barbara Channel Region by C. D. King (1981 and 1990) and Robert Gibson (1993) can be applied throughout the Chumash territory and beyond. The temporal sequence is divided into Early (E), Middle (M), and Late (L) Periods, which are generally comparable in Central and Southern California. Sub-phases of the major periods have also been designated. Further refinement of the central coast cultural chronology now recognizes the Millingstone Period dating from 8500 to 5500 B.P. [Before Present], the Early Period dating between 5500 and 3000 B.P., the Middle Period dating between 3000 and 1000 B.P., a transitional era from the Middle Period to the Late Period at 1000 B.P. to 700 B.P., the Late Period dating from 700 B.P. to the historic era and the historic era.

The Early Period (9,000 B.C. to 1,000 B.C.) is the first period in California with sites that represent remains of permanent settlements with associated cemeteries. One of the earliest sites in the Chumash territory is found at Diablo Canyon, CA-SLO-2 with radiocarbon dates of





about 8,900 to 9,300 years old (Greenwood, 1972). While a number of sites along the San Luis Obispo coast are known to exist prior to 8,000 years ago, very few have been discovered between 8,000 and 5,500 years old. The rare occurrence of archaeological sites in this 2,500 year period may be due to the Altithermal, a very dry warm period in California history when populations may have decreased or been clustered near permanent water sources. After 5,500 years ago, many sites were again occupied.

Artifacts and food remains recovered from these early contexts indicate that people living along the coast fished with bone hooks, sometimes using boats or rafts and occasionally taking sea mammals and large fish. Deer and other bones, stone points and knives indicate that hunting was important. Residential sites often contain milling stones and manos used to process small seeds. During much of the Early Period, it is believed that society was organized as egalitarian, so that anyone could attain positions of power and wealth. Political power was largely dependent on the acquisition of wealth and ritual power. During the later phases of the Early Period, Olivella barrel beads were the dominant type of bead used in the throughout Chumash territory. Olivella barrels require additional grinding of the base and often the spire to reduce the size of the bead that increases the manufacturing costs of this type of bead (King, 1990). This increased cost per bead is suggested to indicate that these beads were used in economic contexts.

The increasingly standardized size of the Olivella barrel beads and clam disc beads throughout the Early Period also suggests both were used in changing and developing economic exchange systems. Often early settlements were small hamlets defensively situated on elevated landforms. Throughout the Early Period while most villages contained 30 to 60 people, some settlements increased in size to several hundred.

The end of the Early Period and beginning of the Middle Period occurs between 1,000 B.C. and 600 B.C. and is marked by changes in ornaments and other artifacts which indicate the development of hereditary control of political and economic power. Cemeteries in this time period indicate a separation of "church and state," between chiefs and priests or religious leaders. Towards the end of the Early Period, milling stones decreased in frequency as mortars and pestles became more common. Subsistence patterns appear to shift from small seeds to larger nuts particularly the acorn and islay as well as fruits. Storage of these foods also increased. Social and marriage networks were established to regulate these food stores and to even out fluctuations of the acorn harvest in different regions. Also during the Middle period, there was an increase in importance of fishing from boats, with fish becoming a more important food resource. Village locations during this period tended to be less defensive in nature, as villages became integrated into larger political units to promote inter-village and inter-regional trade.

The Early Period economic system employed clam disc/cylinder beads and Olivella barrel beads. However, both types of beads became very rare in the Middle Period indicating a major change in the utility of economic systems during this time period. During the Middle Period, political control systems and not economic systems were adequate to regulate the Chumash society. The most common beads were Olivella saucers (discs) that were used in



necklaces during political exchanges between village chiefs and other high status members of the society. The villages during the Middle period grew larger in size and number. Towards the end of the Middle Period there was a shift from the use of large points to small projectile points with bows and arrows becoming common throughout California after about A.D. 500 to 700.

The Late Period (1150 A.D. to 1790 A.D.) is marked by the differentiation of new bead types indicating new economic subsystems were again necessary to regulate the growing Chumash society. This later economic system switched to Olivella callus beads (cup, lip, and cylinder beads) and produced a greater volume of money and invested more energy per bead in the economic system than the Early Period populations. During the eight hundred years the Late Period economic system operated, shell beads became larger using less grinding time and cheaper to produce and became more numerous.

Large trade centers were established and there was a rapid growth in all aspects of Chumash society. Many small sites were also established during this period as response to the growth of an economic system that supported more specialists and intensive exploitation of many different resources. Ritual objects were seldom owned by individuals, but rather controlled by institutions. Chiefs and many other important political and social positions were inherited along "royal" family lines. Social and political organizations encompassed most of the Chumash nation from Malibu to the northern parts of San Luis Obispo County.

The world of the Chumash entered the historic era when Spanish missionaries and soldiers established missions. Native populations eventually lived at the missions and abandoned their ancestral villages. When the California missions were secularized in the era between 1826 and 1835, the Chumash population had declined. The survivors eventually worked on local ranches and married into the Hispanic population.

#### 5.7.1.2 Historical Era Overview

For the historic era, California history is divided into numerous themes such as the mission era, the ranching era and the early oil industry era. The three main divisions of the historic era in central and southern California are the Spanish Period from 1769 to 1821, the Mexican Period from 1821 to 1848 and the American Period from 1848 to today. Each of these periods of California history has associated archaeological sites and different uses of the landscape. After secularization of the mission lands and the start of the Mexican Period, the Mexican Governor granted rancho lands across the area. These ranchos supported cattle for many years. Land ownership and commerce changed after California became part of the United States (Bancroft, 1886; Price, 1967).

Spanish and European explorers described the slough with waters from the Pacific Ocean entering through two entrances approximately 1.5 miles apart (Stone, 1982: 5). This suggests that the Devereux Slough and Goleta Slough were connected 200 years ago, at least during high tides. In 1782, Pantoja y Arriaga described the depth of the slough south of Mescalitan Island at approximately 11 feet at high tide, with the remainder barely four feet deep (Stone, 1982: 7). But 10 years later Captain Vancouver considered that the slough had "...very shallow water and incapable of admitting vessels of any burthen..." (Menzies, 1924: 318-319).



This illustrates the difficulty in precisely defining the depth of the slough prior to historic disturbances. Based on ethno-historic accounts, the extent of the slough in 1770 is correlated with the USGS 10-foot elevation contour that would accommodate the maximum sub-tidal depths of up to 11 feet (Stone, 1982: 13). Creek channel depths feeding the slough basin would equal this depth south of Mescalitan Island and diminish to perhaps half that at the furthest upstream point of the proposed Project. Other historic information suggests that the slough was indeed deep enough to accommodate ocean vessels. This is suggested by the existence of a shipyard built by Benjamin Foxen on the mesa south of Atascadero Creek. It did not survive for long, probably due to the lack of suitable construction wood and the shallow waters near the slough sand spit (Wilcoxon, Erlandson & Stone, 1981: 54).

In the 1870's, a whaling camp was built at the slough mouth and it operated for about a decade (Wilcoxon, Erlandson & Stone, 1981: 54). More developments followed with subsequent recreational use of the slough including construction of a two-story house on Mescalitan Island and cabins on the sand spit. During World War II, an airport originally developed in 1928 was used as a Marine Corps Air Training Base and nearly 100 major structures were erected in the slough for military purposes. Draining of slough bottoms to create arable land and construction of the Santa Barbara Airport and Ward Memorial Drive have dramatically reduced the Goleta Slough to its current size.

Flood control realignment, maintenance of Goleta Slough creek channels, and airport construction, have also resulted in modifications to original bank configurations. For example, Atascadero Creek was originally located adjacent to and at the base of More Mesa, approximately 100 meters south (Wilcoxon, Erlandson & Stone, 1981:69). Historic desiltation in the creeks within the Project area has removed soils to an established clay layer which limits further vertical penetration beyond the established limits and defines the current lateral boundaries of desiltation the boundaries of proposed dredging (Spencer personal communications, 2009). Airport construction resulted in the relocation of Los Carneros and Tecolotito creeks.

During the last quarter of the 19th century, more changes in land use and transportation took place. Further exploration led to more oil developments. The oil industry expanded with extensive use of beaches and coastal terraces for production and infrastructure (Franks & Lambert, 1985). The scale of oil production in the early 1900's in the Santa Barbara Channel area is impressive even by today's standards.

#### 5.7.1.3 Offshore Cultural Resources

The Santa Barbara Channel contains a variety of underwater cultural resources ranging from prehistoric artifacts to historic era shipwrecks. An overview of underwater archaeological discoveries along the channel includes numerous examples of Chumash cultural materials (Hudson, 1977). Two finds occur near the Goleta Slough study area. An artifact located south of More Mesa may have been associated with site SBA-42, while items situated underwater 300 meters south of the Goleta Slough could have eroded out of several possible prehistoric sites (Ibid: 10). The latter, designated as Hudson's "Marine Number 10," included several stone bowl



fragments. Another find occurred about 1,750 feet east of Goleta Beach where stone mortar fragments were discovered.

Historic era cultural resources have been documented near the mouth of the Goleta Slough such as five shipwrecks dating between 1819 and 1878 (Chambers Group, Inc., 1992). A group of cannons discovered in the surf zone 2,000 feet east of the Goleta Slough mouth are believed to be part of the Dorotea, which sank in 1829. An extensive magnetometer survey near the cannon find spot produced negative results (Wheeler & Kallman, 1984).

During the early 20th century, the beach area and bluffs east of the slough mouth were developed by the oil industry. Remnants of these structures, piers and wells are located below the high tide line.

#### 5.7.1.4 Background Research Findings

An updated archaeological records search was completed at the Central Coast Archaeological Information Center of the California Historical Resources Information System at the Department of Anthropology at the University of California, Santa Barbara, which included a review of all archaeological maps, site records and reports for the study area. The records search revealed 43 previously recorded cultural resources (Table 5.7-1) and 245 previous cultural resource surveys located within a one-half mile radius of the study area. The historic resources search identified one recorded resource (Sexton House) located more than one-quarter mile from the specific study areas. Prehistoric sites ranged from large, multi-component villages to specialized resource processing camps and smaller settlements. Many of the previous archaeological studies included portions of the present study areas.

**Table 5.7-1. Archaeological Sites Located in a One-half Mile Radius of the Survey Areas**

Location No.	Name and Location	Sites within Survey Area	Sites near Survey Area
#1	<b>Atascadero Creek</b> The Atascadero Creek work location for the Project follows the north bank of the creek west from Ward Memorial Boulevard to the junction of San Jose Creek and east to a small dam in the creek. This creek bank is a developed area with roads, fill soils and other improvements.	SBA-45	SBA-46 (Note that this area was referred to as Locus 2 in the Final Program Environmental Impact Report/Draft Environmental Assessment for Routine Maintenance Activities in the Goleta Slough [PEIR]. It is referred to as Locus 2 in previous studies meaning that it is a second, removed portion of the site SBA-46).
#2	<b>San Jose Creek</b> The San Jose Creek work location for the Project is situated along the west side of Highway 217, southeast of the Santa Barbara Airport on the west bank of the channel, in an area chosen to avoid cultural resources.	SBA-46	



**Table 5.7-1. (Continued)**

Location No.	Name and Location	Sites within Survey Area	Sites near Survey Area
#3	<p><b>San Pedro Creek</b></p> <p>The San Pedro Creek work location for the Project is situated southeast of and near the edge of the Santa Barbara Airport, along the eastern bank of the creek north of its junction with San Jose Creek.</p> <p>The San Pedro Creek Enhancement Area work area occurs along the eastern bank of the creek.</p>	SBA-46	
#4	<p><b>Los Carneros Creek Channel</b></p> <p>The Los Carneros Creek Channel work location for the Project is situated along the eastern bank of Los Carneros Creek at a bend immediately south of Hollister Avenue beside the Santa Barbara Airport. The creek flows at the edge of the Santa Barbara Airport.</p>	None	SBA-55, SBA-56, SBA-57, SBA-58 & SBA-3742
#5	<p><b>Tecolotito Creek Basin</b></p> <p>The Tecolotito Creek Basin work location for the Project is situated along the western bank of the creek immediately south of Hollister Avenue.</p>	None	SBA-55, SBA-3861 & SBA-3862
#6	<p><b>Goleta Beach Replenishment Area</b></p> <p>The Goleta Beach Replenishment work location for the Project is situated between lower Tecolotito Creek and the western side of Goleta Beach in Goleta Beach Park. The sand replenishment element of the Project will discharge materials into the surf zone at Goleta Beach Park.</p>	SBA-1158 & SBA-1695	
#7	<p><b>Goleta Slough Mouth</b></p> <p>The Goleta Slough Mouth work location for the Project is situated behind the beach at the mouth of the slough at an existing parking lot and developed area. This area is a developed area with roads and the shoreline is protected by rocks and other erosion control materials. The Goleta Slough Mouth location will be used to launch the dredges from existing facilities.</p>	None	SBA-44





**Table 5.7-1. (Continued)**

<b>Location No.</b>	<b>Name and Location</b>	<b>Sites within Survey Area</b>	<b>Sites near Survey Area</b>
#8	<b>Soil Stockpiling Locations</b> The soil stockpiling areas are situated at several locations which correspond to work areas previously described. Five areas for stockpiling soils have been identified including the eastern side access roadway of San Pedro Creek, the western side/access roadway for San Jose Creek, the northern side/access roadway for Atascadero Creek, the western bank /access roadway for the Tecolotito Creek location and eastern bank / access roadway the Los Carneros Creek location.	None	SBA-45, SBA-46, SBA-55, SBA-56, SBA-57, SBA-58, SBA-3742, SBA-3861 & SBA-3862
#9	<b>Closed Foothill Landfill Sediment Disposal/Restoration Site</b> The closed Foothill Landfill work location for the Project is situated immediately north of U.S. Highway 101 between Santa Barbara and Goleta. The Project area occurs on part of Assessor's Parcel Number 056-140-23. The closed Foothill Landfill Sediment Disposal / Restoration Site location proposed for soil disposal covers 20 acres of the 143 acre County-owned property (Padre, 2009: 3-12). The restoration / fill areas covering 20 acres have been divided into three parts. The native soils at the site are capped by layers of fill soils and trash.	None	SBA-1540, SBA-1541 & SBA-1809
#10	<b>Atascadero Creek Fish Passage</b> The Atascadero Creek Fish Passage work location is situated on the creek east of Ward Memorial Boulevard. The existing fish passage structure in Atascadero Creek will be modified.	None	SBA-1696 & SBA-1697
#11	<b>San Pedro Creek Enhancement Area</b> The San Pedro Creek work location is situated southeast of the Santa Barbara Airport along the eastern bank of the creek north of its junction with San Jose Creek.	None	SBA-46
#12	<b>San Jose Creek Enhancement Area</b> The San Jose Creek work location is located west of Ward Memorial boulevard in the on the western creek bank.	None	SBA-46



The area between Goleta Beach and the mouth of Atascadero Creek contains several prehistoric archaeological sites (SBA-42, SBA-1698, SBA-1696, SBA-1697, SBA-55, SBA-56, SBA-57, SBA-45, SBA-44, and SBA-43). A cluster of sites is also located west of the closed Foothill Landfill Sediment Disposal/Restoration Site. Additional details of record search findings for each of the Project impact areas is provided below.

**Atascadero Creek (Including Stockpiling Location).** An extensive prehistoric archaeological site has been recorded on both sides of Atascadero Creek CA-SBA-45 (Wilcoxon, 1993; Wilcoxon & Imwalle, 1992). SBA-45 has had a complex history. Originally recorded in the 1920's at the base of the mesa now south of Atascadero Creek, the site was described as having cultural materials extending to six feet depth and containing a variety of artifacts and burials (Rogers, 1929).

The site SBA-45 has been affected greatly by construction of Ward Memorial Boulevard and a realignment of Atascadero Creek. The site now lies partially submerged in the creek and covered by dredging soils. On the south bank, the site soils have been mixed with dredged soils and modern shellfish. This part of the site may lack significance due to destruction of archaeological contexts. The stream bank on the north edge of Atascadero Creek has been described as having 2 to 3 feet of dredged soils covering intact, and significant archaeological deposits (Wilcoxon & Imwalle, 1992: 8).

A portion of CA-SBA-46 (also referred to as Locus 2 in previous documentation) occurs immediately west of the Atascadero Creek study area. This archaeological discovery appears to be part of the larger Mescalitan Island site located on the other side of the junction of Atascadero Creek and San Jose Creek (Wilcoxon, Erlandson & Stone, 1982). These may be secondary deposits, but they have not been fully evaluated (Wilcoxon & Imwalle, 1992: 12).

**San Jose Creek (Including Stockpiling and Enhancement Locations).** The Mescalitan site SBA-46 occurs adjacent to the southwestern edge of the San Jose Creek study area. SBA-46 was first recorded just above the beach by Rogers (1929). His excavations revealed a site with deep cultural deposits. This site has been evaluated many times (Greenwood, 1975; Erlandson, 1985; SRSI, 1985; Wilcoxon et al., 1982). The San Jose Creek study area was surveyed previously with negative results (Chartkoff, 1967).

**San Pedro Creek (Including Stockpiling Location Restoration Area).** A prehistoric archaeological site, the Mescalitan site SBA-46, has been recorded immediately south of the San Pedro Creek study area. SBA-46 was first recorded just above the beach by Rogers (1929). His excavations revealed a site with deep cultural deposits. This site has been evaluated many times (Greenwood, 1975; Erlandson, 1985; SRSI, 1985; Wilcoxon et al., 1982). The San Pedro Creek study area was surveyed previously with negative results (Chartkoff, 1967).

**Los Carneros Creek (Including Stockpiling Location).** While no archaeological sites have been recorded at the Los Carneros Creek Channel study area, several prehistoric archaeological sites, CA-SBA-55, CA-SBA-56, CA-SBA-57, CA-SBA-58 and CA-SBA-3742,



have been recorded less than one-quarter mile away (Table 5.7-1). Studies have examined these sites and their boundaries (Erlandson, 1983; Moore et al., 1986).

A previous archaeological surface survey examined the northern end of the Los Carneros Creek Channel study area with negative results (Coombs, 1983; Desautels, 1993). A comprehensive survey of the airport did not locate sites in the current study area (Snethcamp, 1992; Snethcamp & Cagle, 1992).

**Tecolotito Creek (Including Stockpiling Location).** While no archaeological sites have been recorded at the Tecolotito Creek study area, several prehistoric archaeological sites, CA-SBA-55, CA-SBA-3861 and CA-SBA-3862, have been recorded less than one-quarter mile away (Table 5.7-1). Studies have examined some of these sites (Erlandson, 1983).

A previous archaeological surface survey examined the Tecolotito Creek Basin study area with negative results (Chartkoff, 1967). A comprehensive survey of the airport did not locate sites in the current study area (Snethcamp, 1992; Snethcamp & Cagle, 1992).

**Goleta Beach.** Two prehistoric archaeological sites are located within the Goleta Beach Replenishment study area (Table 5.7-1). Site CA-SBA-1158 occurs at the western part of the proposed sand replenishment pipeline route (Macko, 1986b; Moore, 1985; Wilcoxon et al., 1982). Site CA-SBA-1695 occurs at the eastern end of the pipeline corridor.

**Goleta Slough Mouth.** A prehistoric archaeological site has been recorded on the north side of the slough mouth (Table 5.7-1). CA-SBA-44 covers the elevated terrace.

**Closed Foothill Landfill Sediment Disposal/Restoration Site.** Three large archaeological sites are recorded west of the study area (Table 5.7-1). Site CA-SBA-1540 is located immediately south of U.S. Highway 101 and 600 meters east of the study area. Archaeological monitoring done near site CA-SBA-1540 produced negative results (Arnold, 1987).

Site CA-SBA-1541 was recorded during a survey for the Santa Barbara General Hospital affordable housing project (Erlandson, 1980). A third site, CA-SBA-1809 lies west of the study area (Rudolph, 1986).

**Atascadero Creek Fish Passage Area.** Two large archaeological sites, CA-SBA-1696 and CA-SBA-1697, have been recorded immediately south of the Atascadero Creek Fish Passage study area (Table 5.7-1). The Atascadero Creek fish passage study area has had a previous survey with negative results (Chartkoff, 1967).

#### 5.7.1.5 Archaeological Field Survey

Field archaeologists for Heritage Discoveries Inc. completed the Phase I survey of the study areas on June 2 and 3, 2009 under the direction of Thor Conway. The survey used basic archaeological field methods including a systematic surface survey of the Project areas at two meter intervals. All ground surfaces were examined for any signs of prehistoric cultural



materials including marine shellfish fragments, stone tools and fragments, stone flakes, bone, burnt rock, or historic cultural materials including foundations, nails, bricks, older glass, trash pits, etc.

The archaeological surface surveys were completed at 12 identified work locations for the Goleta Slough Flood Control Dredging Project. Table 5.7-2 summarizes the field survey results.

**Table 5.7-2. Archaeological Field Survey Results**

<b>Work Location</b>	<b>Name</b>	<b>Survey Results</b>
#1	Atascadero Creek and Enhancement	Positive
#2	San Jose Creek and Enhancement	Positive
#3	San Pedro Creek and Enhancement	Positive
#4	Los Carneros Creek Channel	Negative
#5	Tecolotito Creek Basin	Negative
#6	Goleta Beach Replenishment Area	Positive
#7	Goleta Slough Mouth	Negative
#8	Soil Stockpiling Locations	Negative
#9	Closed Foothill Landfill	Negative
#10	Atascadero Creek Fish Passage	Negative

The survey results were negative with the exception of Atascadero, San Jose, and San Pedro creeks and Goleta Beach. The findings for the work locations identified above are described further as follows.

**Atascadero Creek.** The Atascadero Creek work area #1 occurs along the north bank of the stream. The surface survey at Atascadero Creek found cultural materials from site CA-SBA-45 in apparent disturbed condition on the bank. This finding corresponds to the results of previous studies (Wilcoxon & Imwalle, 1992: 8). The present survey also relocated evidence of site SBA-46 immediately west of the Atascadero Creek study area.

**San Jose Creek.** San Jose Creek work area #2 occurs along the west bank of the creek channel. The present survey and previous surveys at San Jose Creek produced positive results for the presence of cultural resources with a portion of SBA-46 located beside the work area. The archaeological setting is complex in this area and cannot be defined precisely. The cultural materials could have been placed along the channel during past construction activities and could derive from SBA-45 or SBA-46. Some original cultural remains could have been located beneath the natural water levels during Chumash occupation. The large Mescalitan Island site SBA-46 may have extended east originally.

**San Pedro Creek.** The San Pedro Creek work area occurs on the east bank of the creek. The present survey and previous surveys produced positive results for the presence of



cultural resources with a portion of SBA-46 located beside the work area. The archaeological setting is complex in this area and cannot be defined precisely. The cultural materials could have been placed along the channel during past construction activities and could derive from SBA-45 or SBA-46. Some original cultural remains could have been located beneath the natural water levels during Chumash occupation. The large Mescalitan Island site SBA-46 may have extended east originally.

**Los Carneros Creek.** The Los Carneros Creek Channel work area #4 occurs at a bend on the eastern and south side of the creek. The present Los Carneros Creek survey and previous surveys produced negative results for the presence of cultural resources.

**Tecolotito Creek.** The Tecolotito Creek Basin work area #5 occurs on the west bank of the creek. Archaeological materials were not present in the Tecolotito Creek study area confirming the negative results of previous surveys.

**Goleta Beach.** The Goleta Beach sand replenishment work area occurs behind the beach in an area that shows a mixture of disturbed soil conditions and some intact soils. Surface evidence of site CA-SBA-1158 could not be seen due to heavy ice plant cover. But the site does occur in the study area. The boundaries of site CA-SBA-1695 extend further than currently mapped on the site record form. CA-SBA-1695 can be identified as shell midden exposures along the bike path north of the Goleta Beach parking lot. The site also extends to the edge of Tecolotito Creek where the replenishment pipe will reach the shoreline from a dredge. The pipe will be placed under the bike path, through a sleeve under the parking lot and then across the beach to discharge into the surf zone.

**Goleta Slough Mouth.** The Goleta Slough Mouth work area #7 occurs at an existing parking lot and developed area. The present Goleta Slough mouth survey and previous surveys did not find cultural materials. The shoreline is protected by rocks and other erosion control materials.

**Soil Stockpiling Locations.** The Soil Stockpiling work areas #8 are included within the surface surveys described above for Atascadero, San Jose, San Pedro, Los Carneros, and Tecolotito creeks. Survey results were negative for these stockpiling locations.

**Closed Foothill Landfill Disposal/Restoration Site.** The Foothill Landfill work area #9 is located at the west-central portion of the large landfill property in the vicinity of the current Hearts Adaptive Riding Program (scheduled for relocation in December of 2009 to the north area of the closed Foothill Landfill site outside of the proposed upland sediment disposal/restoration site). The area was surveyed at two meter intervals on June 3, 2009. This surface survey produced negative results for cultural resources. However, the native soils already are capped by layers of fill soils.

**Atascadero Creek Fish Passage.** The Atascadero Creek Fish Passage work area #10 occurs in Atascadero Creek. Archaeological materials were not present on either stream bank.





#### 5.7.1.6 Native American Consultation

An updated search request was made to the Native American Heritage Commission Sacred Lands files to identify sacred sites within or near the study areas. This search did not identify such sites or landforms in, or near, the study areas of the Goleta Slough Flood Control Dredging Project.

Letters requesting information regarding traditional cultural properties within the Project area were sent to 18 Native American representatives on May 6, 2009. To date no responses have been received.

### 5.7.2 Impact Analysis and Mitigation Measures

#### 5.7.2.1 Thresholds of Significance

The Santa Barbara County's Environmental Thresholds and Guidelines Manual includes thresholds to define the significance Project impacts on cultural resources. These thresholds are presented as follows.

If the project would cause damage to an important cultural resource, the project is considered to have a significant effect on the environment. For the purposes of CEQA, an "important archaeological resource" can be defined by one of several criteria listed below. Such a resource may have the following characteristics:

1. Is associated with an event or person of:
  - a. Recognized significance in California or American history; or
  - b. Recognized scientific importance in prehistory.
2. Can provide information which is of both demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions.
3. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.
4. Is at least 100 years old and possesses substantial stratigraphic integrity.
5. Involves important research questions that historical research has shown can be answered only with archaeological methods.

The CEQA Guidelines (Section 15064.5) and County of Santa Barbara Environmental Thresholds Manual also address specific procedures that are required in the event cultural sites are discovered during construction and pertaining to the disposition of human remains should they be encountered.



#### 5.7.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the cultural resource impacts of the currently approved Goleta Slough Maintenance Project as identified in the Program EIR (93-EIR-04).

1. No cultural resources were identified at the Project impact areas at San Jose, Tecolotito, and Los Carneros creeks. Therefore, no impacts would occur.
2. At San Pedro Creek pilot channel excavation and dredging would be in the vicinity of Locus 2, adjacent to SBA-45 and -46. These activities could displace Locus 2 archaeological materials, which would be a potentially significant impact (Class II).
3. Human remains have been identified at both SBA-45 and -46. If these materials have been re-deposited at Locus 2, pilot channel excavation could impact these human remains. Although the re-deposited remains would have limited scientific value, their disturbance is considered to result in a significant impact on Native American values (Class I).
4. Dredging at Atascadero Creek were determined to have the potential to result in significant impacts to SBA-45 (Class II).
5. Unauthorized access to and possible illegal collection of archaeological resources exposed during construction was determined to be a potentially significant indirect impact of the existing slough maintenance activities (Class II).
6. Impacts to offshore cultural resources were determined to be less than significant (Class III).
7. Removing stockpiled soils from creek banks could accidentally result in the excavation of archaeological material at SBA-45 and SBA-1696 if it went below the "bluetop zone", which is a cap intended to protect the resources. This is a significant, but mitigable Class II impact.
8. Removing vegetation on the creek banks at SBA-45 and SBA-1696 would potentially contribute to increased access and exposed prehistoric artifacts and exacerbate illicit collection. This is a significant, but mitigable Class II impact.
9. Impacts of placing discharge pipelines on top of Locus 2, SBA-45 and SBA-1698 were determined to be less than significant (Class III).

#### 5.7.2.3 Proposed Updated Maintenance Program

The primary changes proposed as part of the updated maintenance program or changes in the environment that would have the potential to modify cultural resource-related impacts findings include:

- Utilizing the closed Foothill Landfill for upland sediment disposal/restoration.



- Proposed restoration activities at the landfill.
- Additional cultural resource information that may be available currently that was not available at the time of preparation of the PEIR.
- Changes to the Project with respect to the identification and avoidance of culturally sensitive areas as reflected in the Project design/description.

As with the currently approved Goleta Slough Maintenance Program, no cultural resources were identified at the Project impact areas at Tecolotito and Los Carneros creeks. Therefore, no impacts would occur from Project operations at these locations. No cultural resources were identified at the closed Foothill Landfill. Therefore, there would be no cultural resource impact associated with the sediment disposal and revegetation activities proposed at this location. The current stockpile locations were determined not to have significant cultural resources associated with them. Therefore, no cultural resource impacts are expected to result from stockpiling. Similarly, no cultural resources were identified at the Goleta Slough Mouth or Fish Passage Project work locations. Therefore, no impacts to cultural resources would be associated with opening of the Slough mouth or fish passage modification.

The Project has the potential to result in direct and indirect impacts to archaeological resources as well as Native American remains at Atascadero, San Jose, and San Pedro creeks, as well as Goleta Beach as described in detail below.

**Impact CR-1: Dredging activities at Atascadero Creek have the potential to impact CA-SBA-45 (Class III).** Potential impacts to cultural resources have never been evaluated fully for site CA-SBA-45. However, had portions of this site been located within the work area previous activities within the stream would have removed any potential resources. Impacts from proposed activities would therefore not result in further impacts to the resource and the impact is considered less than significant. The proposed Project does not include expansion of the dredging area of disturbance for Atascadero Creek. However, it is possible that earth materials have sloughed off the banks of the creek into the channel and that such material may include cultural materials and thus dredging has the possibility of impacting these resources. However, due to the limited nature of this natural sloughing effect, the uncertainty that any earth materials that would slough into the channel would actually contain cultural materials; and the fact that any eroded cultural materials would no longer be in context, this potential impact is less than significant.



## Mitigation Measures

Mitigation Provided by the 1993 Program EIR. The Archaeological Resources section of the PEIR included stated that the District implements Standard Maintenance Practices which include two specific to cultural resources. They are:

- 1) Wherever possible, significant cultural resources should be avoided and protected; and
- 2) Where significant cultural resources cannot be avoided, appropriate data recovery programs pursuant to Santa Barbara County Cultural Resource Guidelines should be implemented.

The following specific measures were also provided that are applicable to the current Project.

***MM PCR-1a: Avoidance of SBA-45 and Locus 2<sup>1</sup>.*** Dredging excavation shall not occur within a minimum 25-foot distance measured along the top of creek banks, and within 5 feet of the existing creek bank toe of slope adjacent to Locus 2 and SBA-45 site boundaries. These avoidance areas shall be temporarily staked during construction.

Timing: The avoidance boundaries shall be staked immediately prior to commencement of dredging activities.

Monitoring: The avoidance boundaries shall be staked by a qualified archaeologist.

***MM PCR-1b: Monitoring of Archaeological Sites.*** All dredging operations within archaeological sites and buffer areas shall be monitored by a County-approved archaeologist and local Native American representative. If unexpected archaeological remains are encountered, dredging activities shall be redirected elsewhere until the significance of the materials can be evaluated pursuant to County Cultural Resource Guidelines. If significant and feasible, dredging activities shall be redesigned to avoid further disturbances to the cultural deposit. If not avoidable, Phase 3 data recovery excavations shall be undertaken pursuant to County Cultural Resource Guidelines.

Timing: During dredging activities in sensitive areas.

Monitoring: A qualified archaeologist and Native American representative shall implement these measures.

Mitigation Recommended by the Subsequent EIR.

None Required. Because the Project incorporates MM PRC-1a from the PEIR in the Project design and additional designated areas of avoidance are incorporated into the

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<sup>1</sup> Locus 2 is described in the PEIR as a cultural deposit at the confluence of San Pedro and San Jose creeks associated with CA-SBA-45 and -46.



Project as shown on Figure 3-1, and MM PCR-1c still applies to the Project, direct impacts of the Project have been reduced to less than significant as described above.

**Impact CR-2: Project-related exposure of CA-SBA-45 may increase its exposure to unauthorized cultural artifact collectors (Class II).** Archaeological site CA-SBA-45 is well known to artifact collectors. Natural erosion of the creek banks may have exposed cultural material. Also, as stated in the PEIR, removal of vegetation along the banks of archaeological sites would also contribute to the exposure and access of prehistoric artifacts. Increased exposure and site access to cultural resources as a result of the Project could exacerbate unauthorized collection of these resources which is considered an indirect, but potentially significant, Project impact.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Measure PCR-1a is applicable in that it helps avoid exposure of cultural material.

### Mitigation Recommended by the Subsequent EIR.

The following measures would further reduce the impact.

**MM CR-2a: Worker Cultural Orientation.** At Goleta Slough Flood Control Dredging Project work locations #1 Atascadero Creek, #2 San Jose Creek & Enhancement, #3 San Pedro Creek & Enhancement and #6 Goleta Beach Replenishment, before commencing work, Project crews and personnel shall be informed of the importance of the potential archaeological resources in the area and of the regulatory protections afforded to the resources. The crew should be informed of procedures relating to the discovery of archaeological remains during Project activities and cautioned to avoid archaeological areas with equipment and not to collect artifacts. Personnel and the crew should inform their supervisor and the on-site monitor should cultural remains be uncovered.

Timing: Prior to dredging activities in culturally sensitive areas.

Monitoring: A qualified archaeologist shall implement this measure.

**MM CR-2b: Demarcation of Archaeological Sites.** Known archaeological sites shall be avoided, so as not to inflict a significant impact to the site. Avoidance can be accomplished by having the archaeologist and project engineer demarcate on the ground cultural resource boundaries that occur adjacent to work areas to ensure that proposed Project improvements do not impinge on the resource(s). Construction equipment can then be directed away from the resource, and construction personnel directed to avoid entering the area. This applies to work locations #1 Atascadero Creek, #2 San Jose Creek & Enhancement, #3 San Pedro Creek & Enhancement and #6 Goleta Beach Replenishment where archaeological sites have been recorded.





Timing: Prior to Project work activities in culturally sensitive areas.

Monitoring: A qualified archaeologist and the District's Project Manager shall implement these measures.

**Impact CR-3: Dredging activities at Atascadero Creek, San Jose Creek and San Pedro Creek have the potential to impact CA-SBA-46 (Class III).** The portion of site SBA-46 located immediately west of the Atascadero Creek adjacent to the San Jose Creek and immediately south of the San Pedro Creek work locations has not been evaluated fully. The currently recorded boundaries of this site occur outside the Project work locations. The proposed Project does not include expansion of the dredging area of disturbance for Atascadero, San Jose and San Pedro creeks. However, it is possible that earth materials have sloughed off the banks of the creek into the channel and that such material may include cultural materials and thus dredging has the possibility of impacting these resources. However, due to the limited nature of this natural sloughing effect, the uncertainty that any earth materials that would slough into the channel would actually contain cultural materials and the fact that any eroded cultural materials would no longer be in context, this potential impact is less than significant.

#### **Mitigation Measures**

The discussion of mitigation measures from the PEIR as described above under Impact CR-1 is also relevant to Impact CR-3.

**Impact CR-4: Installation and removal of the pipeline for the Goleta Beach surf zone work associated with beach replenishment has the potential to impact CA-SBA-1695 (Class II).** The Project uses a discharge pipeline for the beach nourishment element when hydraulic desilting occurs. The discharge pipeline extends through a sleeve under the Goleta Beach parking lot and under the bike path. The pipeline sleeve at the parking lot is permanent. However, the sleeve under the bike path is installed for each event and then removed afterward. Due to the surface crossing of site CA-SBA-1695, during installation of the pipeline and removal of the pipeline for the Goleta Beach surf zone work archaeological site CA-SBA-1695 may be impacted.

#### **Mitigation Measures**

Mitigation measures PCR-1b and MM CR-2a would reduce the impact to less than significant.

**Impact CR-5: Project activities have the potential to disturb Native American human remains (Class II).** In addition to cultural deposits, human remains occur regularly at sites SBA-45 and SBA-46. The PEIR determined that potentially significant and unavoidable impacts to human remains could be associated with excavation of pilot channels at Atascadero Creek and San Jose Creek. However, as indicated above, the current Project dredging is not proposed to expand the boundaries or depth of previous channel excavations. Because of the cultural resource avoidance measure in place for the Project, impacts to human remains



associated with dredging in the channels are not likely. It is possible that workers may observe newly exposed cultural materials potentially including burials along the banks of Atascadero, San Pedro or San Jose creeks due to the natural erosion of the creek banks. In this event, proper notification procedures as described in MM CR-4 below should be implemented.

As described above, the placement of discharge pipeline has the potential to impact SBA-1695. The pipeline installation and removal has been conducted numerous times without apparent impact on cultural resources. There is very limited data available on this site and the likelihood of human remains at this site is unknown. However, in the event that such remains are encountered the impact would be considered significant as all human remains and associated ceremonial artifacts retain spiritual integrity for Native Americans.

### **Mitigation Measures**

Mitigation Recommended by this SEIR. Measure MM CR-2a identified above in combination with the measure below would mitigate this impact to the extent feasible.

***MM CR-5: Proper Disposition of Human Remains.*** If Native American human remains are discovered during Project construction at any Goleta Slough Flood Control Dredging Project work locations, the Project Archaeologist shall be notified and state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (Public Resource Code Sec. 5097), shall be followed. The coordination of the procedures outlined in the Proposed Native American Burial Protection Plan is the responsibility and under the authority of the lead agency for this project.

In the event that human remains are unearthed, all work shall stop in the area of the find and any nearby area reasonably suspected to overlie adjacent human remains and the County Coroner notified. If the remains are determined to be of Native American descent, the Coroner shall notify the NAHC within 24 hours. Reburial or disposal of human remains shall be conducted according to the instructions of the most likely descendent, as identified by the NAHC.

Timing: During Project activities.

Monitoring: The District Project Manager shall be responsible to coordinate as needed with the Project Archaeologist and County Coroner.

**Impact CR-6: Disposition of sediments for beach replenishment is not expected to impact significant offshore cultural resources (Class III).** No additional evidence of cultural resources at the offshore area that would be affected by beach replenishment activities has been identified. Therefore, impacts would remain Class III per the PEIR.

### **Mitigation Measures**

None required.



**Impact CR-7: Impacts to previously unidentified cultural resources (Class II).** Because of the general cultural sensitivity of the Goleta Slough it is possible that archaeological sites that have not been previously identified may exist within the Project work area. Project activities such as ground disturbance associated with operation of equipment on the banks during dragline desiltation, or any ground disturbing activity has the potential to impact previously unidentified cultural resources.

### **Mitigation Measures**

#### Mitigation Recommended by this SEIR.

**MM CR-7. Stop Work Order:** If cultural resources are encountered during implementation of the Project, construction work must be stopped and all activity that disturbs the earth within fifty feet must be suspended or moved to another area. The area will be staked or flagged until an archaeologist determines significance of the discovery and recommends the methods of evaluation. All discoveries of cultural resources must be evaluated and mitigated if determined significant. After the find has been mitigated, work may resume at that location. A Native American monitor shall be retained to observe any ground disturbances that contain or may contain Native American artifacts or objects of religious significance.

Timing: During Project implementation.

Monitoring: The District Project Manager shall retain the archaeologist and Native American monitor as necessary. Documentation of any cultural resources finds associated evaluations and mitigation, if necessary shall be retained in the Project file.

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## 5.8 AESTHETICS

The focus of this Subsequent EIR is to address proposed changes to the Goleta Slough Maintenance Program, and changes in the distribution and regulatory status of aesthetic/visual resources<sup>1</sup> in the Project region. The characterization of the aesthetic/visual resources provided in the 1993 PEIR remains primarily unchanged with any updates provided in the following section.

### 5.8.1 Environmental Setting

#### 5.8.1.1 Regional

**Regional Characteristics.** The Project is located within the County of Santa Barbara in the geographical area known as the Goleta Valley. The Goleta Valley includes the City of Goleta as well as its unincorporated surrounding urban areas. The Valley is located between the scenic backdrops of the Santa Ynez Mountains and the Pacific Ocean.

**Scenic Corridors.** Designated scenic corridors are those that pass through or provide visual access to areas of high scenic value. Within the Project area, roadways that have been designated as scenic corridors include the following:

- U.S. Highway 101
- Hollister Avenue
- Cathedral Oaks Road
- Los Carneros Road
- Fairview Avenue
- Calle Real

It is important to note that since the filing of the 1993 Program EIR, the City of Goleta was incorporated in 2002 and finalized its own General Plan in 2006. As such, some changes pertinent to visual/aesthetic resources have occurred. Specific changes include the designation of City transportation corridors as “Scenic Corridors” including Hollister Avenue, Los Carneros Avenue, Fairview Avenue and Calle Real. For additional information regarding transportation corridors (refer to Section 5.9 - Traffic/Circulation).

**Key Public Viewpoints.** Public vantage points within the Project area include public streets and highways such as Ward Memorial Boulevard (SR-217) and U.S. Highway 101 as well as public open spaces and recreational areas. Although views of the Goleta Valley’s visual/aesthetic resources are available from residential areas and other privately owned lands, local regulations and guidelines, including those adopted by the County of Santa Barbara, primarily focus on maintaining views from public vantage points. The Project area is located within the Goleta Slough Ecological Preserve and includes Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. The confluence of these creeks occurs within the lower reaches of the slough directly adjacent and to the north of Goleta Beach. As such, multiple locations overlook the Project area and provide views of the surrounding scenic resources including Goleta Beach Park, public bike and walking trails,

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<sup>1</sup> An aesthetic or visual resource is a broad term used to identify the particular scenic qualities that define a place or landscape.



SR-217 and other smaller side streets including Fairview Avenue, Placencia Road, and Sandspit Road.

#### 5.8.1.2 Site Specific

As stated previously, the Project area is located within the Goleta Slough Ecological Preserve and includes Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Staging and sediment stockpiling for the proposed Project will occur along each creek as well as the parking lot of Goleta Beach Park (Figure 3-1). The visual character of each creek and work area vary depending on the location and surrounding land uses as described below.

**Goleta Beach Park/Goleta Slough Viewshed.** Goleta Beach Park is located in the southern portion of the City of Goleta adjacent to and surrounded by the Goleta Slough. North of the Park and the Slough is the Santa Barbara Municipal Airport (City of Santa Barbara jurisdiction). To the south lies the Pacific Ocean and the Channel Islands offshore. To the east of the lower reaches of the Slough is the SoCalGas La Goleta Storage Field natural gas facility. To the west of the Slough is the University of California at Santa Barbara (UCSB) campus. The Goleta Beach Park viewshed is characterized by natural coastal features and is considered a highly sensitive recreational and aesthetic area (City of Goleta, 2006). The viewshed includes the estuarine habitat of the Goleta Slough as well as tree-lined coastal bluffs, broad expanses of Pacific Ocean, sandy beach, and rugged, marshy vegetation inhabited by numerous shorebirds (Santa Barbara County, 1993) (Figure 5.8-1). Views from the Project site southward include Goleta Beach Pier (Figure 5.8-2), Goleta Beach Park (Figure 5.8-3), the Pacific Ocean and, on clear days, the Channel Islands offshore (Figure 5.8-4). The Slough is visible from portions of Ward Memorial Blvd (SR-217), the Atascadero Creek Bike Path, Goleta Beach Park and parking lot, as well as portions of Goleta Beach. Nighttime lighting within the Goleta Beach Park viewshed is moderate due to the park facilities and restaurant, however, the Park itself closes at sunset and visitors are restricted from Park facilities during the hours between sunset and 8:00 am.

**Atascadero Creek Viewshed.** Views of the five Project creeks vary and are dependent on adjacent land use for determining much of their site-specific character (refer to Section 4.0 - Land Use and Policy Consistency, for detail regarding adjacent and surrounding land uses). The Atascadero Creek Project area is located south of the Ward Drive at its terminus, and is bordered to the north by the Atascadero Creek bike trail and the adjacent mobile home park (Rancho Goleta). To the west and south, Atascadero Creek is bordered by U.S. Highway 217 (Ward Memorial Boulevard) with views of the Goleta Slough Reserve and open space. To the east, the creek is bordered by Maria Ygnacio Creek, and scattered residential and agricultural uses (Santa Barbara County, 1993). Views along Atascadero Creek include residential neighborhoods and portions of the Goleta Beach recreational bike trail (also known as Obern Trail or the Atascadero Creek Trail), SR-217 (Figure 5.8-5), as well as vegetated slopes of the property boundary of the SoCalGas La Goleta Storage Field (Figure 5.8-6). Nighttime lighting within the Atascadero Creek viewshed is minimal and is limited to light generated by the adjacent mobile home park and Atascadero Creek Bike Trail in the evenings.



**Figure 5.8-1. Goleta Slough from Goleta Beach Park  
Looking South-East**



**Figure 5.8-2. Goleta Beach Park Looking Southeast  
Pier in Background**



**Figure 5.8-3. Goleta Beach Park,  
Bike Path and Western Parking Lot**



**Figure 5.8-4. Goleta Beach Park Looking South  
Islands in Background**





**Figure 5.8-5. Atascadero Creek  
Viewshed Looking West  
Bike Path Adjacent to Residential Homes  
(Left), Staging and Stockpiling Area at  
Right, Creek Far Right at Trees**



**Figure 5.8-6. Atascadero Creek  
Viewshed Looking East  
Staging and Stockpiling Area at Left**



The Atascadero Creek viewshed is considered a visually sensitive area due to its somewhat natural, rural setting as well as the associated recreational land uses (County of Santa Barbara, 1993).

**San Pedro Creek Viewshed.** The San Pedro Creek Project area is located immediately south of the James Fowler Road bridge along the eastern border of the Santa Barbara Municipal Airport (SBMA). As discussed within the Final Program EIR/Draft EA for Routine Maintenance Activities in the Goleta Slough (1993), the site is bordered to the north and west by the Santa Barbara Municipal Airport (SBMA) and commercial/retail development. To the west of San Pedro Creek, views consist primarily of open space and disturbed vegetation as well as some views of the Wastewater Treatment Facility (Figure 5.8-7). To the south views are dominated by the Goleta Slough and associated wetlands; and to the east by a small residential area and light industry (Placencia Street) (Santa Barbara County, 1993) (Figure 5.8-8).





**Figure 5.8-7. San Pedro Creek Viewshed Looking South at Fairview Avenue Bridge, Staging and Stockpiling Far Left**



**Figure 5.8-8. San Pedro Viewshed Looking West, Industrial Area in Background**



As discussed within the 1993 Program EIR, San Pedro Creek is visible from multiple lines of site along James Fowler Road and from portions of the Goleta Sanitary District Facilities. However, portions of the surrounding areas are privately owned and as such, views of San Pedro Creek from public roadways or walkways are not as common as some of the other Slough tributaries. Nighttime lighting of the San Pedro Creek viewshed is considerable due to its proximity to the SBMA, the Goleta Sanitary District and, to a lesser extent, traffic on Fowler Road and residences in the Placencia Street neighborhood (County of Santa Barbara, 1993).

According to the 1993 original Program EIR views of San Pedro Creek offer resident and motorist/bicyclists along the Fairview Avenue/Fowler Road corridor some visual relief from the predominately industrial area. As such, and due to the overall visual sensitivity of the Goleta Slough, the San Pedro Creek Viewshed is considered a visually sensitive area.



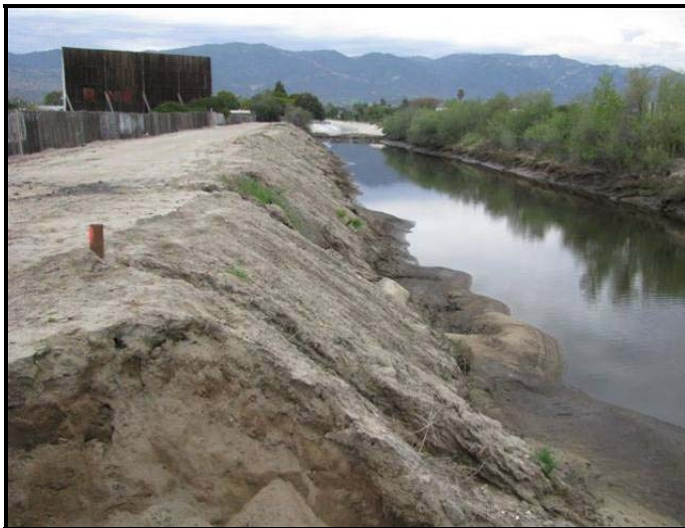
**San Jose Creek Viewshed.** The San Jose Creek viewshed is located south of Kellogg Avenue and parallels Ward Memorial Blvd (SR-217) (Figure 5.8-9). The area is bordered to the north by commercial and light industrial uses including a closed drive-in movie theatre. To the south and east, San Jose Creek is bordered by Ward Memorial Blvd (SR-217), the Rancho Goleta mobile home park, and the Goleta Slough wetlands (Santa Barbara County, 1993).

The northern portion of San Jose Creek is visible from the westbound lanes of U.S. Highway 217 (Ward Memorial Boulevard) at right angles, but is primarily blocked by vegetation along the channelized banks. Views of the creek are dominated by residential properties (to the far south); commercial development and some areas of open space south towards the Pacific Ocean. Nighttime lighting of the San Jose Creek viewshed is considerable due primarily to its proximity to U.S. Highway 217 (Ward Memorial Blvd), and, to a lesser extent, the commercial and industrial uses along the southern portion of Kellogg Avenue. According to the Final Program EIR/Draft EA for Routine Maintenance Activities in the Goleta Slough (1993), the general appearance of the viewshed is urban. However, due to the overall visual sensitivity of the Goleta Slough, the San Jose Creek viewshed is considered somewhat visually sensitive because it provides some visual relief to the surrounding urban setting.

**Tecolotito Creek and Los Carneros Creek Viewshed.** Tecolotito and Los Carneros creeks are located immediately south and adjacent to Hollister Avenue and maintain views of the Santa Barbara Municipal Airport (SBMA), some commercial/industrial development as well as open space connecting the creeks to the lower portion of the Goleta Slough (Figures 5.8-9 through 5.8-12). As discussed within the Final Program EIR/Draft EA for Routine Maintenance Activities in the Goleta Slough (1993), the viewshed is located at a right angle to motorists line of sight, and is further obscured by several traffic barriers along Hollister Avenue and buildings located along Robert Troup Road and Firestone Road. Some views of the area are available from the upper floors of the commercial business center located north of the Project site. Nighttime lighting is considerable and is primarily associated with Hollister Avenue and the commercial uses within the vicinity.

Due to the urban setting and lack of scenic resources, the Tecolotito Creek and Los Carneros Creek viewsheds are not considered visually sensitive (Santa Barbara County, 1993). However due to the fact that both creeks are part of the Goleta Slough ecosystem, as well as being adjacent to Hollister Avenue (Scenic Corridor) for the purposes of the following environmental analysis they will be considered a sensitive viewshed.

**Closed Foothill Landfill Sediment Disposal/Restoration Site Viewshed.** The closed Foothill Landfill (Landfill) is located approximately three miles northeast of the Goleta Slough between Cathedral Oaks Blvd and U.S. Highway 101. The Landfill is adjacent to a residential area (along El Sueno Road and Sherwood Drive) to the east, Calle Real and U.S. Highway 101 to the south, the County's South Coast Recycling and Transfer Station to the west and the County Parks Department as well as County Road yard to the north. Views of the property are primarily shielded from the adjacent residential area and Cathedral Oaks Boulevard due to the fact that the Landfill is located on top of an elevated bluff with some vegetative cover. However,



**Figure 5.8-9. San Jose Creek Viewshed Looking North, Staging and Stockpiling Area at Right**



**Figure 5.8-10. Carneros Creek Viewshed Looking South from Hollister Avenue**



**Figure 5.8-11. Tecolotito Creek Viewshed Looking South/Southwest from Hollister Avenue, Airport Background Left, Staging at Left**



**Figure 5.8-12. Tecolotito Creek Viewshed Looking East, Commercial Development at Left (Hollister Avenue), Airport in Background, Creek Behind Fencing**





**Figure 5.8-13. View of the Closed Foothill Landfill from Residential Homes along Sherwood Drive. Landfill not visible due to slope elevations and vegetation.**



**Figure 5.8-14. View of the Proposed Restoration Area from Residential Homes along Sherwood Drive. Passive Recreational Trails Along Terraces Visible in Distance.**



the boundary of the Landfill site is used for passive recreation including walking, biking and nature viewing and is therefore considered a somewhat visually sensitive area.

## **5.8.2 Impact Analysis and Mitigation Measures**

### **5.8.2.1 Regulatory Setting**

**Federal.** Federal agencies responsible for scenic views have developed a number of different methodologies to determine potential impact of projects on visual/aesthetic resources. These agencies include the Bureau of Land Management (BLM) the U.S. Forest Service (USFS) as well as the Federal Highway Administration (FHA). Although these agencies are not directly responsible for managing the Goleta Slough, the processes and methodologies used in their visual/aesthetic resource evaluation are still relevant to the subject area. The following summaries have been provided regarding each public agency.



**Bureau of Land Management.** The BLM identifies and evaluates scenic values through use of the Visual Resource Management System. The System consists of two stages - an inventory stage and an analysis stage detailed in the BLM Handbook H-8410-1 Visual Resource Inventory (1986).

**Forest Service.** The U.S.D.A. Forest Service uses the Scenery Management System (SMS) for management of visual/aesthetic resources. The SMS is a systematic approach to determining an area's scenic and visual value. The SMS assessment is based on a class ranking visual resources from 1-7 as detailed within the Forest Service Agricultural Handbook No. 701 (USDA, 1995).

**Federal Highway Administration (FHWA).** The U.S. Department of Transportation FHWA uses a system defined as the Visual Resource Management (VRM) for determining the visual character and quality of an area. The system is similar to that used by the BLM in that it utilizes a combination of factors including visual character and quality, as well as viewer sensitivity, to determine visual impact.

**State.** The proposed Project (including desilting areas all five creeks) exists within the boundaries of the State of California Coastal Zone. As such, the California Coastal Commission (CCC) is the primary responsible agency for visual/aesthetic resources within the area. The CCC evaluates the scenic and visual quality of an area based on Section 3025 within Division 20 of the California Coastal Act (CCA) California Public Resources Code which states that the scenic and visual qualities of coastal areas shall be considered protected as a "resource of public importance" and that development shall be sited and designed to protect views to and along the ocean and scenic coastal areas to minimize the alteration of natural landform and to be visually compatible with the character of surrounding areas (CCC, 2008).

**Local.** The proposed Project is located within the jurisdictions of the County of Santa Barbara (Goleta Slough and Goleta Beach County Park), the City of Santa Barbara (Santa Barbara Municipal Airport vicinity) and the City of Goleta (portions of San Jose Creek). As such the General Plan/Local Coastal Plans for each jurisdiction would be applicable to portions of the proposed Project (refer to Section 4.0 - Land Use, for detail). Table 5.8-1 provides a summary of local policies relevant to visual/aesthetic resources.

In addition to the Coastal Land Use policies, the County of Santa Barbara, within its Thresholds and Mitigations Guidelines Manual (2008), offers a comprehensive method for determining significant impacts on visual/aesthetic resources. These County Guidelines, in conjunction with the City policies presented above, provide the framework for the impact discussion. As such, Section 5.8.3 (Significance Thresholds) below provides a summary of these Guidelines.

#### 5.8.2.2 Significance Thresholds

The analysis of visual/aesthetic resource impacts is generally considered subjective. As such, evaluation of the potential impacts associated with desilting and maintenance of the Slough has been based upon a review of the current Project plans, area maps, aerial





photographs, regulatory setting presented above, as well as site reconnaissance. For the purposes of this discussion in accordance with the County of Santa Barbara Visual Aesthetics Impact Guidelines (October 2008), a significant adverse impact would result if the proposed Project would have a substantial, demonstrable, negative aesthetic effect on any of the following public view areas.

- Scenic Highways or Corridors;
- Coastal Bluffs, Streams, Estuaries, Mountains; or
- Parks or Recreational Areas;
- Scenic Areas.

#### 5.8.2.3 Currently Approved Goleta Slough Maintenance Program

The following summarizes the impacts to visual/aesthetic resources identified in the Program EIR (93-EIR-04) for the existing maintenance program.

1. Dredging activities would be incompatible with the sensitive Bikeway Viewshed (Atascadero Creek). (Significant - Class I).
2. Dredging would be incompatible with sensitive viewsheds (Atascadero Creek, Goleta Beach). (Significant - Class I).
3. Impacts due to vegetation removal would be less than significant. (Less than Significant - Class III)
4. Impacts due to nighttime lighting. (Less than Significant - Class III)
5. Temporary Impacts due to construction. (Less than Significant - Class III)
6. Temporary impacts associated with views of maintenance activities. (Less than Significant - Class III)
7. Temporary impacts caused by stockpiling of spoils (Less than Significant - Class III).

#### 5.8.2.4 Proposed Updated Maintenance Program

The proposed Project includes the removal of sediment from the lower reaches of the Goleta Slough including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Removal of sediment would occur via two possible methods; hydraulic desilting or dragline desilting. Hydraulic desilting would primarily occur for Atascadero Creek, San Jose Creek, and San Pedro Creek, while dragline desilting would occur for Tecolotito Creek and Los Carneros Creek. However, under certain scenarios, draglining of Atascadero Creek, San Jose Creek, and San Pedro Creek may also occur (refer to Section 2.3.1 for detail).

Hydraulic desilting of Atascadero Creek, San Jose Creek, and San Pedro Creek would primarily occur by pumping removed sediment from the Slough through an existing pipeline into



the surf zone at Goleta Beach for beach replenishment purposes. Hydraulic desilting would utilize existing pipelines located beneath the Goleta Beach Park parking lot for transfer of the sediment. These pipelines would cross the existing bike path at Goleta Beach Park. For these crossings, the bike path would be trenched and sleeves installed for the duration of desilting activities. Following desilting activities, the sleeves are removed and the bike paths returned to pre-project conditions. Installation of the sleeves requires equipment to be located within the bike path for approximately one day during sleeve installation and one day for sleeve removal activities (an average of two days per desilting season total). Following reinstallation and removal activities, the bike path is returned to pre-project conditions for use by recreational bicyclers and walkers during desilting activities.

As stated above, dragline desilting would occur for Tecolotito Creek and Los Carneros Creek, but may also occur for Atascadero Creek, San Jose Creek and San Pedro Creek under certain scenarios. Dragline desilting would not utilize pumps or existing pipelines for transporting sediment. Instead, dragline desilting would require the use of a crane to remove sediment from the creeks to stockpile areas located adjacent to the creeks. The sediment would be stored temporarily within the stockpile area until it was sufficiently dewatered for transportation to Goleta Beach for beach replenishment purposes. If any sediment removed via draglining is found to be unsuitable for beach replenishment (e.g. sediment size or contamination due to runoff), then the material would be collected within stockpile areas located adjacent to the creeks until they could be blended to meet the requirements of beach disposal or trucked to an upland disposal site for re-use or sale to local contractors.

**Impact AEST-1: Mobilization/Demobilization activities could adversely affect visual/aesthetic resources - Class III.** Mobilization and demobilization of equipment for the proposed Project may include multiple pieces of equipment depending on the desilting method chosen for each desilting season. Hydraulic desilting would include large pieces of equipment which would be transported via truck including the hydraulic dredge, 100-ton crane (used for placement of the hydraulic dredge), pipeline for sediment transport, forklift, loader/dozer, and other smaller pieces of equipment such as booster pumps, tools and welding equipment (Table 3-1). Dragline desilting would include a 100-ton crane, bulldozer, excavator and trucks for sediment transport. Equipment would be transported to staging areas for use during desilting operations only, and would be removed following completion of those activities.

As shown in Figure 3-1, staging and stockpiling areas have been established at each creek and in Goleta Beach Park near the mouth of the Slough. An area estimated at 200 feet long by 65 feet wide has been secured for pipeline and float storage near each creek. The comparably sized staging area in Goleta Beach Park has been used for placing the downstream sections of the pipeline and for launching the hydraulic dredge. An alternative dredge launch area has been considered along the eastern extent of Atascadero Creek channel south of Ward Drive. Each staging area is utilized for the duration of the desilting in that area in addition to a 1 to 2-week mobilization and demobilization period. The staging area at Goleta Beach Park would be occupied during the entire construction period, although it can be reduced in size when operations occur further upstream. As shown in Figure 3-1, there are four delineated resource



areas of avoidance where staging or stockpiling of sediment will not occur during desilting operations.

Mobilization and Demobilization of equipment will be visible from portions of Ward Memorial Blvd (SR-217), the Atascadero Creek Bike Path, Goleta Beach Park and parking lot, as well as portions of Goleta Beach. The City of Goleta General Plan describes these areas as sensitive recreational and aesthetic areas due to their locations near estuarine habitat, scenic corridors and their views of board expanses of the Pacific Ocean, and coastal areas. Due to the proximity of Project activities occurring adjacent to the Slough, mobilization and demobilization activities would be significant. However, Project mobilization and demobilization activities are temporary and would only occur for an approximately 1-2 week time period as necessary during the desilting season. Since desilting would only occur every 3-5 years as necessary, the impact of Project mobilization and demobilization activities to the Goleta Slough viewshed would be considerably reduced. Therefore, although mobilization / demobilization activities would take place within visually sensitive areas of the Slough and are visible from local scenic corridors, due to the limited time period for which these activities occur, the impact to visual/aesthetic resources is less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Impacts determined to be less than significant due to the temporary nature of Project activities. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant, no mitigation measures proposed.

**Impact AEST-2: Hydraulic desilting activities could adversely affect visual/aesthetic resources - Class I.** The proposed Project would require desilting operations to occur within the lower reaches of the Goleta Slough including Atascadero Creek, San Jose Creek, and San Pedro Creek (refer to Figure 2-3). Due to the sensitivity of the Slough ecosystem, recreational activities are limited within the Slough or Channel Waters. Therefore, views of dredging operations would primarily be limited to observation points along the banks of Slough recreation areas and from momentary views gained from vehicle traffic along SR-217 and Sandspit Road.

Hydraulic desilting activities within the Goleta Slough could cause impact to visual/aesthetic resources within the area due to two factors: 1) the operation of the hydraulic dredge and supporting equipment within the Slough and 2) the floating pipeline used to transport sediment. Impacts caused by these activities are discussed below based on the specific viewshed for which they occur.

**Views of the Hydraulic Dredge from Areas Adjacent to Creeks and Channels.** As shown within the Figures above, the banks of the surrounding areas of the Slough tributaries are primarily located at a slightly higher elevation than the waters. Therefore, direct views of the water are primarily blocked from view by vegetation located along channels and banks. However, portions of some of the creeks are visible from transportation corridors including



roadways (Hollister Avenue at Tecolotito Creek and Los Carneros Creek, Fairview Avenue at San Pedro Creek and San Jose Creek from portions of Ward Memorial Boulevard), walkways and bike paths (Atascadero Creek Bike Path/Obern Trail). These views would be somewhat limited in duration due to the fact that viewers utilizing these corridors are generally in motion and use the corridors as access ways to recreational areas. According to the original 1993 Program EIR, views of the dredge from public roadways would be limited to approximately 30 seconds at most locations due to the angle of view as well as obstructions such as vegetation and lowered elevations. Therefore, from most viewpoints located adjacent to Project creeks and channels, impacts to visual/aesthetic resources would be less than significant

However, views of dredging activities from Atascadero Creek would be considerably more pronounced. This is primarily due to the lack of dense vegetation along this portion of the Slough banks as well as the increased amount of time spent by recreational users along the Obern Trail/Atascadero Creek bike path (Figure 6.1-5 and 6.1-6). Therefore, although most views of the dredge from along the adjacent transportation corridors would be less than significant; those along Atascadero would be of greater consequence. Due to the sensitivity of recreational areas as sensitive visual resources (City of Goleta, 2006), impacts to visual/aesthetic resources along the Atascadero Creek viewshed are significant and unavoidable.

**Views of the Hydraulic Dredge from the Slough and Goleta Beach Park.** As discussed within the original 1993 Program EIR, hydraulic dredging equipment would be highly visible from Ward Memorial Blvd (SR-217), Goleta Beach Park parking lot and the Goleta Beach area. Hydraulic dredging equipment would be incompatible with the sensitive viewsheds of Goleta Beach (County of Santa Barbara, 1993). As such, impacts to visual/aesthetic resources resulting from dredging operations in this portion of the Goleta Slough would be considered significant and unavoidable.

**Views Associated with Beach Replenishment Activities.** The proposed Project would utilize existing sediment and materials removed from the Slough and its tributaries as replenishment for Goleta Beach. As stated previously, temporary pipelines would be installed and connected to an existing pipeline sleeve currently located beneath the Goleta Beach Park and parking lot to discharge at a point within the surf zone located approximately 2,500 feet west of the Slough mouth at Goleta Beach (refer to Figures 2-4 and 2-5 for detail). This would require some equipment and staging to remove the paved bike path, install the sleeve, then replace the bike path. Bike path removal and replacement activities would occur at two locations; both located in the western portion of the Goleta Beach Park bike trail, south of the Ward Memorial Boulevard (SR-217) bridge. Nighttime operations would not be required for bike path removal or replacement. Based on previous bike path removal and replacement, it is anticipated that these activities will take approximately one working day for completion during mobilization of the sleeve and one working day for completion during demobilization of the sleeve. Therefore, construction equipment would be visible from the Goleta Beach Park parking lot and bike path for up to two full days every 3 to 5 years. Although temporary and mobile in nature, due to the highly sensitive nature of the Goleta Slough and surrounding viewshed, impacts caused by construction equipment would be significant and unavoidable (Class I).



The sediment release would occur within the surf zone at a location within the eastern portion of Goleta Beach. During Project operations, recreational users would be directed around or outside of the sediment release zone. Replenishment activities would be plainly visible to recreational users in the vicinity of the Project site. Within the immediate vicinity of the discharge, discoloration and increased turbidity of the waters would result (refer to Section 5.1 - Water Resources, for further detail). As discussed within the original 1993 Program EIR, although construction would be short-term, the Goleta Beach viewshed is considered highly sensitive by virtue of its aesthetic properties and intensive recreational use. Therefore impacts to visual/aesthetic resources would be significant and unavoidable.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. No mitigation measures proposed.

**Impact AEST-3 Dragline desilting activities could adversely affect visual/aesthetic resources - Class I.** Draglining operations would be necessary within areas located in the Tecolotito Creek and Los Carneros Creek viewsheds. Under normal maintenance conditions, hydraulic dredging would be the preferred option for desilting of the remaining creeks. However, although hydraulic dredging is the preferred option for the remaining creeks, draglining may also, under some sediment removal circumstances, be the best feasible option for Atascadero, San Pedro and San Jose creeks (refer to Section 2.0 - Maintenance Program, for detail). As discussed within Section 3, draglining would consist of rigging a 100-ton crane along the banks of the desilting area and suspending a draglining bucket from the boom with wire ropes. The draglining bucket would then be lowered into the Slough and dragged along the creek floor to collect sediment. Sediment would then be stockpiled in areas for removal by trucks for either upland disposal or beach replenishment. Stockpiling of soils would be located at least 30 feet from Creek banks except near the northern portion of San Jose Creek (Figure 3-1). Impacts caused by these activities are discussed below based on the specific viewshed for which they occur.

**Goleta Beach Park Viewshed.** Dragline desilting activities for the proposed Project would require that a 100-ton crane be located along the banks of the Slough and its tributaries for sediment removal. Crane use would be temporary and would move as each portion of the Project creek is desilted. Dragline desilting would take place approximately 10 hours per day, five days a week. It is estimated that 100 cy per hour can be removed by dragline desilting; therefore approximately 1,000 cy/day can be removed from each location. If conditions allow, more than one site may be draglined at a time. Therefore, although unlikely within any one viewshed, a worst-case visual scenario for Project operations would include the two 100-ton cranes. Based on past experience, it is anticipated that draglining maintenance activities would last approximately 4 weeks for the entire Slough not counting the time it takes to remove the spoils after they have dried sufficiently to be hauled.

As stated previously, the Goleta Beach Park viewshed is characterized by natural coastal features and is considered a highly sensitive recreational and aesthetic area (City of Goleta,





2006). Therefore, although crane operations would be temporary and would only occur every 3 to 5 years as necessary, impacts to the Goleta Beach Viewshed would be significant and unavoidable until the crane was removed.

**Atascadero Creek Viewshed.** For Atascadero Creek, the dragline desilting crane area would be located along the northern banks directly adjacent to the recreational bike path (Figure 5.8-5 and Figure 5.8-6). As discussed above, the Atascadero Creek bike trail (also known as the Obern Trail) offers public views of the Slough, vegetated coastal bluffs (along the adjacent SoCalGas property) and other scenic areas. Staging of the crane and equipment and stockpiling of removed sediment along the banks of Atascadero Creek would be highly visible from the public bike trail as well as from some of the residences located within the Rancho Goleta Mobil Home Park. Therefore, although operations would be temporary and would only occur every 3 to 5 years as necessary, impacts to the Goleta Beach Viewshed would be significant and unavoidable until the crane was removed.

**San Jose Creek/San Pedro Creek Viewsheds.** Dragline desilting operations for San Jose Creek and San Pedro Creek would require staging of the crane and stockpiling of removed sediment within private property along the western portion of the bank for San Jose Creek and the eastern portion of the bank for San Pedro Creek (Figure 3-1). As discussed above, views from privately owned property are generally not considered for analysis of potential impacts. However, some public views of these creeks are available from SR-217, James Fowler Road and Fairview Avenue. As stated within the original 1993 Program EIR the general appearance of the viewshed is urban. However, due to the overall visual sensitivity of the Goleta Slough, as well as the addition of Fairview Avenue to the City of Goleta's list of designated scenic corridors, the creek viewsheds are considered visually sensitive because they provide some visual relief to the surrounding urban setting.

As stated within the original 1993 Program EIR "construction equipment and the staging area would partially obstruct views of the creek[s]." Therefore, due to the increased sensitivity classification and adjacent roadways being designated as "scenic", as well as the obstruction of views, the impact to visual/aesthetic resources within the San Jose and San Pedro creek areas would be significant and unavoidable until the crane was removed.

**Tecolotito Creek/Los Carneros Creek Viewsheds.** Dragline operations conducted along Tecolotito Creek and Los Carneros Creek would be partially visible at right angles from specific locations along Hollister Road in Goleta. As stated within the original 1993 Program EIR, the general appearance of the Tecolotito and Los Carneros creeks viewshed is urban. However, due to the overall visual sensitivity of the Goleta Slough, as well as the addition of Hollister Avenue to the City of Goleta's list of scenic corridors, the viewshed is considered visually sensitive because it provides some visual relief to the surrounding urban setting. Therefore, due to the increased sensitivity classification and adjacent roadways being designated as "scenic", as well as the obstruction of views, the impact to visual/aesthetic resources within the Tecolotito Creek and Los Carneros Creek areas would be significant and unavoidable until the crane was removed.



Although considered a significant impact to visual/aesthetic resources due to the visual sensitivity of the surrounding land uses, it is important to note that impacts caused by Project activities, although considered significant, are still relatively small due to the type of operations being conducted as well as measures included within Project design. Specifically, as shown within Figure 2-1, desilting operations will be conducted using a 100-ton crane. Although the 100-ton crane would be quite visible within the viewshed during Project operations, it is not of a size as to completely obstruct or block all views of the surrounding scenery. Dragline desilting would take place approximately 10 hours per day, five days a week. It is estimated that 100 cy per hour can be removed by dragline desilting; therefore approximately 1,000 cy/day can be removed from each location. If conditions allow, more than one site may be draglined at a time. Therefore, although unlikely within any one viewshed, a worst-case visual scenario for Project operations would include the two 100-ton cranes. Based on past experience, it is anticipated that draglining maintenance activities would last approximately 4 weeks for the entire Slough not counting the time it takes to remove the spoils after they have dried sufficiently to be hauled. The only portion of the cranes which would be consistently visible from scenic corridors or recreational areas would be the boom. Given the vastness of the landscape in the Project area, the intrusion of the boom into the visual environment would be a small impact and possible for most viewers to avoid. Other equipment associated with desilting operations including booster pumps (if necessary), piping and vehicles for personnel will generally be lower to the ground and therefore less visible in the viewshed expanse.

Construction timing would also limit the potential impact of crane operations on nearby visual/aesthetic resources. Desilting operations would only occur as necessary. During some years, no desilting would be necessary at any of the Project areas. As shown in Table 2-4 (Summary of Historic Sampling Results and Disposal of Dredged Material June 2001 - October 2006), previous desilting operations were not required every year but occurred (on average) every 2 to 3 years. These previous desilting events lasted only as long as necessary to remove sediment from the Slough. The amount of sediment requiring removal generally dictates the amount of time the crane would be in operation. Therefore, as shown in Table 2-4, although some years required as much as 268,000 cubic yards to be removed (1994/1995) most years required significantly less (2000-2003). Therefore, although the Project Description anticipates desilting operations to be necessary every 3 to 5 years, and assumes a worst-case scenario of 38 days per desilting event, it is likely that future desilting operations would average a shorter time period.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. No mitigation measures proposed.

**Impact AEST-4 Transportation of sediment by truck to Goleta Beach could cause adverse impacts to visual/aesthetic resources - Class I.** As stated previously, the proposed Project includes the removal of sediment from the lower reaches of the Goleta Slough including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Following removal, the sediment would then be transported onto Goleta Beach for



beach replenishment, or stockpiled within designated stockpile areas for transportation via trucks. Slough sediment would be monitored and tested to determine suitability for use as beach replenishment material. Should the sediment be deemed unsuitable for beach replenishment purposes, it would be placed within stockpiling areas located adjacent to the Slough at Atascadero, San Jose, San Pedro, Los Carneros and Tecolotito creeks. The excavated sediment would then be hauled from the stockpiling areas in dump trucks to the County of Santa Barbara closed Foothill Landfill for proper upland disposal/restoration or blended with other materials to meet the sizing standards for beach replenishment.

The transport of sediment by dump trucks to Goleta Beach for replenishment purposes would require approximately 10 truck trips per hour during desilting operations (Table 2.4.3) resulting in 1,000 cy removed per day. According to the County, a typical desilting season would result in the removal of approximately 92,200 cy and no more than 192,000 cy. As such, trucks may be required to transport sediment within roadways adjacent to the Goleta Slough for approximately 92 - 192 days.

Transportation of the sediment via truck would require that an excavator be used to transfer the sediment from the stockpiling area into the dump trucks for hauling. The dump trucks would then enter onto local roadways merging with existing recreational traffic to deliver the sediment to the Goleta Beach site (Figure 3-2) where a bulldozer would be used to place the sediment. Several of these roadways including U.S. Highway 101, Hollister Avenue, and Fairview Avenue are designated scenic corridors (City of Goleta, 2006). Near the lower portions of the Slough these roadways traverse areas of parks, recreational areas, coastal estuaries and scenic areas. According to the County of Santa Barbara guidelines, interference with any of these sensitive viewsheds (scenic corridors, recreational areas, estuaries, etc) would result in a significant impact to visual/aesthetic resources. Therefore, the transportation of sediment by truck to Goleta Beach as well as the use of a dozer and excavator would result in a significant and unavoidable impact to visual/aesthetic resources.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. No mitigation measures proposed.

**Impact AEST-5 Transportation of Sediment by Truck to the Closed Foothill Landfill Sediment Disposal/Restoration Site could adversely impact visual/aesthetic resources - Class I.** As stated previously, the proposed Project includes the removal of sediment from the lower reaches of the Goleta Slough including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Following removal, the sediment would then be transported to Goleta Beach for beach replenishment purposes. Slough sediment would be monitored and tested to determine suitability for use as beach replenishment material. Should the sediment be deemed unsuitable for beach replenishment purposes, it would be collected at stockpile areas located adjacent to the Slough approximately 30 feet from creek banks except at the northern portion of San Jose Creek, where stockpiling would be closer. The excavated



sediment would then be hauled from the stockpiling areas in dump trucks to the County of Santa Barbara closed Foothill Landfill for proper upland disposal and reuse.

Transportation of the sediment via truck would require that an excavator be used to transfer the sediment from the stockpiling area into the dump trucks for hauling. The dump trucks would then enter onto local roadways merging with existing recreational traffic to deliver the sediment to the disposal site located off south U.S. Highway 101 at County Dump Road (Figure 3-2) where a bulldozer would be used to place sediment. Several of these roadways including U.S. Highway 101, Calle Real, Cathedral Oaks, Hollister Avenue, and Fairview Avenue are designated scenic corridors (City of Goleta, 2006). Near the lower portions of the Slough these roadways traverse areas of parks, recreational areas, coastal estuaries and scenic areas. According to the County of Santa Barbara guidelines, interference with any of these sensitive viewsheds (scenic corridors, recreational areas, estuaries, etc) would result in a significant impact to visual/aesthetic resources. Therefore, the transportation of sediment by truck to the closed Foothill Landfill as well as the use of a dozer and excavator would result in a significant and unavoidable impact to visual/aesthetic resources.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. No mitigation measures proposed.

**Impact AEST-6 Desilting operations occurring during nighttime hours could adversely impact visual/aesthetic resources - Class III.** As discussed within Section 3.3 (Project Timing), hydraulic desilting has historically been performed a minimum of 10 hours a day, but also can be done 24 hours a day, seven days a week. Based on past operational experience mobilization/demobilization will take approximately 10 days each to complete. Additionally, 24-hour hydraulic desilting activities will not occur when flows exceed 20 cfs at the Maria Ygnacio stream flow gauge.

The hydraulic dredge would be equipped with lights during 24 hour operations if required. The hydraulic dredge will have an overhead light and another light for gauges and equipment. The staging area would be lit on an as-needed basis for safety purposes and individual personnel members would be equipped with personal flashlights if necessary. Because the extent of lighting necessary to complete Project operations would be focused within the Project work areas, the amount of light introduced during nighttime operations would be less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. No mitigation measures proposed.

Mitigation Recommended by this Subsequent EIR. No mitigation measures proposed.



**Impact AEST-7 Restoration activities could affect visual/aesthetic resources within the Project area in the short-term.**

**Closed Foothill Landfill Sediment Disposal/Restoration Site.** The closed Foothill Landfill has been identified as the proposed upland disposal/receiver site for sediment from County maintenance activities including desilting material from Goleta Slough Maintenance activities. As such, a Restoration / Revegetation Plan has been prepared by the District (Appendix F) to illustrate the scheduling and methods necessary to complete restoration activities. The closed Foothill Landfill site is currently used for passive recreation and consists of non-profit organizations, dirt access roads (used as trails), an experimental jatropha (bio-diesel) plot, and a grant-funded revegetation project being conducted by the County of Santa Barbara Resources Recovery and Waste Division (RRWMD). Views of the area generally consist of steep elevations vegetated primarily with weedy ruderal species such as castor bean, mustard, and non-native grasses (Figure 6.1-3 and Figure 6.1-4). In addition, approximately 350 pine, oak, olive and eucalyptus trees and 193 toyon shrubs were planted on the closed landfill site and along Transfer Station Road by the RRWMS to improve the aesthetics and provide erosion control.

The existing native plant nursery, jatropha plot, and existing RRWMD revegetation project are outside of the proposed disturbance areas and the area addressed in the proposed Restoration /Revegetation Plan for the Project. However, sediment disposal is proposed in the area of the Hearts Adaptive Riding Program. As such, the Hearts' facility is scheduled for relocation in December of 2009 to the north area of the closed Foothill Landfill site (outside of the proposed upland sediment disposal site). After relocation, the existing horse stable would also become part of the proposed disposal/restoration project. Additionally, the proposed fill plan will result in the gradual removal of most of the 350 trees and 10 or less of the toyons. To compensate for this loss, the Project's proposed Restoration / Revegetation Plan has been designed to address the original aesthetic function of those original plantings as well as improve the overall habitat function and value of the site. It is anticipated that removal of the trees and the subsequent fill would occur gradually as sediment is made available. As such, the restoration activities will likely occur over the span of several years with portions of the area being graded and replanted while other portions remain intact. Plantings for each season will occur between October and February to take advantage of the seasonal rains. Grading and other restoration activities will only require minimal heavy equipment (i.e., bulldozer, grader, sediment trucks and personnel vehicles). Views of Project equipment will be limited to those areas currently being restored. Therefore, although restoration would cover a relatively large area eventually, the effect on the aesthetic views from neighboring residential areas at any given time will be minimal and less than significant.

**Atascadero Creek, San Jose Creek, San Pedro Creek.** During dragline desilting events, sediment is stockpiled along the creek bank and upper portion of San Jose Creek and/or is occasionally inadvertently dropped from the bucket onto the bank slopes. As such, some of the streambank vegetation (both native and non-native species) is disturbed. As part of the proposed Project, the District is including several additional potential areas for bank restoration/stabilization. The primary areas for additional enhancement are located further north





on San Jose Creek, further north on San Pedro Creek, and along the northern bank of Atascadero Creek. The District proposes vegetation maintenance and on-site replacement in the event of disturbance to these areas.

The areas adjacent to the creeks are currently used for passive recreation, except Atascadero Creek which consists of a scenic bike path and walkway to Goleta Beach Park. Areas next to San Jose and San Pedro are private property—no recreational access. Views of the areas designated for potential restoration are the same areas as described above along staging areas. Vegetation within the Goleta Slough ecosystem is strongly influenced by elevation and man-made disturbance. All affected areas have been previously disturbed during periodic desilting activities conducted at the Goleta Slough for over 40 years. Restoration and enhancement of disturbed areas may require removal of non-native vegetation using an excavator. If necessary, standard erosion control methods such as straw wattles, erosion control blankets or mats may then be used to avoid erosion of sediment into stream channels while restoration is taking place. Following the planting of native vegetation, periodic monitoring and maintenance activities may be required by a work crew. Restoration activities would be minimal and temporary in nature and would only occur during daytime hours. Views of Project equipment will be limited to those areas currently being restored. Therefore, although restoration would cover multiple areas within the Goleta Slough eventually, the effect on the aesthetic views from neighboring residential areas at any given time will be temporary, minimal and less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Project Component was not previously addressed in previous 1993 Program EIR.

Mitigation Recommended by this Subsequent EIR. No additional mitigation measures are proposed.

**Impact AEST-8 Restoration activities would affect visual/aesthetic resources within the Project area in the long-term - Class IV, Beneficial Impact).**

**Closed Foothill Landfill Sediment Disposal/Restoration Site.** The final topography of the site may change slightly in terms of general contouring of the side slopes; however the maximum elevations shown on Figure 3-4 will not change. Following restoration activities, the viewshed will include more native plants and vegetative cover. Therefore, following restoration activities, the aesthetic qualities would be slightly improved and would result in a long-term a beneficial impact to the surrounding viewshed.

**Atascadero Creek, San Jose Creek, San Pedro Creek.** Following restoration activities for each portion of the restoration/enhancement areas, the viewsheds will include more native plants and vegetative cover. Therefore, following restoration activities, the aesthetic qualities of the Creek banks would be slightly improved and would result in a long-term beneficial impact to the surrounding viewshed.



### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Project Component was not previously addressed in previous 1993 Program EIR.

Mitigation Recommended by this Subsequent EIR. No additional mitigation measures are proposed.

**Impact AEST-9 Maintenance activities within the Goleta Slough and its tributaries would maintain the visual/aesthetic quality of the Goleta Slough in the long-term - Class IV Beneficial.** As discussed above, any of the proposed Project activities which would be conducted within the lower portions of the Goleta Slough or within or along any scenic corridors would be deemed significant impacts to aesthetic resources. This is not necessarily a result of the Project itself, but rather due to the area being such an extremely sensitive area visually and recreationally. It is important to note that although any activities occurring within these visually sensitive areas would be significant; the proposed Project is designed to be temporary, occurring only once every 3 to 5 years as necessary for approximately 35 days each cycle. In addition to being temporary, the purpose of the proposed Project is the long-term maintenance of the Slough and its tributaries to ensure the natural processes of the estuarine ecosystem remain intact. Without the activities currently proposed by the Project, silt and sedimentation would build up within the Slough and its tributaries causing a slow-down of the natural processes, which maintain the Sloughs overall aesthetic and recreational qualities. The maintenance of storm water flows through the slough would preserve the visual/aesthetic qualities of ecosystem as it exists today. Although possible future ecological succession stages (e.g., meadow) would not necessarily be considered to have adverse aesthetic qualities, this is considered a beneficial impact of the Project.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Project Component was not previously addressed in previous 1993 Program EIR.

Mitigation Recommended by this Subsequent EIR. No additional mitigation measures are proposed.

### **5.8.3 References**

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## 5.9 TRANSPORTATION AND CIRCULATION

### 5.9.1 Environmental Setting

#### 5.9.1.1 Site Access

The Project area is located within the County of Santa Barbara just south of the City of Goleta. U.S. Highway 101 and State Route 217 (Ward Memorial Boulevard) (SR-217) are the primary regional highways located within the Project area. Goleta's arterial street network includes two east-west arterial roadways that generally parallel the U.S. Highway 101 corridor, Hollister Avenue to the south and Cathedral Oaks Road to the north. Access to the Project area is gained from SR-217, with multiple points of access to each of the specific Project locations. The following descriptions summarize access to each of these primary Project locations (refer to Figure 5.9-1 for detail).

**Goleta Beach Park.** The lower reaches of the Slough are accessed via the parking lot of Goleta Beach Park. Goleta Beach Park is primarily accessed from SR-217 taking the Sandspit exit, south to the park entrance.

**Atascadero Creek.** Atascadero Creek flows nearly parallel to the Pacific Ocean from Patterson Avenue to Ward Drive before entering the lower reaches of the Goleta Slough. Access to the creek is primarily gained off of Hollister Avenue, following Ward Drive to its terminus at the Atascadero Creek bike path (also known as the Obern Trail).

**San Jose Creek.** San Jose Creek flows parallel and adjacent to SR-217. However, access to the creek is not available from SR-217 due to fencing and property boundaries. Instead, access to San Jose Creek is gained from flood control roads along Kellogg Avenue (from Hollister Avenue) or Fairview Avenue near its intersection with Fowler Road.

**San Pedro Creek.** San Pedro Creek flows south towards the Pacific Ocean bisecting SR-217 and flowing into the lower reaches of the Goleta Slough. Like San Jose Creek, access to San Pedro Creek is primarily gained from flood control roads located off of Fairview Avenue near its intersection with James Fowler Road and Placencia Street.

**Tecolotito/Los Carneros Creek.** Tecolotito and Los Carneros Creeks ~~are~~ is primarily accessed from Hollister Avenue near its intersection with Los Carneros Road. Due to the location of Tecolotito Creek within the property boundaries of the County of Santa Barbara Municipal Airport, access to the creek is gained through gated flood control roads closed to public use. Maintenance of Tecolotito and Los Carneros Creeks is required in order to prevent flooding of the airport. As indicated by the DOT (Comment Letter Dated April 23, 2010), these creek channels are located approximately 500-1,000 feet from the approach end to Runway 7 within the Airport. As such, in accordance with Federal Aviation Administration requirements; the District must continue to coordinate with the Santa Barbara Municipal Airport Director regarding proposed maintenance activities prior to project activities each season.



~~**Los Carneros Creek.** Like Tecolotito Creek, Los Carneros Creek access is gained primarily from Hollister Avenue. Due to the location of Los Carneros Creek within the property boundaries of the County of Santa Barbara Municipal Airport, access to the creek is gained through gated flood control roads closed to public use.~~









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**Table 5.9-1. Summary of Project Trip Requirements, Thresholds and Impacts**

Staging Area	Current ADT (V/C) on Applicable Roadways	Anticipated Sediment (Anticipated no. of days required for sediment removal)	Typical Desilting Scenario/Daily	Worst-Case Desilting Scenario/Daily	Capacity	Significant Impact
<b>Desilting Operations Requiring Sediment Transfer via Pipeline to Goleta Beach for Beach Replenishment Purposes</b>						
<b>Goleta Beach Staging Area (Mobilization/ Demobilization)</b>	NA	NA*	Approximately 23 round trips	Approximately 23 round trips	NA	Minimal truck trips, no significant impact
<b>Atascadero Creek</b>	Hollister Avenue: 17,800 SR-217: 18,000-25,500 (V/C 0.79)	NA*	Approximately 23 round trips	Approximately 23 round trips	Hollister Avenue: 34,000 SR-217: V/C 0.80 (increase of .10)	Minimal truck trips, no significant impact
<b>San Jose Creek</b>	Fairview Avenue: 25,000	NA*	Approximately 23 round trips	Approximately 23 round trips	Fairview Avenue: 34,000	Minimal truck trips, no significant impact
<b>San Pedro Creek</b>	Fairview Avenue: 25,000	NA*	Approximately 23 round trips	Approximately 23 round trips	Fairview Avenue: 34,000	Minimal truck trips, no significant impact
<b>Tecolotito Creek</b>	Fairview Avenue: 25,000	NA*	Approximately 23 round trips	Approximately 23 round trips	Fairview Avenue: 34,000	Minimal truck trips, no significant impact
<b>Los Carneros Creek</b>	Fairview Avenue: 25,000	NA*	Approximately 23 round trips	Approximately 23 round trips	Fairview Avenue: 34,000	Minimal truck trips, no significant impact
<b>Desilting Operations Requiring Sediment Transfer via Truck to Goleta Beach for Beach Replenishment Purposes (Assuming 10 cy per truck, 10 trucks per hour, 10 hour days)</b>						
<b>Goleta Beach Staging Area (Mobilization/ Demobilization)</b>	NA	NA*	Approximately 23 round trips	Approximately 23 round trips	NA	Minimal truck trips, no significant impact
<b>Atascadero Creek</b>	Hollister Avenue: 17,800 SR-217: 18,000-25,500 (V/C 0.79)	36,000-67,000 (36-67 days)	Approximately 100 round trips	Approximately 100 round trips	Hollister Avenue: 34,000 SR-217: V/C 0.80 (increase of .10)	Less than significant impact
<b>San Jose Creek</b>	Fairview Avenue: 25,000	15,500 – 38,000 cy (35-71 days with San Pedro)	Approximately 100 round trips	Approximately 200 round trips	Fairview Avenue: 34,000	Less than significant impact
<b>San Pedro Creek</b>	Fairview Avenue: 25,000	19,400 - 33,000 cy (35-71 days with San Jose)	Approximately 100 round trips	Approximately 200 round trips	Fairview Avenue: 34,000	Less than significant impact
<b>Tecolotito Creek</b>	Hollister Avenue: 21,700	11,300-21,000 cy (22-32 days with Los Carneros)	Approximately 100 round trips	Approximately 200 round trips	Hollister Avenue: 34,000	Less than significant impact
<b>Los Carneros Creek</b>	Hollister Avenue: 21,700	10,000-11,000 cy (22-32 days with Tecolotito)	Approximately 100 round trips	Approximately 200 round trips	Hollister Avenue: 34,000	Less than significant impact



**Table 5.9-1. (Continued)**

Staging Area	Current ADT (V/C) on Applicable Roadways	Anticipated Sediment (Anticipated no. of days required for sediment removal)	Typical Desilting Scenario /Daily	Worst-Case Desilting Scenario/Daily	Capacity	Significant Impact
<b>Desilting Operations Requiring Sediment Transfer via Truck to upland disposal site (closed Foothill Landfill Sediment Disposal/Restoration Site) (Assuming 10 cy per truck, 10 trucks per hour, 10 hour days)</b>						
<b>Goleta Beach Staging Area (Mobilization/ Demobilization)</b>	NA	NA*	Approximately 23 round trips	Approximately 23 round trips	NA	Minimal truck trips, no significant impact
<b>Atascadero Creek</b>	U.S. Highway 101: 35,000	36,000-67,000 (36-67 days)	Approximately 100 round trips	Approximately 100 round trips	U.S. Highway 101: NA	Less than significant impact
<b>San Jose Creek</b>	Fairview Avenue: 25,000 SR-217: 18,000-25,500 (V/C 0.79)	15,500 – 38,000 cy (35-71 days with San Pedro)	Approximately 100 round trips	Approximately 200 round trips	Fairview Avenue: 34,000 SR-217: V/C 0.80 (increase of .10)	Less than significant impact
<b>San Pedro Creek</b>	Fairview Avenue: 25,000 SR-217: 18,000-25,500 (V/C 0.79)	19,400 - 33,000 cy (35-71 days with San Jose)	Approximately 100 round trips	Approximately 200 round trips	Fairview Avenue: 34,000 SR-217: V/C 0.80 (increase of .10)	Less than significant impact
<b>Tecolotito Creek</b>	Hollister Avenue: 21,700 Fairview Avenue: 25,000	11,300-21,000 cy (22-32 days with Los Carneros)	Approximately 100 round trips	Approximately 200 round trips	Hollister Avenue: 34,000 Fairview Avenue: 34,000	Less than significant impact
<b>Los Carneros Creek</b>	Hollister Avenue: 21,700 Fairview Avenue: 25,000	10,000-11,000 cy (22-32 days with Tecolotito)	Approximately 100 round trips	Approximately 200 round trips	Hollister Avenue: 34,000 Fairview Avenue: 34,000	Less than significant impact

\* No sediment transportation required. Truck trips limited to mobilization/demobilization and personnel transportation only.

Notes: Sediment amounts calculated based on a “typical” desilting event as shown in Table 2-1 (totaling 92,200 cy) and a “worst-case” desilting event based on creek capacity as calculated by Santa Barbara County (192,000 cy). San Jose and San Pedro would use similar transportation corridors as would Tecolotito and Los Carneros creeks. L



**Closed Foothill Landfill Sediment Disposal/Restoration Site.** The closed Foothill Landfill is located east of the City of Goleta within the County of Santa Barbara. Primary access to the area is gained from U.S. Highway 101 off of Turnpike Road. From Turnpike Road, entry into the landfill is gained by heading east on Calle Real to the southern entrance of the facility along Transfer Station Road.

Table 5.9-1 above provides a summary of existing traffic conditions within the proposed Project area as well as a summary of Project trip requirements, roadway capacities and potential impacts caused by project activities based on the information provided below.

#### 5.9.1.2 AADT/Levels of Service (LOS).

Table 5.9-2 provides a summary of the Average Annual Daily Traffic (AADT) counts over a 24-hour period of time according to Caltrans along these highways and major intersections (City of Goleta, 2006). AADT represents the average daily traffic on a roadway for all days of the week during a one-year period expressed in vehicle per day.

**Table 5.9-2. Regional Highway Average Annual Daily Traffic (AADT)**

Highway	Milepost No.	Description	AADT
<b>U.S. Highway 101</b>	21.41	Junction SR-217 South	119,000
	22.53	Fairview Avenue	92,000
	23.71	Los Carneros Road	80,000
	24.79	Glen Annie Road/Storke Road	67,000
	26.91	Hollister Avenue	35,000
<b>SR-217</b>	0.94	Santa Barbara, Sandspit Road	16,600
	2.23	Hollister Avenue	16,300
	2.76	Junction U.S. Highway 101	25,000

Source: Caltrans, 2005, City of Goleta 2006

Table 5.9-3 provides a summary of peak PM hour volumes on some of the major arterial roadways located within the proposed Project area as referenced from Caltrans data provided within the City of Goleta General Plan EIR (2006) expressed in Average Daily Traffic volumes (ADT)<sup>1</sup>. Average daily traffic volumes are representative of the total traffic volume during a

<sup>1</sup> The methodology used to determine the LOS for roadway segments within the City of Goleta General Plan EIR, 2006 is based on ADT. Future daily traffic (ADT) volumes on City roadway segments were estimated by applying model derived 2005-2030 peak hour growth factors to existing ADT traffic count measured on City roadway segments. For roadways outside the City's jurisdiction where traffic counts were either not available or exact traffic count locations were not known, daily traffic volumes were estimated by assuming a 10 percent PM peak hour to ADT relationship. The roadway classifications, design capacities, and ADT thresholds are based upon standards established by the City of Goleta. ADT thresholds were developed for each of the analysis segments under the future analysis scenarios, based upon the roadway characteristics. Refer to the Goleta General Plan EIR, 2006 for detail.





given time period expressed as vehicles per day. As indicated, PM peak hour model volumes are generated for all city roadway segments included in the Goleta Travel Model.

**Table 5.9-3. Peak PM Hour Traffic Volumes and ADT on Arterial Roadways**

Segment Location	PM Traffic Count	ADT Count	ADT Capacity at LOS C
Hollister Avenue west of Patterson Avenue	1,642	17,800	34,000
Hollister Avenue west of Fairview Avenue	2,002*	21,700	34,000
Hollister Avenue east of Los Carneros Road	1,449	15,700	34,000
Hollister Avenue east of U.S. Highway 101 Interchange	707*	6,500	14,300
Patterson Avenue south of U.S. Highway 101 Interchange	2,548	25,100	34,000
Turnpike Road north of U.S. Highway 101 Interchange	1,858*	NA	NA
Fairview Avenue south of U.S. Highway 101 Interchange	2,871*	25,000	34,000
Fairview Avenue north of Calle Real	1,274	14,700	34,000

Source: City of Goleta General Plan/EIR, 2006

\* indicates sample year 2003. All other data collected 2005.

Level of service (LOS) designations measure operational conditions of roadways, taking into consideration such factors as volume, speed, travel time, and delay. LOS is represented as a ratio (volume to capacity or V/C) by letter grades, A through F. LOS A through C imply traffic flows with minimal delay, LOS D and E imply conditions approaching capacity, and LOS F implies unstable flow with potential for substantial delays (TRB, 2000).

LOS standards are used to evaluate the transportation impacts of long-term growth. In order to monitor roadway operations, cities and counties adopt standards by which the minimum acceptable roadway operating conditions are determined. The City of Goleta has adopted a standard of LOS C, for major arterials, minor arterials, collector roadways, and signalized intersections. The City's LOS standard is more stringent than the County's regional Congestion Management Program (CMP) standard of LOS D, which applies to City intersections designated as part of the CMP system. Tables 5.9-4 through 5.9-6 provide an overview of the LOS conditions for the Project area.

#### **5.9.1.4 Regulatory Setting**

**Federal.** The Federal Department of Transportation (DOT) was established by an act of Congress on October 15, 1966. Maintenance of federal highways is administered by DOT through the Federal Highway Administration. The Federal Highway Administration (FHWA) coordinates highway transportation programs in cooperation with states and other partners to enhance the country's safety, economic vitality, quality of life, and the environment.



**Table 5.9-4. Intersection LOS within the Proposed Project Area**

Intersection	Traffic Control	V/C	LOS (2005)
Hollister Avenue/SR-217 SB Ramp	Signal	0.79	C
Hollister Avenue/SR-217 NB Ramp	Signal	0.68	B
Hollister Avenue/Aero Camino Road	Signal	0.51	A
Hollister Avenue/La Patera Lane	Signal	0.60	A
Hollister Avenue/Fairview Avenue	Signal	0.68	B
Hollister Avenue/Kellogg Avenue	Signal	0.71	C
Fairview Avenue/U.S. Highway 101 NB	Signal	0.77	C
Fairview Avenue/Calle Real	Signal	0.81	D
Los Carneros Road/Hollister Avenue	Signal	0.69	B
Los Carneros Road/Hollister Avenue	Signal	0.46	A
Los Carneros Road/U.S. Highway 101 NB Ramp	Signal	0.56	A
Los Carneros Road /U.S. Highway 101 SB Ramp	Signal	0.71	C

Source: City of Goleta General Plan EIR, 2006

**Table 5.9-5. Existing LOS on Arterial Roadways within the City of Goleta**

Segment	No. of Lanes	ADT Threshold for LOS C	Existing ADT		Under Threshold
			Daily	PM	
Hollister Avenue west of Patterson Avenue	4	34,000	16,420	1,642	Yes
Hollister Avenue west of Fairview Avenue	2	34,000	21,700	2,002	Yes
Hollister Avenue east of U.S. Highway 101 Interchange	4	14,300	7,070	707	Yes
Hollister Avenue east of Los Carneros Road	4	34,000	15,700	1,499	Yes
Fairview Avenue south of U.S. Highway 101 Interchange	4	34,000	25,000	2,871	Yes
Los Carneros Road south of Hollister Avenue	2	14,300	20,500	1,811	No

Source: City of Goleta General Plan EIR, 2006



**Table 5.9-6. Existing LOS on SR-217**

Segment	PM Traffic Count	Existing ADT	V/C	V/C Threshold for LOS C	Under Threshold
SR-217 Santa Barbara/Sandspit	1,650	17,000-18,000	NA	0.71-0.80	Yes
SR-217 Hollister Avenue Interchange	1,650-2,550	18,000-25,500	0.79 (LOS C) SB 0.68 (LOS B) NB	0.71-0.80	Yes
SR-217 Junction U.S. Highway 101	3,700	25,500	NA	0.71-0.80	Yes

Source: Caltrans 2007 represented as Back AADT-ahead AADT

**State.** Access to the Project area is provided by SR-217 (Ward Memorial Boulevard) which is maintained through the Department of Transportation (Caltrans). Caltrans regulates load limits as well as safety requirements for all State highways. **Additionally, the California Department of Transportation (Caltrans), Division of Aeronautics has authority over the Santa Barbara Airport (Tecolotito and Los Carneros Creeks) area.**

**Local.** Regulation at the local level is provided by the County of Santa Barbara through its Comprehensive Plan Circulation Element as well as its Congestion Management Plan (CMP) adopted in 1992 and updated in 2003 by the Santa Barbara County Association of Governments. The County Circulation Element generally provides guidance in defining whether a project would meet the current or existing levels of service (LOS) for area roadways and intersections.

The County of Santa Barbara, within its Thresholds and Guidelines Manual, has defined thresholds of significance for traffic impacts as well as traffic study requirements for areas of the County including the Project area. For detail regarding these requirements (refer to Section 5.9.2.2 - Thresholds of Significance).

## **5.9.2 Impact Discussion and Mitigations**

### **5.9.2.1 Thresholds of Significance**

According to the County of Santa Barbara Thresholds of Significance for Traffic Impacts, a Project would have a significant impact if the following were to occur:

- The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends at least 5, 10, or 15 trips to at (sic) LOS F, E, or D.



**Table 5.9-7. LOS Thresholds**

Level of Service (including Project)	Increase in V/C (Greater Than)
A	0.20
B	0.15
C	0.10
Or the addition of:	
D	15 trips
E	10 trips
F	5 trips

- Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.
- Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceedence of the roadways designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.
- Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

If the above thresholds are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance are required.

#### 5.9.2.2 Currently Approved Goleta Slough Maintenance Program

The following summarizes the impacts to transportation or circulation resources identified in the 1993 original PEIR for the existing maintenance program.

- Vehicle crossings could temporarily block bicycle paths, pedestrian walkways or parking areas representing a potentially significant safety impact (Goleta Beach Park, Atascadero Creek, and San Pedro Creek (Significant but mitigable, Class II).



- Construction vehicles could temporarily cause congestion along Hollister Avenue (Tecolotito Creek and Los Carneros Creek) (Less than significant, Class III).

#### 5.9.2.3 Proposed Updated Maintenance Program

The proposed Project includes the desilting of the lower reaches of the Goleta Slough and its tributaries including Atascadero Creek, San Pedro Creek, San Jose Creek, Tecolotito Creek, and Los Carneros Creek. Desilting operations would occur as necessary for maintenance purposes and would include either hydraulic desilting or draglining. It is estimated by the District that when volumes of sedimentation exceed 50,000 cy (on San Pedro Creek, San Jose Creek, and Atascadero Creek combined); it is economically feasible to utilize hydraulic desilting. When volumes have not reached a total of 50,000 cy and maintenance activities are still required; dragline desilting will be utilized in any of the five creeks.

Desilting operations would require that temporary staging areas be located near the portion of the Slough or creek for which desilting is to occur (Figure 3-1). Should dragline desilting be the preferred method of sediment removal for any given season, then stockpiling areas would be located approximately 30 feet from the banks of each creek, except for the northern portion of San Jose Creek where stockpiling of sediments would be closer. Each staging area would serve as a storage location for the crane and a parking area for the personnel required for construction. Stockpiling areas would be used for the temporary storage of sediment until it could be transported via truck to: Goleta Beach for replenishment purposes; for disposal/restoration purposes at the closed Foothill Landfill; or for re-use elsewhere. Staging and stockpiling areas would be temporary, and their location would be dependant on which portion of the Slough or tributary currently undergoing maintenance operations (Figure 3-1). Therefore, the following discussion includes potential impacts based on each of the three desilting scenarios: 1) desilting with materials piped directly to the surf zone at Goleta Beach for replenishment purposes (hydraulic desilting only), 2) desilting with sediment materials being trucked to Goleta Beach for replenishment purposes (dragline desilting only), and 3) desilting with sediment removal for storage and re-use within the upland disposal site (closed Foothill Landfill Sediment Disposal/Restoration Site).

Within these three possible scenarios, a "typical" and "worst-case" Project scenario was analyzed. Analysis of a "typical" desilting event was based on an average sediment amounts that have been historically removed and transported as shown in Table 2-1 of the Project Description and summarized in Table 5.9-1. This "typical" scenario includes removal of sediment in the following amounts: 11,300 cy for Tecolotito Creek, 10,000 cy for Los Carneros Creek, 36,000 cy for Atascadero Creek, 15,500 cy for San Jose Creek and 19,400 cy for San Pedro Creek. This "typical" scenario is expected to occur via draglining of Tecolotito and Los Carneros creeks, and hydraulic desilting for Atascadero, San Jose and San Pedro creeks.

It is important to note that these volumes may be exceeded during years of excess runoff or rain conditions as demonstrated in Table 2-2 (Summary of Sediment Volumes Removed). As such, a "worst-case" scenario was analyzed based on County of Santa Barbara calculations for the highest amount of sediment the system could physically hold at maximum capacity. This "worst-case" scenario includes removal of sediment in the following amounts:





21,000 cy for Tecolotito Creek, 11,000 cy for Los Carneros Creek, 67,000 cy for Atascadero Creek<sup>2</sup>, 38,000 cy for San Jose Creek and 33,000 cy for San Pedro Creek. This "worst-case" scenario was conducted for dragline operations only, as hydraulic desilting would not result in the need for truck transportation of sediment. Generally, hydraulic removal would be the preferred method for desilting for Atascadero, San Jose or San Pedro creeks over the amount of 50,000 cy.

**Impact TRANS-1: Hydraulic desilting operations (requiring sediment piping directly to the surf zone at Goleta Beach for beach replenishment purposes) may temporarily affect transportation roadways within the Project area - Class III.**

**Goleta Beach Park.** Staging areas for desilting activities within the lower reaches of the Slough will be located within the eastern portion of Goleta Beach Park parking lot near the Slough mouth (see Figure 3-1 for detail).

Recreational transportation occurs along bicycle routes adjacent to the Goleta Slough and within the Goleta Beach Park parking lot. During each desilting season, sediment materials being piped directly from the Slough travel through an existing pipeline located beneath the Goleta Beach Park parking lot. Connections to the pipelines are obtained by adding sleeves each season beneath the existing bicycle paths at two locations. As with previous desilting seasons, installation and removal of the pipeline sleeves would require temporary closure of two portions of the bike path located within the western portion of the Goleta Beach Parking lot, south of SR-217. These temporary closures would be accomplished in one workday and would occur once during Project mobilization activities and once during Project demobilization activities. Any temporary closure of portions of the bike path would require coordination through the County of Santa Barbara Public Works Division. During this time, bicycle and pedestrian traffic would be directed around the work area. In accordance with past management practices, Project personnel would be cautioned to avoid blocking bike paths or pedestrian corridors while entering or exiting the area. All other bike paths and walkways not undergoing pipeline installation activities would remain open for public use. Following installation of the pipeline sleeves and during desilting operations all bike paths and public walkways would remain open. Recreational users would still be able to access bike paths and walkways during these activities; therefore, the impact to recreational bicycle transportation is less than significant.

As stated previously, the lower reaches of the Goleta Slough adjacent to Goleta Beach Park are primarily accessed from SR-217 (Ward Memorial Blvd) using the Sandspit exit south to Goleta Beach Park. Piping of sediment from these locations to the surf zone at the beach replenishment sites would be direct and pumping of the sediment through the pipeline would not impact transportation routes within the Goleta Beach Park parking lot area. Therefore, impacts resulting from transportation of sediment at Goleta Beach Park are less than significant.

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<sup>2</sup> Please note that the capacity of Atascadero Creek is 89,000 cy, however, due to the topography of Atascadero Creek, dragline operations are only proposed for 67,000 cy. Since dragline desilting would result in sediment transportation, whereas hydraulic desilting would not, the 67,000 cy number was used as a "worst-case" scenario.



**Atascadero Creek, San Jose Creek, and San Pedro Creek.** Desilting operations within the lower reaches of the Goleta Slough including Atascadero Creek, San Jose Creek, and San Pedro Creek would require creek sediment to be pumped from the hydraulic dredge and discharged through a floating pipeline as previously described into the surf zone at Goleta Beach for beach nourishment purposes. Piping of the sediment would not impact transportation routes within the Atascadero Creek, San Jose Creek, or San Pedro Creek areas. Project mobilization/demobilization would require approximately 40 trips total (20 trips prior to construction, 20 trips following construction). Approximately three round trips (six one-way trips per day) would be necessary for transportation of Project personnel. Based on the limited duration of these activities, reported LOS conditions, previous experience working within these staging areas, and District coordination with County Park staff, the addition of these trips would be minimal and impacts to roadway capacity and circulation would be less than significant.

**Tecolotito Creek and Los Carneros Creek.** Tecolotito Creek and Los Carneros Creek desilting activities will be conducted using dragline desilting methods only. A discussion of the potential impacts is included below under Impact TRANS-2.

### **Mitigation Measures**

#### **Mitigation Provided by the 1993 Program EIR.**

**MM PTRANS-1.** For all applicable sites a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project staging areas.

**Timing:** During activities, which could impact bicycle or vehicle traffic.

**Monitoring.** District inspectors shall ensure the management plan is fully implemented during construction activities.

**Residual Impacts.** Implementation of these mitigation measures would reduce impacts to transportation to a level of less than significant.

**Mitigation Recommended by this Subsequent EIR.** Impacts determined to be less than significant, no further mitigation measures proposed.

**Impact TRANS-2: Dragline desilting operations (requiring sediment to be transferred via truck to potential replenishment and/or disposal/restoration site may temporarily affect transportation roadways within the Project area (Class III)).**

**Goleta Beach Park.** Staging of equipment and materials for dragline desilting activities will be located within Goleta Beach Park: at the western portion of the parking lot (see Figure 3-1 for detail). As stated previously, Goleta Beach Park is primarily accessed from SR-217 (Ward Memorial Blvd) using the Sandspit exit, south to Goleta Beach Park. In accordance with past management practices (MM PTRANS-1), Project personnel would be cautioned to avoid blocking bike paths or pedestrian corridors while entering or exiting the area. Project



mobilization/demobilization to the staging areas would require approximately 40 trips total (20 trips prior to construction, 20 trips following construction). Approximately three round trips (six one-way trips per day) would be necessary for Project personnel within Goleta Beach Park. Based on the limited duration of these activities, reported LOS conditions, previous experience working within these staging areas, and District coordination with County Park staff, the addition of these trips would be minimal and impacts to roadway capacity and traffic circulation would be less than significant.

**Atascadero Creek.** Should dragline desilting be deemed the most appropriate desilting method for any given maintenance season, sediment would be removed from Atascadero creek via crane bucket and stored within the Atascadero creek designated stockpile area located on the northern boundary of Atascadero creek for dewatering. Following the dewatering process, the sediment would be transported to Goleta Beach for beach replenishment purposes or taken to the closed Foothill Landfill Sediment Disposal/Restoration Site. Based on previous draglining operations within Atascadero Creek it is anticipated that approximately 36,000 cy of sediment will require removal and transport during any given desilting season (Table 2-1). However it is possible that as much as 67,000 cy would require removal based on a worst-case scenario analysis. (Please note: as stated previously in Section 5.9.2.3 above, historically dragline desilting has primarily occurred when sediment removal volumes have been less than 50,000 cy and therefore that volume is being utilized for the purposes of this analysis as a worst-case scenario. However, as indicated within Section 3.0 - Proposed Program, hydraulic removal is the preferred method for desilting for Atascadero, San Jose or San Pedro creeks when sediment volumes have reached over 50,000 cy for future desilting events).

Transfer of the dewatered sediment will occur using dump trucks capable of transporting up to 10 cy of material per trip. As such, it is anticipated that 3,600 to 6,700 loads/trips could be required to transport 36,000-67,000 cy of sediment. Based on previous desilting events, it is anticipated that as many as 10 trucks could be available to transport sediment every hour (Section 2.4.3). Therefore, within a 10-hour work day, approximately 100 truck trips would occur. This volume would result in 36 to 67 days for sediment transfer. Based on the limited duration of these activities, reported LOS conditions, previous flood control maintenance experience, and District coordination with County Park staff, the addition of these trips would be minimal and impacts to roadway capacity and circulation would be less than significant.

*Atascadero Creek to Goleta Beach.* Transportation of the sediment from Atascadero Creek to Goleta Beach will occur from Ward Drive to Hollister Avenue where trucks would then enter SR-217 via the southbound ramp, continuing on SR-217 until exiting the highway at the Sandspit exit (approximately 3 miles total). As indicated within the original PEIR, a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project. Traffic data indicate that this portion of Hollister Avenue (west of Patterson Avenue) currently has an average daily traffic (ADT) volume of 17,800 which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day from Ward Drive to Hollister Avenue to SR-217 (an increase in daily volume to 17,900) for 36-67 days would not increase traffic levels above the significance thresholds



included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Hollister Avenue.

Similarly, traffic data indicate that this portion of SR-217 (Hollister Avenue Interchange) currently has an average volume to capacity (V/C) ratio of 0.79 and an AADT of approximately 18,000 to 25,500 (capacity approximately 23,000 to 32,000). The addition of approximately 100 truck trips per day would not increase the V/C level of this portion of SR-217 by 0.10 (based on the estimated V/C ratio, a 0.10 increase would be approximately 28,000-40,000). As such, impacts to traffic/circulation as result of sediment removal from Atascadero Creek and transported via truck to Goleta Beach for replenishment purposes would be less than significant.

*Atascadero Creek to Closed Foothill Landfill Sediment Disposal/Restoration Site.* Transportation of the sediment from Atascadero Creek to the closed Foothill Landfill will occur from Ward Drive to SR-217 via the southbound ramp, continuing on SR-217 until merging with U.S. Highway 101 southbound. As indicated within the original PEIR, a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project areas. Trucks would then exit U.S. Highway 101 via Turnpike Road or El Sueno Road. Trucks would then turn north into Transfer Station Road where they would enter the closed Foothill Landfill (approximately 4 miles).

Traffic data indicate that this portion of SR-217 at the Hollister Avenue Interchange to its Junction with U.S. Highway 101 operates at an ADT of between 18,000 and 25,500 (capacity approximately 23,000 to 32,000), with a V/C ratio of 0.79, which is below the threshold of V/C 0.80 to operate at an LOS C. The addition of 100 truck trips per day from SR-217 to U.S. Highway 101 for 36 to 67 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6 (based on the estimated V/C ratio, a 0.10 increase would be approximately 28,000 to 40,000). Therefore, the proposed Project would not exceed the threshold for this portion of Hollister Avenue. As such, under impacts to transportation would be less than significant.

In order to improve efficiency and save time, the District may desilt multiple sites simultaneously. As such, a worst case scenario from sediment being transported to the closed Foothill Landfill would occur if sediment were to be removed from up to two creeks at once. This would increase the number of trips along SR-217 and U.S. Highway 101 to as many as 200 per day. However, an increase of 200 truck trips per day along these routes would not increase the ADT levels above the indicated thresholds, and as such, the combined effect on traffic or transportation routes would not result in a significant impact for any of the proposed creeks.

**San Jose Creek and San Pedro Creek.** Should dragline desilting be deemed the most appropriate desilting method for any given maintenance season, sediment would be removed from San Jose creek and San Pedro creek via crane bucket and stored within their respective designated stockpile areas for dewatering. Following the dewatering process, the sediment would be transported to Goleta Beach for beach replenishment purposes or taken to the closed Foothill Landfill for use in the proposed restoration plan. Based on previous draglining operations within the creeks it is anticipated that approximately 15,500 to 19,400 cy of sediment would be removed during a typical desilting season (Table 2-1) totaling approximately 34,900



cy. However it is possible that as much as 38,000 cy (for San Jose) and 33,000 cy (for San Pedro) would require removal based on a worst-case scenario analysis for a total of 71,000 cy.

Transfer of the dewatered sediment will occur using dump trucks capable of transporting up to 10 cy of material per trip. Given that volume, it is anticipated that 3,500 to 7,100 loads/trips could be required. Based on previous desilting events, it is anticipated that as many as 10 trucks could be available to transport sediment every hour (Section 2.4.3). As such, within a 10-hour work day, approximately 100 truck trips would occur. This volume would result in 35 to 71 days for sediment transfer.

*San Jose/San Pedro Creek to Goleta Beach.* Transportation of the sediment from San Jose and San Pedro creeks to Goleta Beach will occur from flood control roads at Fairview Avenue near its intersection with Placencia Street. Trucks would then move southwest along James Fowler Road to Moffat Place. Trucks would continue along Moffat Place until merging onto Sandspit Road, which terminates at the Goleta Beach Park parking lot (approximately 1 mile total). Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000 which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to 25,100) for 35 to 71 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Fairview Avenue. Impacts to roadway capacity would be less than significant.

Desilting of San Jose Creek and San Pedro Creek simultaneously would require that as many as two truck teams be working within Fairview Avenue, simultaneously. This worst-case scenario would cause up to 200 truck trips within this portion of Fairview Avenue each day. Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000 which is below the threshold of 34,000 to operate at LOS C. The addition of 200 truck trips per day (an increase in daily volume to 25,200) daily would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, should multiple truck crews be working from two creeks simultaneously, the increase in traffic would not exceed the threshold for this portion of Fairview Avenue.

*San Jose Creek and San Pedro Creek to Closed Foothill Landfill Sediment Disposal/Restoration Site.* Transportation of the sediment from San Jose Creek and San Pedro Creek to the closed Foothill Landfill will occur from Fairview Avenue near its intersection with Placencia Street. Trucks would then move southwest along James Fowler Road to Moffat Place. Trucks would continue along Moffat Place until merging onto Sandspit Road to merge onto SR-217. As indicated within the original PEIR, a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project areas (MM-PTrans-1). Trucks would then exit U.S. Highway 101 via Turnpike Road or El Sueno Road. Trucks would then turn north into Transfer Station Road where they would enter the closed Foothill Landfill (approximately 4.5 miles).





Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000 which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to 25,100) for 35 to 71 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Fairview Avenue. Impacts to SR-217 would be identical to those proposed for Atascadero Creek. Therefore impacts to roadway caused by desilting activities within San Jose and San Pedro creeks would be less than significant.

**Tecolotito Creek and Los Carneros Creek.** Desilting activities for Tecolotito creek and Los Carneros creek are proposed via draglining and stored within the adjacent designated stockpile areas for dewatering. Following the dewatering process, the sediment would be transported to Goleta Beach for beach replenishment purposes or taken to the closed Foothill Landfill Sediment Disposal/Restoration Site. As indicated within the original PEIR, a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project areas (P MM-TRANS-1). Based on previous draglining operations within Tecolotito and Los Carneros creeks, it is anticipated that approximately 10,000 cy of sediment and 11,300 cy of sediment would be removed during a typical desilting season (Table 2-1) totaling approximately 21,300 cy. However it is possible that as much as 21,000 cy (for Tecolotito creek) and 11,000 cy (for Los Carneros creek) would require removal based on a worst-case scenario analysis for a total of 32,000 cy.

Transfer of the dewatered sediment will occur using dump trucks capable of transporting up to 10 cy of material per trip. Given that volume, it is anticipated that 2,130 to 3,200 loads/trips could be required. Based on previous desilting events, it is anticipated that as many as 10 trucks could be available to transport sediment every hour (Section 2.4.3). Therefore, within a 10-hour work day, approximately 100 truck trips would occur. This volume would result in 22 to 32 days for sediment transfer.

Transportation of the sediment from Tecolotito and Los Carneros creeks to Goleta Beach will occur from Hollister Avenue (between its intersection with Los Carneros Road and Cremona Drive), east to Fairview Avenue. The trucks would then turn south onto Fairview Avenue to James Fowler Road. From James Fowler Road, transportation of the sediment would follow the transportation route for San Pedro and San Jose creeks to Moffat Place, until merging onto Sandspit Road which terminates at the Goleta Beach parking lot (approximately 3.2 miles total). Traffic data indicate that this portion of Hollister Avenue (east of Los Carneros Road) currently operates at an average ADT of 15,700 which is below the threshold of 34,000 to operate at level C. The addition of 100 truck trips per day (an increase in daily volume to 15,800) for 22 to 32 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed project would not exceed the threshold for this portion of Hollister Avenue.

Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000 which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to



25,100) for 22 to 32 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Fairview Avenue.

Similarly, traffic data for Hollister Avenue west of Fairview Avenue indicate an average daily traffic (ADT) volume of 21,700 which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to 25,100) for 22 to 32 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Hollister Avenue and impacts to roadway capacity caused by desilting activities within Tecolotito and Los Carneros creeks would be less than significant.

As discussed above for dragline operations for San Jose and San Pedro creeks, Fairview Avenue operates at an average daily traffic (ADT) volume of 25,000, which is below the threshold of 34,000 to operate at LOS C. An increase of 100 truck trips along this portion of the proposed transportation route (an increase in daily volume to 25,100) for 22 to 32 days would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Fairview Avenue and impacts to roadway capacity caused by desilting activities within Tecolotito and Los Carneros would be less than significant.

Desilting of Tecolotito creek and Los Carneros creek simultaneously would require that as many as two truck teams work within Fairview Avenue simultaneously. This worst-case scenario would cause up to 200 truck trips within this portion of Fairview Avenue each day. Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000 which is below the threshold of 34,000 to operate at LOS C. The addition of 200 truck trips per day (an increase in daily volume to 25,200) daily would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, should multiple truck crews be working from each creek simultaneously, the increase in traffic would not exceed the threshold for this portion of Fairview Avenue and impacts to roadway capacity caused by desilting activities within up to two creeks simultaneously would be less than significant.

Transportation of the sediment from Tecolotito and Los Carneros creeks to the closed Foothill Landfill Sediment Disposal/Restoration Site will occur from Hollister Avenue (between its intersection with Los Carneros Road and Cremona Drive), east to Fairview Avenue. As indicated within the original PEIR, a District or contractor employee would be available onsite to facilitate the safe entry and exit of construction vehicles along roadways adjacent to Project areas. The trucks would then turn south onto Fairview Avenue to the southbound onramp of U.S. Highway 101. Trucks would then exit U.S. Highway 101 via Turnpike Road or El Sueno Road. Trucks would then turn north into Transfer Station Road where they would enter the closed Foothill Landfill (approximately 4.5 miles). Traffic data indicate that this portion of Fairview Avenue (south of U.S. Highway 101) currently has an average daily traffic (ADT) volume of 25,000, which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to 25,100) would not increase traffic levels



above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Fairview Avenue.

Similarly, traffic data for Hollister Avenue west of Fairview Avenue indicate an average daily traffic (ADT) volume of 21,700, which is below the threshold of 34,000 to operate at LOS C. The addition of 100 truck trips per day (an increase in daily volume to 21,800) would not increase traffic levels above the significance thresholds included in Tables 5.9-4 through 5.9-6. Therefore, the proposed Project would not exceed the threshold for this portion of Hollister Avenue and impacts roadway capacity caused by desilting activities within San Jose and San Pedro creeks would be less than significant.

A worst case scenario for sediment being transported to the closed Foothill Landfill Sediment Disposal/Restoration Site would occur if sediment were to be removed from up to two creeks simultaneously. This would increase the number of trips along SR-217 and U.S. Highway 101 to as many as 200 per day. An increase of 200 truck trips per day along these routes would not increase the ADT levels above the indicated thresholds. As such, the combined effect on roadway capacity is not significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. MM PTRANS-1 as identified above applies and results in impacts being less than significant as indicated above.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant, no further mitigation measures proposed.



### **5.9.3 References**

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## **5.10 RECREATION**

The following section describes the recreational facilities and areas that currently exist within the Goleta Slough and closed Foothill Landfill project areas. Setting information with respect to regional recreation has been included as applicable to each portion of the proposed Project. The regulatory framework and any changes to the Maintenance Program since the adoption of the original 1993 PEIR are discussed herein.

### **5.10.1 Environmental Setting**

#### **5.10.1.1 Regional**

The Goleta Slough Flood Control Maintenance Project is located within the County of Santa Barbara in the geographical area known as the Goleta Valley. The Goleta Valley includes the City of Goleta as well as its unincorporated surrounding urban areas. The Valley is located between the scenic and recreational backdrops of the Santa Ynez Mountains and the Pacific Ocean.

#### **5.10.1.2 Site Specific**

Specifically, the Project area is located within the lower reaches of the Goleta Slough, for maintenance activities and beach replenishment as well as for potential disposal/restoration at the closed Foothill Landfill. The five creeks feeding into the slough that are subject to maintenance activities include: Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Los Carneros and Tecolotito creeks are located within the Santa Barbara City limits; the remaining creeks are in unincorporated Santa Barbara County. The confluence of these creeks occurs within the lower reaches of the slough directly adjacent and to the north of Goleta Beach (Figure 5.10-1). Surrounding areas also include More Mesa, University of California Santa Barbara (UCSB), and trail/bike routes as further described below.

### **Desilting and Maintenance Activities**

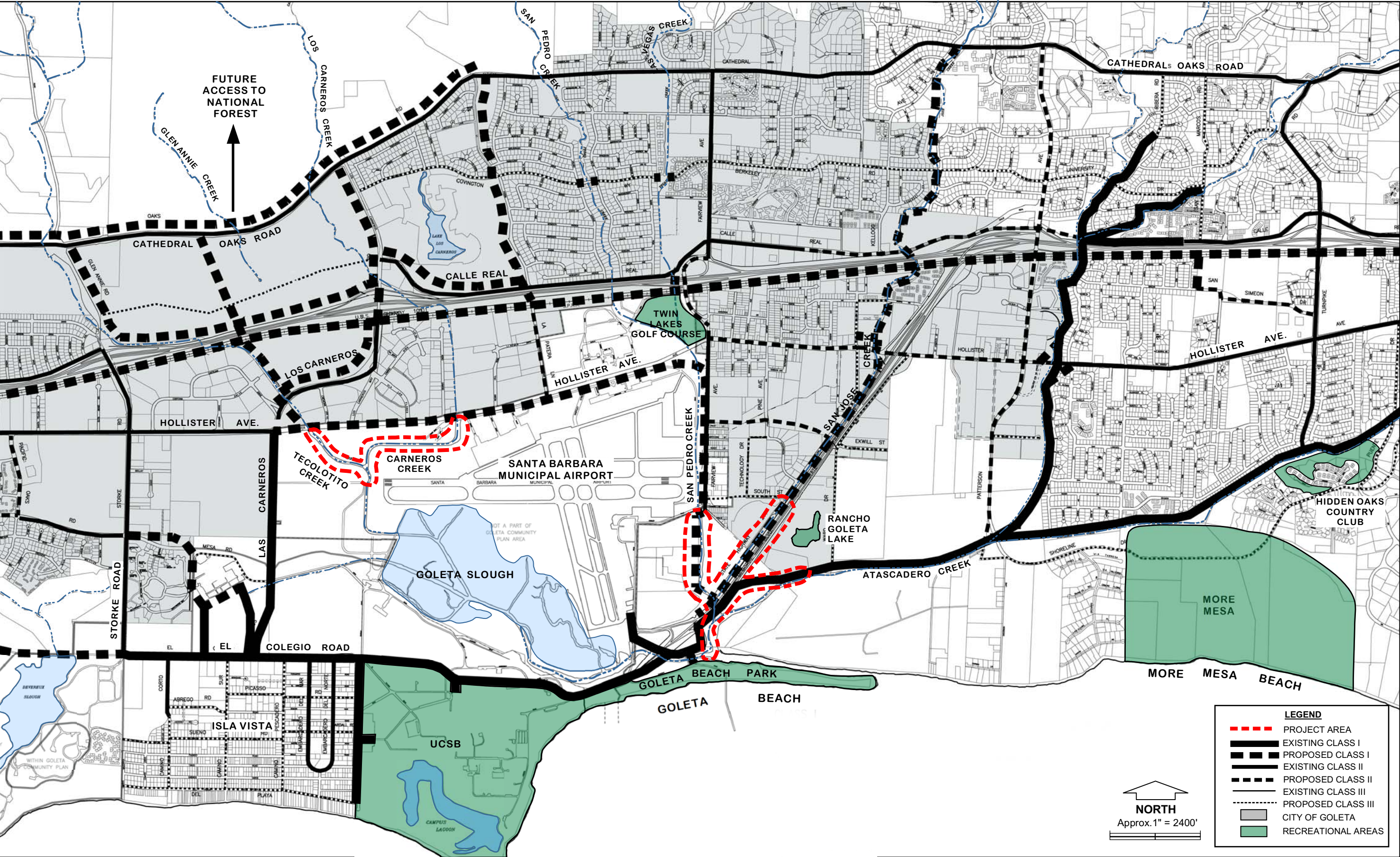
**Recreational Access.** California's State Constitution guarantees the public right to coastal access below the mean high tide line (refer to Section 5.10.2 below for detail). Coastal access to the Goleta Beach area near the Goleta Slough is provided by Goleta Beach County Park and More Mesa access points. Private residences also maintain access to the Beach along the bluffs east of the Slough.

**Goleta Beach.** The surf zone at Goleta Beach is the proposed sediment receiver site for maintenance activities. Goleta Beach is located southward of the five creeks and includes Goleta Beach County Park. The Goleta Beach County Park is a 29-acre park catering to over one million visitors each year (Santa Barbara County Parks, 2007). The Park provides coastal access to Goleta Beach and offers facilities including a pedestrian pier, restaurant and snack bar, restroom, volleyball and horseshoes, picnicking areas, bike path and children's playground.



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SOURCE: Santa Barbara County Planning & Development - 2006

SURROUNDING RECREATIONAL RESOURCES  
FIGURE 5.10-1





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Onshore activities at the County Park include surf fishing, bird watching, walking, surfing, and swimming. Offshore activities include boat fishing, pleasure boating, kayaking, jet skiing, scuba diving and snorkeling (refer to Section 5.8 - Aesthetics, for views of these areas).

**More Mesa.** In addition to Goleta Beach County Park, residents and visitors have coastal access to east Goleta Beach from More Mesa. More Mesa is a 265-acre residential development on a coastal bluff located approximately one mile east of the mouth of the Goleta Slough and approximately one-half mile southeast of Atascadero Creek. During low tides, beachgoers can walk along the shoreline between Goleta Beach and More Mesa access points. Along the beach adjacent to More Mesa, activities are similar to those at Goleta Beach and include fishing, boating, kayaking, sunbathing, scuba diving and snorkeling.

**UCSB.** Southwest of the Goleta Beach County Park and adjacent to portions of the Goleta Slough is the University of California Campus at Santa Barbara (UCSB) located in the City of Goleta. Under the Isla Vista Recreation and Parks District, UCSB offers biking and recreational opportunities for its students and visitors including 26.75 acres of open space and developed park facilities. This includes beach access at Goleta Point near the Campus Lagoon, located approximately 1.5 miles from the mouth of the Goleta Slough.

**Other Nearby Recreational Opportunities.** Although not directly adjacent to the Project site, other nearby recreational opportunities exist along and within the Project area. Two small golfing areas are located within approximately 1.5 miles of the Project site. These include Twin Lakes Golf Course and Learning Center (approximately 1.5 miles from the north of the Project boundaries at San Pedro Creek) and Hidden Oaks Golf Course (located approximately one mile east of Atascadero Creek). In addition, Rancho Goleta Lake, located within the Rancho Goleta Mobile Home Park residential area offers fishing and boating recreational opportunities for residents within a man-made water way not connected to the existing Goleta Slough system.

**Trails and Bike Routes.** In addition to the recreational areas mentioned above, a paved bike trail system extends from near Modoc Road/Hollister Avenue along Atascadero Creek to Goleta Beach Park. A major spur route leads off of the bike path towards eastern Goleta. The bike path is a sensitive recreational resource and is used by commuters, recreational cyclists, individuals, and cycling teams training for amateur and professional sporting events, and as a coastal access route to Goleta (Santa Barbara County, 1993). According to unofficial two-hour bicycle counts conducted by Santa Barbara Bicycle Coalition, a portion of the bike path (called the Obern Trail and entered into at Maria Ygnacio Creek) was traveled by as many as 264 bicyclists in 2008 (Fertig, personal communication, 2009). Bicycle riders also utilize public roadways including Fairview Avenue and Los Carneros Road. Several walking trails are also accessible along Shoreline Drive, following along Atascadero Creek towards Goleta Beach or trending east towards existing trails at More Mesa. Bikes and pedestrians may cross the Slough or its tributaries at several locations at vehicle crossings including Sandspit Road, Ward Memorial Boulevard (SR-217), and at Fairview Avenue near Placencia Street.





## **Closed Foothill Landfill Sediment Disposal/Restoration Site**

**Closed Foothill Landfill Recreation.** The closed Foothill Landfill is located approximately three miles northeast of the Goleta Slough between Cathedral Oaks Boulevard and U.S. Highway 101. The Landfill is adjacent to a residential area (along El Sueno Road and Sherwood Drive) to the east, Calle Real and U.S. Highway 101 to the south, the County's South Coast Recycling and Transfer Station to the west and the County Parks Department and County Road yard to the north. The Landfill site is used for passive recreation including walking, biking and nature viewing. Portions of the site are currently leased to various non-profit organizations including the Hearts Adaptive Riding Program (currently scheduled for relocation in December of 2009) and Growing Solutions Restoration and Education Institute's Native Plant Nursery, an experimental jatropha (bio-diesel) plot, and a grant funded re-vegetation project. Passive recreation at the site is generally gained on foot from these locations or by bicycle along Cathedral Oaks Boulevard. Bicycle and pedestrian traffic also occur adjacent to the closed Foothill Landfill along Cathedral Oaks Road, Calle Real, and El Sueno Road.

### **5.10.1.3 Regulatory Setting**

**Federal.** Recreational resources are regulated by the Federal Coastal Zone Management Act of 1971. For the proposed Project area, the act would be administered by the State of California. In addition to the Coastal Zone Management Act, Federal regulation within the proposed maintenance areas would also apply to any federally listed sensitive species and wetlands.

**State.** The California Coastal Commission (CCC) regulates all lands within the Coastal Zone per the California Coastal Act of 1976. Section 30001.5 of the Coastal Act provides long-term protection for Coastal Zone areas under the following policies:

- Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources, taking into account the social and economic needs of the people of the State.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependant and coastal-related development over other development on the coast.
- Encourage State and Local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

**Local.** Under the California Coastal Act, local governments are required to prepare a Local Land Use Plan containing information regarding the protection of local coastal resources including recreation. In general, the County of Santa Barbara Local Coastal Plan (LCP)



regulates recreational issues including development in areas of recreational use and providing access to coastal beach areas. The coastal area located from UCSB to More Mesa, including Goleta Beach Park and portions of the Goleta Slough are identified within the Santa Barbara LCP located in the "Goleta Coastal Unit" (Santa Barbara County, 2008).

Portions of the Goleta Slough are also managed or monitored by local or non-local interests. This includes such organizations as the Goleta Slough Management Committee of Santa Barbara County. Although not a permitting agency, the GSMC provides plans and guidance to local agencies to ensure that the Goleta Slough Ecosystem is not directly or indirectly impacted. To facilitate this goal, the Committee has presented the Goleta Slough Ecosystem Management Plan (1993). One of the purposes of the Goleta Slough Ecosystem Management Plan was to reconcile the policies of the numerous agencies that have jurisdiction within the Goleta Slough area. These jurisdictions include UCSB's Long Range Development Plan; the Santa Barbara City Coastal Plan Airport Component; the Santa Barbara County Coastal Plan, the City of Goleta's Local Coastal Plan (LCP), as well as the County of Santa Barbara's LCP Management Plan area (Management Plan, 2009). The Coastal Commission retains some jurisdiction in the ecosystem, generally where habitats are permanently or frequently inundated with the tides. The County of Santa Barbara also maintains jurisdiction within portions of the Slough and has adopted the Goleta Community Plan that applies to all the unincorporated area in the Slough ecosystem (except the University property).

### **5.10.2 Impact Analysis and Mitigation Measures**

#### **5.10.2.1 Thresholds of Significance**

Santa Barbara County Thresholds and Guidelines Manual does not contain a significance threshold for recreation. However, based on Santa Barbara County guidelines as well as State and Federal regulations provided above, the following criteria have been established to determine if the proposed Project would have a potential impact on existing recreational resources:

- A preclusion of recreational beaches or public beach access.
- A disruption of land-based recreational resources, such as access to parks, trails or recreational bicycle paths.
- Conflict with adopted land use policies, plans, or planning efforts.

#### **5.10.2.2 Currently Approved Goleta Slough Maintenance Program**

The following summarizes the impacts to recreational resources identified in the Program EIR (93-EIR-04) for the existing maintenance program.

- Temporary blockage or closure of bike paths (Atascadero Creek, San Pedro Creek, Tecolotito Creek, Goleta Beach) by construction equipment could result in potentially adverse impacts to recreational resources (Less than significant - Class III).



- Project incompatibility with existing recreational uses of bike paths and creek would be potentially adverse (Less than significant - Class III).
- Construction equipment could damage the surface of the parking lot, since it is not designed for such use (Less than significant with mitigation - Class II).
- Increased turbidity may temporarily preclude recreational users from swimming in the immediate vicinity of discharge point (Less than significant - Class III).
- Construction equipment could temporarily alter the recreational experience of individuals or groups who are in the area to observe birds or other wetland wildlife (During construction, less than significant - Class III, following construction, Beneficial - Class IV).

The following summarizes the impacts to recreation as identified in the Goleta Slough EIR Supplement (2000) to Program EIR (93-EIR-04) for the existing maintenance program.

- Discharge of sediment into the Goleta Beach surf zone has the potential increase bacterial levels in the immediate vicinity of the discharge (Class II).
- Increased turbidity would be comparable to that generated by winter storms. Also it would be short-term in nature and confined to a relatively small area (Class III)

#### 5.10.2.3 Proposed Updated Maintenance Program

The proposed Project includes the dredging/draglining (desilting) of sediment from the lower reaches of the Goleta Slough and its tributaries including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. The Project would then pump the sediment from the Slough through a pipeline onto Goleta Beach for beach replenishment, or stockpile the sediment within designated stockpile areas for transportation to the beach. In accordance with the Project SAP, Slough sediment would be monitored and tested to determine suitability for use as beach replenishment material. Should the sediment be deemed unsuitable for beach replenishment purposes, the sediment would be hauled from the stockpile areas in dump trucks to the closed Foothill Landfill Sediment Disposal/Restoration Site as outlined within Appendix F (Foothill Landfill Restoration).

**Impact REC-1: Staging, Stockpiling and desilting operations may result in impacts to recreational resources within areas adjacent to the Goleta Slough - Class III.**

Recreational Opportunities within the Waters of the Goleta Slough. The proposed Project would require hydraulic desilting operations to occur within the lower reaches of the Goleta Slough including Atascadero Creek, San Jose Creek and San Pedro Creek and draglining operations to occur within Tecolotito Creek and Los Carneros Creek. Due to the sensitivity of the Slough ecosystem, recreational opportunities are primarily limited to those areas immediately adjacent to the Slough waters. Desilting activities would temporarily limit recreational activities which occur within the Slough waters (such as kayaking) to those areas outside of the immediate desilting zone. As such, although recreational opportunities may be limited to areas outside of the immediate desilting zone, those recreational activities would remain available in other



portions of the Slough. Therefore, any impact to in-water recreational opportunities would be less than significant.

Recreational Opportunities Adjacent to the Goleta Slough. Recreational opportunities adjacent to the Slough are primarily conducted along the banks and channels and include bird watching, wildlife viewing, walking, and bicycling. These activities occur primarily within designated walkways and bike paths along the banks of the Slough or its tributaries, specifically Atascadero Creek. Potential impacts to these areas may be caused by Project activities including the installation/removal of sediment pipelines and the staging of the crane and other associated equipment during desilting operations.

Installation and removal of the sediment pipelines may require temporary closure of two portions of the bike path and walkways located within the western portion of the Goleta Beach Parking lot, south of SR-217. These temporary closures would be accomplished in one workday and would occur once during Project mobilization activities and once during Project demobilization activities. Any temporary closure of portions of the bike path would require coordination through the County of Santa Barbara Public Works division. During this time bicycle and pedestrian traffic would be directed around the work area. All other bike paths and walkways not undergoing pipeline installation activities at that time would remain open for public use. Following installation of the pipelines and during desilting operations all bike paths and public walkways would remain open. Therefore, because recreational users would maintain access to bike paths and walkways during these activities, the impact to recreational resources is less than significant.

Prior to desilting activities the proposed Project would require that a crane be temporarily located along the banks of the Slough and its tributaries for placement of the hydraulic dredge or for draglining within the waters of the Slough (Figure 3-1 - Proposed Maintenance and Staging Areas). Crane use would be temporary and would move to each desilting area, lasting approximately 16 - 38 days depending upon whether 10 or 24-hour workdays are chosen. Following desilting activities, the crane would be removed from the Project areas until the next maintenance season.

*Goleta Beach Park.* For the lower reaches of the Slough adjacent to Goleta Beach Park (i.e., near Sandspit Road) equipment and personnel vehicles will be staged within an area in the eastern portion of the Goleta Beach Park parking lot. This area would be restricted from public access during staging operations. Therefore, parking at the Goleta Beach Park may be reduced by up to 10 parking spaces during staging and dredging operations. The remainder of the parking lot would remain open for public use. Furthermore, dredging, and staging operations would be timed to avoid the peak recreation season for recreational use of Goleta Beach. Therefore, due to the temporary loss of less than 10 parking for staging within the Goleta Beach parking area, as well as the scheduling the Project to avoid the peak season for parking at the beach, any potential impact to recreational resources caused by staging and crane operations are reduced to less than significant. As indicated above, potential impacts to the Goleta Beach parking lot were already addressed in the PEIR and are the same for the Project as presently proposed.



*Atascadero Creek.* Desilting operations within Atascadero Creek, San Jose Creek, and San Pedro Creek will primarily be conducted using a hydraulic dredge. For the purposes of desilting, a crane will be used to move the hydraulic dredge from the staging area within Goleta Beach Park parking lot into the waters of the Goleta Slough (refer to Figure 3-1 for staging and stockpiling area locations). Following hydraulic dredge placement, the crane leaves the Project site and returns when desilting operations are completed to remove the dredge. The crane would then be remobilized to remove the hydraulic dredge from the slough waters and return it safely to the staging area.

For Atascadero Creek, staging and stockpiling areas would be located along the northern portion directly adjacent to the bike path. This area is approximately 80 feet wide, providing abundant space for staging of Project components while leaving the bike path and walking trails available for public use. Deposition of sediments are proposed in designated stockpiling areas approximately 30 feet from Atascadero Creek bank. Therefore, crane staging and sediment stockpiling along Atascadero Creek would not be a significant impact to recreational resources.

*San Jose Creek/San Pedro Creek.* Desilting operations for the San Jose Creek and San Pedro Creek would require staging within private property along the western portion of the San Jose Creek bank and the eastern portion of San Pedro Creek. Deposition of sediments are proposed in designated stockpiling areas approximately 30 feet from creek banks with the exception of the upper end of San Jose Creek where material would be stockpiled closer to the creek bank. According to the Goleta Community Plan, recreational opportunities along San Jose Creek are passive and include an off-road walking trail from Goleta Beach (along Ward Memorial Boulevard). Staging and sediment stockpiling operations would not interfere with recreational activities. No impact would result.

*Tecolotito Creek/Los Carneros Creek.* Desilting operations within Tecolotito Creek and Los Carneros Creek will primarily be conducted by using a dragline bucket system. During dragline desilting operations the crane would remain mobile within the stockpiling areas designated along the banks of the Slough until such time as desilting operations are completed lasting approximately 16 - 38 days. The crane would then be demobilized and removed.

Desilting operations at Tecolotito Creek and Los Carneros Creek would require staging along the channel south of Hollister Avenue. Desilting operations for these areas would be conducted by dragline requiring staging of the crane and stockpiling of sediment to occur at multiple locations along the channels for very brief periods. Deposition of sediments would occur within designated stockpiling areas approximately 30 feet from creek banks. No public recreational opportunities are located within these areas of Tecolotito or Los Carneros creeks. Therefore, due to the lack of recreational activities in the area, as well as the temporary and mobile nature of crane operations, no impact to recreational resources would result.





## **Mitigation Measures**

### Mitigation Provided by the 1993 Program EIR.

The following mitigation addresses the potential impact to the Goleta Beach parking lot which was already fully addressed in the PEIR.

***MM PREC-1: Repair of impacted parking lot.*** The District will be responsible for repairing any portion of the parking lot impacted by maintenance activities to its current standard or top a standard agreed to by both the County Parks Department and the District. Repairs shall begin within two weeks of the termination of maintenance activities.

Plan Requirements and Timing. District and Parks Department shall inspect the parking lot prior to and after District activities to determine the extent of damage caused by District activities.

Monitoring. The District Engineer shall conduct the inspection with the Parks Department staff.

Residual Impact. Less than significant.

## **Mitigation Incorporated into the Project Description**

***MM Project-3: Timing of dredging and staging operations.*** Dredging and staging operations would be timed to avoid the peak recreation season for recreational use of Goleta Beach.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant with previous, project-incorporated measures in place. No additional mitigation measures are proposed.

**Impact REC-2: Beach Replenishment Activities may result in impacts to recreational resources- Class II.** The proposed Project would utilize the existing sediment and materials removed from the Slough and its tributaries as replenishment for Goleta Beach. As stated previously, temporary pipelines would be installed and connected to an existing pipeline sleeve currently located beneath the Goleta Beach Park and parking lot to discharge at a point within the surf zone located approximately 2,500 feet west of the Slough mouth at Goleta Beach (refer to Figures 2-4 and 2-5 for detail). Replenishment activities would not interfere with recreation during the peak season (no discharge May 15<sup>th</sup> through September 15<sup>th</sup>).

As discussed within the 2000 Supplemental EIR to the Goleta Slough Dredging Project, impacts caused by the discharge of sediment into the surf zone at Goleta Beach would have the potential to significantly affect recreational activities while the discharge occurred. (Class II). Discharge from the hydraulic dredge within the surf zone could pose a potential safety hazard to nearby swimmers and waders due to the presence of the pipeline and the increased levels of



turbidity. As such, signs would be posted to indicate that no swimming is allowed within the sediment release zone. Recreational users would be directed around or outside of the sediment release zone for safety purposes. As shown in Figures 2-4 and 2-5 (Project Description) these areas of avoidance are small and would be easy to avoid by recreational users reducing the potential for impacts to recreational users to less than significant (Class III).

As shown in Table 3 (Total Coliform Bacteria) of the 2000 Supplemental EIR, and Table 5.1-2 (Atascadero Creek at Ward Drive Water Quality Sampling Results) fecal and total coliform bacteria are present in the waters and sediments of the Goleta Slough (SBCFCD, 2000, 2008). As such, discharge of sediments from these areas into the Goleta Beach surf zone have the potential to significantly affect recreational beach users (Class II). However, as discussed within Section 3.4, the District will require a Sampling and Analysis Plan (SAP) to establish pre-project sampling requirements and protocol for the discharge of sediment to the Goleta Beach area prior to the occurrence of any discharge. Within the SAP, parameters for discharge into the surf zone would include but would not necessarily be limited to the following: total petroleum hydrocarbons [TPH], pesticides, Polychlorinated Biphenyls [PCBs], metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (see Table 2-3 for a summary of historic sampling results). The Project SAP includes a provision for the preliminary soil sampling report to be forwarded to the U.S. Army Corps of Engineers, EPA, RWQCB and the Coastal Commission for review and approval of recommended sediment and disposal methods and locations. The regulatory agencies have the opportunity to provide requirements of the District as to how best to minimize the impact of dredging and the possible release/re-suspension of pollutants. As such, soils containing levels of contaminants above those deemed safe by the regulatory agencies would not be discharged. With the implementation of the SAP, potential hazards posed to recreational users due to discharge of sediments within the Goleta Beach surf zone would be reduced to less than significant (Class III).

Therefore, due to implementation of the Project SAP, Project design and proposed scheduling, impacts to recreational resources for beach replenishment activities would be less than significant. As stated above, potential impacts to the Goleta Beach parking lot were already addressed in the PEIR and are the same for the Project as presently proposed

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. MM PREC-1 as described above.

Mitigation Provided by the Goleta Slough SPEIR. The following measure has been implemented by the District since the preparation of the Goleta Slough EIR Supplement and is part of the ongoing flood control maintenance program in the Goleta Slough.

**MM SWR-1 - Post Advisories.** Post advisories at the beach immediately prior to, during and for two days after dredging discharges occur.

Timing. During beach discharges.



Monitoring. The District shall regularly check to ensure that the signs are visible to the public while discharges are occurring.

Residual Impacts. While periodic, localized, short-term exceedances of bacteria in offshore waters may result from the discharge of sediments, all practical measures have been implemented to avoid such occurrences and reduce adverse effects on public health; therefore impacts are considered to be reduced to less than significant.

Mitigation Incorporated into the Project Description. MM Project 2 Sampling and Analysis Plan and MM Project-3 as described above.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant with previous, project-incorporated measures in place. No additional mitigation measures are proposed.

**Impact REC-3: Transfer of desilted sediment by truck may interfere with recreational opportunities - Class III.**

Goleta Beach Replenishment. As discussed within Section 3.0 of the Project Description, dragline desilting may result in stockpiled materials that will be transported to Goleta Beach by trucks. Trucks carrying sediment from the draglining locations would be directed from tributary areas, through the Goleta Beach Park parking lot to Goleta Beach for replenishment purposes. At the beach site, heavy equipment, such as a bulldozer, would be utilized to push the sediment into the surf zone. Approximately 10 truck trips per hour are anticipated during Goleta Beach sediment delivery operations. As such, the additional traffic within the recreational area and parking lot would result in a significant impact during the high use period. However, this impact has been mitigated through the scheduling of operations to avoid the peak recreational season between March and September. Replenishment activities would only occur until May 15<sup>th</sup>. In addition, the sediment may be stockpiled within the designated stockpile areas along the creeks to avoid active recreational conflicts after Memorial Day and then trucked to Goleta Beach for replenishment at a later date. Due to these scheduling requirements, impacts caused to recreational resources by transportation of beach replenishment materials is reduced to less than significant.

Prior to sediment being distributed along Goleta Beach, sampling, monitoring and reporting of the sediment materials would be conducted in coordination with the Sampling and Analysis Plan (SAP). Should the reporting indicate that sediment is not suitable for beach replenishment purposes (i.e., runoff contamination of the sediment or fines in excess of regulation standards), then sediment would be redirected to an upland site for disposal or re-use. Should this become necessary, the closed Foothill Landfill is the preferred disposal/restoration location.

Closed Foothill Landfill Sediment Disposal/Restoration Site. The Foothill Landfill site is used for passive recreation including walking, biking and nature viewing. Portions of the site are currently leased to various non-profit organizations including the Hearts Adaptive Riding Program (currently scheduled for relocation in December of 2009) and Growing Solutions Restoration and Education Institute's Native Plant Nursery, an experimental jatropa (bio-diesel)



plot, and a grant funded re-vegetation project. Passive recreation at the site is generally gained on foot from these locations or by bicycle along Cathedral Oaks Boulevard. Bicycle and pedestrian traffic also occur adjacent to the Landfill along Cathedral Oaks Road, Calle Real and El Sueno Road.

Trucks transferring sediment to the closed Foothill Landfill Sediment Disposal/Restoration Site would be using (or crossing) roads which are currently used for recreational access and bike traffic to Goleta Beach including Sandspit Road, Ward Memorial Boulevard (SR-217), U.S. Highway 101, El Sueno Road, Cathedral Oaks, County Dump Road, Hollister Avenue, Fairview Avenue and James Fowler Road (refer to Section 5.9 - Traffic/Circulation, for detail). It is anticipated that transportation to the closed Foothill Landfill Sediment Disposal/Restoration Site, should it become necessary, would require the addition of as many as 15 trucks per hour along these transportation routes during the duration of Project transportation activities. However, it is anticipated that during these occurrences, sediment would be stockpiled within designated stockpile areas for dewatering prior to transportation. Following the dewatering process, these sediments would then be transported from the stockpile areas to the closed Foothill Landfill Sediment Disposal/Restoration Site (for further detail regarding truck transportation and timing, refer to Section 5.9 - Traffic/Circulation). Transport of the sediment would require that trucks use transportation routes currently designated for recreational bicycle traffic, or would require the crossing of bicycle or walking paths. These would include Cathedral Oaks Road, Calle Real, and County Dump Road. These crossings would be temporary in nature, lasting only several seconds each and would be similar in occurrence to those associated with regular traffic within the Project area. Trucks and equipment would be required to follow all traffic laws and regulations including yielding right-of-way to pedestrian and bicycle traffic. Due to the benign nature of these crossings, as well as the limited amount of time recreational paths would be blocked, impacts to recreation adjacent to the closed Foothill Landfill would be less than significant.

### **Mitigation Measures**

Mitigation Provided by the 1993 Program EIR. Impacts determined to be less than significant. No additional mitigation measures are proposed.

Mitigation Incorporated into the Project Description. MM Project 2 Sampling and Analysis Plan and MM Project-3 as described above.

Mitigation Recommended by this Subsequent EIR. Impacts determined to be less than significant. No additional mitigation measures are proposed.

### **5.10.3 References**

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## **5.11 IMPACTS DETERMINED TO BE LESS THAN SIGNIFICANT**

This Section addresses environmental issues that have been determined to be less than significant and do not warrant detailed discussion based upon the nature of the proposed Project and/or its location. This Section has been prepared in conformance with Title 14 of the California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act, Section 15128, Effects Not Found To Be Significant.

### **5.11.1 Agricultural Resources**

Based upon a review of the Goleta Valley Community Plan - Focus on Zone 2, Important Farmlands and Prime Soils Map, none of the proposed Project impact areas are located within or adjacent to: prime farmlands, farmlands of statewide importance, unique farmlands, farmlands of local importance or prime soils with the exception of about 470 linear feet of the proposed staging area north of Atascadero Creek at the eastern end. In this area, approximately 0.75 acre of farmland of statewide importance would be used for staging of equipment and material. This use would not result in a permanent conversion of agricultural land since no structures are proposed. Further, although the zoning of this area is Agriculture, it has been historically used for flood control staging purposes and does not support agriculture at this time. Therefore, this impact is considered to be less than significant (Class III).

Agricultural uses (row crop production) are located north of the 470 linear feet of staging area referenced above. However, there is a designated Class 1 bicycle trail and vegetative strip north of the staging area and south of the agricultural use. Because of the nature of the proposed activities and the existing environmental setting as described above, potential Project impacts on agricultural uses to the north (e.g., dust generation, vandalism) are not expected to be significant (Class III).

### **5.11.2 Mineral Resources**

The Project would not result in the loss of a known mineral resource area. The Project provides a source of mineral resources for beach replenishment. This is a beneficial impact of the Project. (Class IV).

### **5.11.3 Population and Housing**

The Project is the proposed continuance of a seasonal flood control maintenance program that occurs on an annual basis. Dredging operations require four or less contract operation personnel and occasional site visits from one District staff member. Additionally, truck operators are required for the movement of sediments to the upland disposal site when necessary. Small numbers of additional contract personnel may be required for biological work and sediment analysis. It is anticipated that all personnel needs would be filled by existing contractors and District employees; and that the Project would not induce substantial population growth to the area. The population impacts of the Project would be less than significant (Class III).



The Project area does not include any residential uses. The Project would therefore, not result in the loss of housing, or displace persons from their homes on either a temporary or permanent basis. The housing-related impacts of the Project would be less than significant (Class III).

#### **5.11.4 Public Services**

Public services include: fire protection, police protection, schools, parks and other public facilities. As indicated in Section 5.11.3, no new significant population would be induced to the area as a result of the Project. Therefore, no new demand for schools, parks or other completely population dependant public service is expected to result from the Project. In the event of a Project-related fire, vandalism or accident, a call for service to the Santa Barbara County Fire Department, Santa Barbara County Sheriff's Department, California Highway Patrol or other public service provider may be necessary. However, the number of such incidents, if any, is expected to be low on an annual basis. Therefore, impacts to public services would be less than significant (Class III).

#### **5.11.5 Utilities and Service Systems**

Utilities and service systems include: wastewater collection, treatment and disposal; potable water supply, treatment and distribution; stormwater drainage facilities, and solid waste collection and disposal facilities. Due to the nature of the Project no new wastewater or potable water demand would be created. Personnel would use existing stationary sanitary facilities or portable ones brought to the site on a temporary basis. The Project, as a flood control maintenance activity, helps to reduce the need for expansion of permanent channel capacity or other alternative mechanism for accommodating drainage flows through the Goleta Slough. Any solid waste generated by the Project would be minor such as the generation of waste packaging materials from equipment and supplies, used oil and other incidental wastes. The amounts of waste to be generated are not anticipated to result in a substantial impact to remaining available landfill capacity. The Utility and Service System impacts of the Project would be less than significant (Class III).

#### **5.11.6 References**

County of Santa Barbara Planning and Development (December 19, 2006). General Zoning (Map of Goleta Area)

County of Santa Barbara Web site (May 2009) Map of Goleta Valley Community Plan - Focus Zone 2 Important Farmland and Prime Soil Map - [http://longrange.sbcountyplanning.org/planareas/goleta/documents/GCP/GVMAPS/Geography/GVCP\\_Zone2\\_ImpFarmPrimeSoil.pdf](http://longrange.sbcountyplanning.org/planareas/goleta/documents/GCP/GVMAPS/Geography/GVCP_Zone2_ImpFarmPrimeSoil.pdf)

County of Santa Barbara Web site (May 2009) Map of Goleta Valley Community Plan - Focus Zone 2 Public Facilities Map - [http://longrange.sbcountyplanning.org/planareas/goleta/documents/GCP/GVMAPS/Public%20Services/GVCP\\_Zone2\\_PublicFacilities.pdf](http://longrange.sbcountyplanning.org/planareas/goleta/documents/GCP/GVMAPS/Public%20Services/GVCP_Zone2_PublicFacilities.pdf)



## **6.0 ALTERNATIVES ANALYSIS**

This section of the EIR provides a comparative analysis of the merits of alternatives to the proposed project pursuant to Section 15126.6 of the State CEQA Guidelines. According to the Guidelines, the discussion of alternatives should focus on alternatives to a project or its location that would feasibly meet the basic objectives of the project while avoiding or substantially lessening the significant effects of the project. The CEQA Guidelines indicate that the range of alternatives included in this discussion should be sufficient to allow decision-makers a reasoned choice between alternatives and a proposed project. The alternatives discussion should provide decision-makers with an understanding of the environmental merits and disadvantages of various project alternatives.

The range of alternatives in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to make a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines Section 15126.6 [f]). Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. When addressing feasibility, the CEQA Guidelines state that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, General Plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).” The CEQA Guidelines also state that the alternative discussion need not be presented in the same level of detail as the assessment of the proposed project.

Therefore, based on the CEQA Guidelines, several factors need to be considered in determining the range of alternatives to be analyzed in an EIR and the level of detail of analysis that should be provided. These factors include: (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or substantially lessen impacts associated with the project; (3) the ability of the alternatives to meet most of the basic objectives of the project; and (4) the feasibility of the alternatives.

A summary of the Alternatives included within the original PEIR and those proposed as part of the environmental review for the continued maintenance plan SEIR are discussed below.

### **6.1 SUMMARY OF CLASS I SIGNIFICANT AND UNAVOIDABLE IMPACTS**

As indicated above, a discussion of alternatives should focus on alternatives to a project or its location that would feasibly meet the basic objectives of the project while avoiding or substantially lessening the significant effects of the project. Section 5.0 (Environmental Impacts Analysis) provided a discussion of impacts for each affected resource Section. As shown in



Table 6.1-1, the following impacts were determined to have potentially significant and unavoidable (Class I) impacts resulting from the Proposed Project activities included within the scope of this SEIR. It should be noted that discussion regarding alternatives considered in the original PEIR and SPEIR are included within those attached documents for reference.

Table 6.1-1 indicates what Project alternative has been evaluated in order to avoid or substantially lessen the effects of the Project class I impact. Information regarding those alternatives not carried forward because they would not feasibly meet the basic objectives of the Project are included within Table 6.1-1 and further discussed below.

**Table 6.1-1. Summary of Class I Impacts and Project Alternatives  
Intended to Reduce Potential Impacts**

Impact No.	Description	No Project (Not Carried Forward)	Deeper Ocean Discharge (Not Carried Forward)	Alt. Discharge Locations at Goleta Beach	Upland Disposal at Tajiguas Landfill
AQ-1A	Desilting Activities in the Goleta Slough may result in short-term Project-related air emissions during a typical scenario	X			
AQ-1B	Desilting Activities in the Goleta Slough may result in short-term Project-related air emissions during a worst-case scenario	X			
BIO-2	Desilting may adversely affect survival and foraging of tidewater goby	X			
BIO-4	Disposal of sediment at the closed Foothill Landfill Sediment Disposal/Restoration Site would result in the loss of about one hundred coast live oak trees			X	X
BIO-12	Spills of fuel or hydraulic fluid would adversely affect aquatic wildlife, vegetation and birds	X			
AEST-2	Hydraulic desilting activities could adversely affect visual/aesthetic resources.	X			
AEST-3	Dragline desilting activities could adversely affect visual/aesthetic resources.	X			
AEST-4	Transportation of sediment by truck to Goleta Beach could cause adverse impacts to visual/aesthetic resources.		X		X
AEST-5	Transportation of sediment by truck to the closed Foothill Landfill could adversely impact visual/aesthetic resources.				X





## 6.2 SUMMARY OF ALTERNATIVES

### 6.2.1 Alternatives Considered in PEIR

#### 6.2.1.1 Alternatives Considered but Not Carried Forward within PEIR Analysis

The original PEIR included a number of alternatives that were considered but eliminated from consideration because they would create environmental impacts greater than the proposed project or were otherwise infeasible. Specifically, maintenance of other creeks (then referred to as basins) within the Goleta Slough watershed was eliminated due to the fact that the five creeks proposed for maintenance were considered most suitable based on their proximity to the saltwater/freshwater interface. Secondly, constructing levees along the banks of the creeks instead of dredging or dragline desilting was rejected based on the FEMA Floodplain Management ordinance limitations as well as technical/economic factors that made this option infeasible. Lastly, at the time of analysis (1993) it was determined that trucking spoils to the beach from Tecolotito Creek was infeasible due to incompatibility of fines within the sediments. However, further sediment characterization since that time has proven that the spoils are predominantly compatible, and as such this alternative is now being considered and analyzed above as part of the proposed Project.

#### 6.2.1.2 Alternatives Carried Forward within PEIR Analysis

The original PEIR considered the following alternatives:

- **Traditional Maintenance:** Continuation of dragline desilting in all five creeks on an as-needed basis; with spoils deposited on creekbanks for removal by the public. The District would continue to open the mouth of the slough 1 to 3 times a year with a dozer or excavator to facilitate tidal influence. **Findings: Mobilization and Demobilization would be as described for the proposed project; however actual maintenance would take approximately twice as long because only 100 cubic yards of sediments per hour would be removed.**
- **Beach Deposition:** Rather than being deposited in the surf zone, spoils from desilting of Atascadero, San Pedro, and San Jose creeks would be discharged directly on the beach just east of the mouth of the slough. **Findings: A second booster pump would be needed because approximately 1,000 feet of additional pipeline would be required. The booster pump would be located in the immediate vicinity of Goleta Beach County Park.**
- **Reduced Basin Size:** Reduced basin (desilting area) dimensions; factoring in a design to contain the average annual sediment load deposited over a 20 year period. Maintenance would be required yearly during typical weather conditions. **Findings: Comparable to the proposed Project; however dredging would occur over a shorter period of time.**



- **Increased Basin Size:** Increased basin (desilting area) dimensions for Atascadero, San Pedro, and San Jose creeks; based on historic records to contain approximately the heaviest sediment load expected during a year of unusually severe storms. ***Findings: Maintenance activities would be required less frequently than for the proposed action, but a larger area would be impacted and dredging would take longer than for the proposed project.***
- **Placing Discharge Pipelines on the Ground:** Placement of discharge pipelines on ground adjacent to channels rather than in the water. ***Findings: Comparable to the proposed project; however half of the truck trips would be required due to elimination of floats.***
- **No-Project Alternative Findings:** Does not meet Project objectives to reduce flooding or maintain Goleta Slough.

#### 6.2.1.2 Original PEIR Alternatives as They Relate to Proposed Project

Based on the original findings, the maintenance activities proposed within the original PEIR were concluded to be the environmentally superior alternative. As such, the currently proposed Project would incorporate and improve upon the originally proposed maintenance plan. In addition, alternatives to the proposed Project are outlined and discussed below (Sections 6.1.2 and 6.1.3)

### 6.2.2 Alternatives Considered but Not Carried Forward for Proposed Project/SEIR

#### 6.2.2.1 No Project Alternative

The Project is intended to maintain the biological productivity of the Goleta Slough while protecting adjacent private property interests from flooding. These activities are currently approved in the PEIR for Goleta Slough Maintenance activities that was written in 1993. A “no project” alternative would not accomplish these objectives and is not carried forward into further analysis.

The No Project alternative would avoid all of the adverse impacts associated with the proposed Project. However, it would not provide the beneficial effects/objectives of the Project including:

- Flood protection of land uses surrounding the Goleta Slough
- Maintaining the biological productivity of the Goleta Slough Marsh
- Keeping the Goleta Slough Mouth Open permitting a healthy exchange of water in the Goleta Slough
- Providing beach sand replenishment

Additional benefits of the Project as well as the adverse effects are summarized in the Executive Summary Table ES-1.



#### 6.2.2.2 Deeper Ocean Discharge Scenarios

In the event that the grain size evaluation determines the level of fines within sediments removed during basin maintenance to be in exceedance of 25 percent (up to 50 percent), an alternative would be to construct the outfall discharge pipe further offshore (beyond 25-foot water depth) and outside of the active surf/disposition zone. Further offshore, the sediment composition has been shown to include more fine materials; therefore desilted materials containing too many fines for beach replenishment would be made available to an area that has a similar composition, and can then be mixed/transported by littoral currents down shore for beach replenishment to areas east of Goleta Beach. Deeper ocean discharge scenarios considered as alternative to the proposed Project include: 1) wastewater treatment outfall tie-in, 2) Goleta Pier pipeline alignment, and 3) HDD to a deeper outfall location as further described below.

- **Wastewater Treatment Outfall Tie-In.** A deeper ocean discharge alternative would consider tie-in of the desilted material to the existing wastewater treatment outfall line located parallel to Goleta Pier. Coordination of a blended outfall would require engineering consideration of currently existing pipeline capacity during a maximum outflow event. Additionally, the wastewater treatment outfall NPDES discharge permit issued by the RWQCB would have to be altered and re-issued to address the additional outfall source. At this point in time it is not clear that such capacity exists in the outfall, therefore the feasibility of this alternative cannot be determined.
- **Goleta Pier Pipeline Alignment.** In order to minimize potential impacts to the seafloor, a discharge pipeline could be hung from the existing Goleta Pier pilings to its terminus offshore. By utilizing the existing right-of-way, the pipeline would not have to lay on the seafloor and the pier would provide structural support for the outfall from swell and surf conditions. However, similar to the wastewater treatment alternative, use of the Goleta Pier as an outfall support structure would require engineering consideration and coordination with the County of Santa Barbara Parks Department to determine feasibility.
- **HDD.** In the event that a deeper ocean discharge is considered the preferred alternative for discharge of desilted materials from the Goleta Slough; and other deeper ocean discharge alternatives are not considered feasible, the outfall could be constructed through Horizontal Directional Drilling (HDD) methodology. By utilizing HDD, outfall installation would avoid beach/recreational and potential seafloor impacts. However, use of HDD is not as cost-effective as the other alternatives considered and would require additional monitoring/contingency measures intended to protect the environment from the potential discharge of drilling fluid during installation.

In order to reduce the potential for fines in exceedance of the current 25 percent beach compatibility standard; the proposed Project has incorporated a Sampling and Analysis Plan that dictates project design depth to minimize fines each maintenance season. As previously discussed, since 1993, approximately 80 percent of dredged



materials from the Goleta Slough has been taken/discharged to Goleta Beach for beach replenishment (Tables 2-4, 2-5, and Figure 2-1), although 85%+ of material removed has been tested as suitable, but have sometimes been utilized for upland re-use.

**Findings.** The additional analysis, coordination, and permitting required for all of the deeper ocean discharge scenarios would be costly, inefficient, and may delay maintenance activities; thus causing additional environmental impacts as a result of flooding and potential interference with Santa Barbara Airport operations. The alternatives presented would reduce, but not eliminate the potential impacts associated with sediment incompatibility in the event that sediments are in exceedance of established standards and are not taken by subcontractor for upland re-use or utilized for restoration activities at the closed Foothill Landfill site. Additionally, these alternatives would reduce the Project benefit of beach replenishment and associated habitat/recreational opportunities due to the fact that sediments would be deposited offshore and may be transported further offshore or downcurrent prior to beach replenishment. Therefore, the deeper ocean discharge scenarios have not been carried through for further analysis.

### **6.2.3 Alternatives Carried Forward for Proposed Project/SEIR**

#### **6.2.3.1 Alternative Discharge Points at Goleta Beach**

**Eastern Discharge (Hydraulic Desilting Only).** In the event that sediment testing levels are found to be in exceedance of established guidelines; the outfall discharge pipe during hydraulic desilting would be relocated to the eastern portion of Goleta Beach. By relocating the pipeline further east; the discharge point would avoid heavily utilized recreational areas.

**Western Discharge (Dragline Desilting Only).** In order to replenish sand further west sediment removed during dragline desilting events may be trucked to a bluff location near the existing lift station and placed in the surf zone order to allow for greater availability of sand to the entire Goleta Beach sand cell.

#### **6.2.3.2 Alternative Re-Use/Disposal Opportunities**

**Upland Sediment Re-use/Disposal at the Tajiguas Landfill.** Currently, the District has a cooperative agreement established with the County Resource Recovery and Waste Management Division to provide fill cover material to the closed Foothill Landfill. This alternative would only be utilized when sand fine percentages exceed 50 percent and are not stockpiled for blending and future beach replenishment activities or taken by contractors for use as fill material. In the event that Foothill Landfill does not need the material, a second alternative would be to offer the material for re-use as cover at Tajiguas Landfill.



## **6.3 ALTERNATIVES ANALYSIS**

### **6.3.1 Eastern Discharge**

Relocating the outfall discharge pipe to the eastern portion of Goleta Beach is only feasible during hydraulic desilting activities due to its need to place the discharge pipe across the Goleta Slough mouth which would prevent trucks or heavy equipment from accessing this side of the beach for placement of sediments during dragline desilting methodology. Potential impacts as compared to the proposed Project are similar; however this alternative was considered primarily because the bifurcation of Goleta Beach due to the Goleta Slough outfall and high-tide events naturally results in reduced public access to this area and therefore a reduced effect to recreational resources during discharge activities. However, as outlined within Section 3.3 (Project Timing) of the Project description; during hydraulic desilting activities, beach replenishment will occur from September 15<sup>th</sup> through March 31<sup>st</sup> primarily avoiding the peak recreational seasonal use for this area. Additionally, construction of a longer outfall pipeline to reach this area would increase construction time and would not achieve as much of a beneficial Project objective for replenishment of sands at Goleta Beach as sediments would quickly redistribute downshore. As such, the eastern discharge alternative for hydraulic desilting activities is not considered to substantially lessen potential impacts as compared to the proposed Project.

### **6.3.2 Western Discharge**

As an alternative to trucking compatible sediment to the current area within the surf zone at Goleta Beach, sand may be trucked further west to a bluff location near the existing lift station and placed in the surf zone to allow for greater availability of sand to the entire Goleta Beach sand cell. This alternative would have almost identical impacts to the proposed Project; however longer truck trips to this heavier utilized area would potentially increase transportation/circulation as well as recreational impacts. As such, the western discharge alternative for dragline desilting activities is not considered to substantially lessen potential impacts as compared to the proposed Project.

### **6.3.3 Upland Sediment Re-use/Disposal at the Tajiguas Landfill**

If sediment removed exceeds sand fine percentages, is not stockpiled for blending, and is not utilized for restoration at the closed Foothill Landfill; an alternative disposal option would be to take the spoils to Tajiguas Landfill in Santa Barbara for use as cover material. Tajiguas Landfill is located at 14470 Calle Real in Goleta, California; an average distance of approximately 20 miles west of the proposed Project areas. At this time, Tajiguas Landfill has permitted capacity available to accept anticipated sediment volumes; however trucking of sediment to Tajiguas Landfill would result in associated increased air quality, noise, risk of upset, and traffic/circulation impacts as compared to the proposed Project option of trucking sediment to approximately 5 miles from the Project areas to the closed Foothill Landfill for restoration.





## 6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As indicated above and summarized in Table 6.4-1, alternatives considered for placement and/or disposal or reuse of desilted sediment would not substantially lessen or fulfill the objectives of the proposed Project. As such, the proposed Project would remain the environmentally superior alternative.

**Table 6.4-1. Summary of Alternative Impact Comparison**

Resource Area	Eastern Discharge at Goleta Beach	Western Discharge at Goleta Beach	Upland Sediment Re- Use / Disposal at Tajiguas Landfill
Water Resources	=	=	=
Air Quality	=	=	+
Geology	+	-	=
Biological Resources	=	=	=
Risk of Upset/Hazardous Materials	=	=	+
Noise	=	=	+
Cultural Resources	=	=	=
Aesthetics	=	=	=
Traffic/Circulation	=	+	+
Recreation	-	+	=
Impacts Determined to Be Less Than Significant	=	=	=
<b># OF INCREASED IMPACTS</b>	<b>1</b>	<b>2</b>	<b>4</b>

- + Increased Impacts As Compared to Proposed Project
- Decreased Impacts As Compared to Proposed Project
- = Impacts are Similar to Those of Proposed Project



## **7.0 CUMULATIVE IMPACTS**

### **7.1 METHODOLOGY**

This section addresses the methodology utilized and resulting analysis concerning potential cumulative impacts for all resource areas assessed within the environmental impact analysis presented in Section 5.0 (Environmental Analysis). Pursuant to CEQA Guidelines Section 15065, a lead agency must consider whether a project has “possible environmental effects that are individually limited but cumulatively considerable.” A project’s incremental effects may be considered “cumulatively considerable” and significant “when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” (CEQA Guidelines Section 15065.) CEQA does not require discussion of impacts that do not result in part from the proposed Project. (CEQA Guidelines Section 15130(a)(1).) Discussion of cumulative impacts must reflect the severity of the impacts and their likelihood of occurrence, but need not provide as great detail as the analysis of the project’s individual impacts. (CEQA Guidelines Section 15130(b)).

Pursuant to CEQA Guidelines Section 15130(b)(1)(A), this section discusses the project’s potential cumulative impacts based on “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.” An initial list of projects was compiled based on information provided by the local regulatory agencies (Section 7.2). Project listings from the County of Santa Barbara the City of Goleta, and the City of Santa Barbara were obtained. Pursuant to CEQA Guidelines Section 15130(b)(2), projects were then evaluated according to the nature of environmental resources potentially affected, and the type and location of each project.

Projects with a potential to impact the same resources as those potentially impacted by the proposed Project were evaluated. Specifically, based on the location of the Goleta Slough and its associated creeks, cumulative projects with the potential to impact water resources, air quality, biological resources, cultural resources, aesthetics, traffic/circulation and recreation are the focus of this discussion.

It is important to note that cumulative impact analysis for the Goleta Slough Project is somewhat subjective due to Project timing and scheduling requirements. It is not known exactly how often desilting activities will be required as the removal rate is dynamic and changes seasonally based on several factors including the balance of flood protection, habitat protection and desilting economy. It is anticipated that sediment removal will require approximately 3 to 5 years to complete. Because of the unknowable nature of desilting conditions, as well as the long-term nature of ongoing Project activities, anticipating which projects within the County, City or other jurisdictional area will contribute to cumulative impacts is not definitive. However, for the purposes of this analysis, projects that are currently known to the County of Santa Barbara, City of Goleta and City of Santa Barbara to be occurring within the next few years have been considered and are listed below.



## 7.2 PROJECTS CONSIDERED FOR ANALYSIS

The planning agencies with jurisdiction within the Project area were consulted to obtain a list of reasonably foreseeable future projects for consideration in the cumulative impact assessment (see lists below). In addition to these projects, for some issue areas, projects that may not require discretionary action and therefore may not be included in the lists below but are known to likely occur (e.g., small projects within the same watershed as the proposed Project) have been considered.

### 7.2.1 County of Santa Barbara

Communication was made with various Departments of the County of Santa Barbara including Public Works (Cathleen Garnand), and Planning and Development (Eric Graham). Based on these communications, as well as the Santa Barbara County Zoning Administration Staff Report website for pending projects, a list of reference projects was comprised to be considered for cumulative analysis (Table 7.2-1).

**Table 7.2-1. County of Santa Barbara Cumulative Projects Listing**

Project	Location	Description	Status
SoCalGas La Goleta Storage Field	1171 More Ranch Road	Two exploratory wells and two injection / withdrawal wells at existing SoCalGas storage field	In review
Goleta Slough Restoration Plan Permit Compliance	Goleta Slough	Restoration Activities within the Goleta Slough, Los Carneros Road at Mesa Road	Monitoring
Coastal Enhancement Management Project	Multiple coastal areas including Goleta Beach	Restoration Activities at Goleta Beach	Review to begin 2009
Goleta Sanitary District Plant Upgrade	1 Moffatt Place	Water Treatment Plant Upgrades	In review
Goleta Slough Restoration	Goleta Slough	Restoration Activities within the Western Portion of Goleta Slough. The 20.3-acre project site is part of the 34.4-acre Goleta Slough Ecological Reserve, owned by the California Department of Fish and Game. The project is part of a much larger, Slough-wide restoration effort being spearheaded by the Goleta Slough Management Committee.	In review

County of Santa Barbara, May 2009

### 7.2.2 City of Goleta - Planning and Environmental Services

Communication was made with the City of Goleta (Margaret Duncan) requesting listings of projects to be considered for cumulative analysis. The following table (Table 7.2-2) provides a summary of pertinent projects within the Goleta Area (May, 2009).



**Table 7.2-2. City of Goleta Cumulative Projects Listing**

<b>Project</b>	<b>Location</b>	<b>Description</b>	<b>Status</b>
Fairview Commercial Center	151 S. Fairview Avenue	16,885 sf mixed use building retail/office space	Pending
Taylor Parcel Map	590 N. Kellogg Way	3 new parcels	Pending
Citrus Village	7388 Calle Real	12 residential units	Pending
Bacara Completion Phase	8301 Hollister Avenue	185,573 sf (56 units)	Pending
Sturgeon Building	SEC Los Carneros Road and Calle Real Road	8,700 sf retail/medical office	Pending
Haskell's Landing	Hollister Avenue w/o Las Armas Road	101 residential units	Pending
Medical Office Building Reconstruction	5333 Hollister Avenue	40,000 sf existing 52,000 sf proposed 12000 sf total new	Pending
Jordano's Master Plan	5305 and 5324 Ekwil 550 S. Patterson Avenue	49,480 sf new warehouse 5,320 sf new office	Pending
Willow Springs II	Camino Vista e/o Los Carneros Road	100 residential units	Pending
Village at Los Carneros II	Adjacent to 71 S. Los Carneros Road	279 residential units	Pending
Westar	Hollister Avenue n/w of Glen Annie Road	297 residential units 85,000 sf retail	Pending
Cabrillo Business Park	6767 Hollister Avenue	Business Park w/ new structures 707,100 sf	Pending
Village at Los Carneros	S. Los Carneros Road Cortona/Castillian Drives	275 Residential Units	Pending
Rincon Palms Hotel	6868 Hollister Avenue	59,600 sf hotel 6,000 sf restaurant	Pending
Marriot Residence Inn	6300 Hollister Avenue	99,824 sf hotel	Pending
Goleta Valley Cottage Hospital	334 and 351 S. Patterson Avenue	93,090 sf existing 152,925 sf proposed 59,835 sf new	Pending

City of Goleta, May 2009

### 7.2.3 City of Santa Barbara

The City of Santa Barbara posts residential and non-residential development projects proposed within the City online monthly at [www.santabarbaraca.gov](http://www.santabarbaraca.gov). The following table (Table 7.2-3) provides a summary of pertinent projects within the City (January, 2008).



**Table 7.2-3. City of Santa Barbara Cumulative Projects Listing**

Project	Location	Description	Status
Wetland Mitigation Relocation of Runway 7/25	Goleta Slough	40 ac of wetland mitigation. Complete except for tidal experiment. Final 6.5 acres of wetland will be construction in basins E/F.	Pending CDP, construction anticipated to start summer/fall 2010.
Airline Terminal Facility	500 Fowler Road	New Airline Terminal Facility 67,000 sf	Completion 2011

City of Santa Barbara, January 2008.

#### **7.2.4 Other Regionally Significant Projects**

The only other regionally significant projects considered for cumulative analysis are the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) Coastal Enhancement Projects. BEACON is a California Joint Powers agency established in 1992 to address coastal erosion, beach nourishment and clean oceans within the Central California Coast. The member agencies of BEACON include the Counties of Santa Barbara and Ventura as well as the coastal cities of Santa Barbara, Goleta, Carpinteria, Ventura, Oxnard and Port Hueneme. Coastal enhancement projects would entail the stabilization of beach sands within the Project area by sediments collected from onshore or offshore sources along the Goleta Coast. The proposed construction scenarios for these activities are limited to a window between September 15<sup>th</sup> and March 15<sup>th</sup> of any given nourishment year. According to the BEACON project website for Goleta Beach Nourishment Activities (<http://www.beacon.ca.gov/projects/004-Nourishment.htm>), as of July 2009 no known beach nourishment activities have been scheduled.

### **7.3 CUMULATIVE IMPACT STUDY AREA AND ENVIRONMENT**

#### **7.3.1 Boundary of Cumulative Projects Study Area**

Table 7.3-1 provides brief descriptions of the study area for those resource areas having the greatest potential for cumulative impacts. Specifically, due to the nature and timing of the proposed Project activities, projects with the potential to impact water resources, air quality, biological resources, cultural resources, noise, aesthetics, traffic/circulation and recreation are the focus of this discussion. Based on the geographic boundary of consideration presented in Table 7.3-1, Table 7.3-2 indicates which projects would have the potential for impacts to resources that may also be affected by the proposed Project.





**Table 7.3-1. Cumulative Projects Study Area Boundaries**

<b>Resource Area</b>	<b>Geographic Boundary of Consideration</b>
<b>Water Resources</b>	Watersheds of the Goleta Slough leading to the Pacific Ocean.
<b>Air Quality</b>	South Central Coast Air Basin, which is under the jurisdiction of the Santa Barbara Air Pollution Control District (SBAPCD).
<b>Biological Resources</b>	Onshore Biological Resources would include Goleta Slough Watershed. Offshore Biological Resources would include offshore of Goleta Beach.
<b>Cultural Resources</b>	Goleta area of Santa Barbara County. Cultural Resources would only be subject to cumulative impacts if existing or previously unknown sites were disturbed by current or future project activities. No cumulative impacts are anticipated.
<b>Noise</b>	Within 1,600 feet of Project activities.
<b>Aesthetics</b>	Slough and the closed Foothill Landfill viewsheds from residential/public areas.
<b>Traffic/Circulation</b>	Traffic and circulation within major arterial roadways within the City of Goleta including U.S. Highway 101 and State Route (SR) 217, Hollister Avenue, Fairview Avenue, James Fowler Road, Moffett Place, Ward Drive, Kellogg Way, Sandspit Road, Calle Real Road, and County Dump Road.
<b>Recreation</b>	City of Goleta and 1 mile radius of the closed Foothill Landfill site.



**Table 7.3-2. Resource Identification Matrix**

Proposed Project	Has the Potential for Impacts to the Following Resource Areas							
	Water Resources	Air Quality	Biological Resources	Noise	Cultural Resources*	Aesthetic Resources	Traffic/Circulation	Recreation
<b>County of Santa Barbara</b>								
SoCalGas La Goleta Storage Field	X	X	X			X	X	
Goleta Slough Restoration Plan Permit Compliance	X	X	X				X	X
Coastal Enhancement Projects	X	X	X	X		X	X	X
Goleta Sanitary District Plant Upgrade	X	X	X			X	X	
Goleta Slough Restoration	X	X	X			X	X	X
<b>City of Santa Barbara</b>								
Wetland Mitigation for Relocation of Runway 7/25	X	X	X			X	X	
Airline Terminal Facility	X	X	X			X	X	
<b>City of Goleta</b>								
Fairview Commercial Center		X					X	
Taylor Parcel Map		X					X	
Citrus Village		X					X	
Bacara Completion Phase		X					X	
Sturgeon Building		X					X	
Haskell's Landing		X					X	
Medical Office Building Reconstruction		X					X	
Jordano's Master Plan		X					X	
Willow Springs II		X					X	
Village at Los Carneros II		X					X	
Westar		X					X	
Cabrillo Business Park		X					X	
Village at Los Carneros		X					X	
Rincon Palms Hotel		X					X	
Marriot Residence Inn		X					X	
Goleta Valley Cottage Hospital		X					X	

Cumulative impacts to cultural resources would occur if disturbance of existing or previously unknown sites were to occur. Since no known cultural sites are currently at risk for impacts, only those that have not yet been identified could be affected. As such, none of the projects listed will likely contribute to cumulative impacts.



## 7.4 CUMULATIVE IMPACT DISCUSSION

As discussed within the original 1993 PEIR, impacts caused by Project activities could contribute cumulatively should they occur simultaneously with other projects in the following resource areas: water resources, air quality, biological resources, noise, cultural resources (only if project activities were to unearth previously unknown cultural sites), aesthetics, transportation/circulation, and recreational resources. For the majority of these, (water resources, noise, cultural resources, aesthetics, transportation and recreational resources), Projects would only contribute cumulatively if they were to occur simultaneously with the proposed Project and within the immediate Project activity area. Air quality impacts would contribute cumulatively to any increases above ambient within the air basin. Cumulative biological impacts would only occur if vegetative communities would require removal or degradation due to Project activities. Since the areas of vegetation previously considered within the original 1993 PEIR have since been disturbed, cumulative impacts to biological habitats within the Project area have been reduced.

As currently proposed, the Project has the potential to contribute to cumulative impacts as a result of activities occurring from the following activities: stream channel maintenance, sediment disposal within Goleta Beach for beach nourishment purposes, and the transportation of sediment to the closed Foothill Landfill. Therefore, potential cumulative impacts discussed within this Subsequent EIR have been considered based on these activities and resource areas.

### 7.4.1 Water Resources

Of the projects considered above, only those directly associated with the Goleta Slough have the potential to contribute to cumulative impacts to water resources within the Project area. These include the wetland mitigation associated with the relocation of Runway 7/25, restoration within the Goleta Slough, monitoring associated with permit compliance, coastal enhancement projects associated with BEACON, and the Goleta Sanitary District plant upgrades. All but one of these projects (Goleta Sanitary District plant upgrades) is designed for the specific purpose of improving the Goleta Slough ecosystem and encouraging and/or ensuring the stability of the natural processes within the Goleta Slough. As with the proposed Project, all of these projects (including the Goleta Sanitary District plant upgrades) will be required to adhere to strict water quality standards as proposed by State and local agencies within their respective project permits.

#### 7.4.1.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels

As discussed within the 1993 original PEIR, Project activities have the potential to impact water resources through flooding, sedimentation, short-term construction-related impacts and long-term impacts. As such, the following discussion includes detail regarding each of these potential cumulative impact areas.

**Impact CUM-1. The Project has a beneficial impact on flood control (Class IV).** The Santa Barbara County Flood Control District has designed the proposed Project to reduce the potential



for flooding based on data modeled for the 1993 PEIR using the Corps HEC-2 hydraulic model. Because the Project has a project-specific beneficial impact on flood control, it would not contribute to any adverse flooding impacts. In addition to the proposed Project, the wetland mitigation associated with the relocation of Runway 7/25 at the City of Santa Barbara Municipal Airport would have a beneficial impact on flood control. The wetland mitigation associated with the relocation of runway 7/25 calls for creation of transitional zones, removal of old berms and roads, removal of non-native plants and revegetation, widening of channels and decreasing the slope of channel banks. These activities would provide a beneficial impact to flooding within the Project area.

### **Mitigation Measures**

None required.

**Impact CUM-2. Cumulative projects could result in short-term impacts to surface water quality in stream channels (Class II).** Projects which may contribute cumulatively to impacts to surface water quality within the proposed Project area would include restoration within the Goleta Slough, monitoring associated with permit compliance, the Goleta Sanitary District wastewater treatment plant upgrades, the wetland mitigation associated with the relocation of runway 7/25 and the construction of the new airline terminal facility and any other projects in the watershed. Surface water impacts caused by these Projects could cause cumulatively considerable impacts to surface water quality primarily through erosion and runoff during construction activities, as well as potential leaks and spills of fuel, oil and other constituents associated with equipment use and maintenance. The Project's contribution to this surface water quality impact is therefore cumulatively considerable; however potential impacts have been mitigated as described below.

### **Mitigation Measures**

#### Mitigation Provided by the 1993 Program EIR.

PBIO-12: Spill Prevention Plan

#### Mitigation Recommended by the Subsequent EIR.

MM Project-1 Sampling Analysis Plan (SAP) and MM WR-1 Defined Best Management Practices as described within the MM WR-1 (Section 5.1 - Water Resources) would reduce the Projects cumulative contribution to surface water quality impacts to a less than significant level. However, the following additional measure would further reduce cumulative impacts.

***MM CUM-2 District will notify applicable permitting agencies of Project activities and scheduling to reduce cumulatively considerable impacts.*** Prior to Project desilting, beach replenishment or sediment removal activities, the District will notify applicable permitting agencies associated with cumulatively considerable projects to



ensure that cumulatively considerable impacts to resource areas would be reduced through Project timing.

Plan Requirements and Timing. Project notification will occur as necessary throughout the life of Project desilting and beach replenishment activities.

Monitoring. District inspectors shall ensure that notification of Project activities are communicated through the recordation of verbal and written communication records.

Residual Impacts. Based on the mitigation measure presented above, notification of District activities would ensure that potential impacts to water resources caused by multiple beach enhancement Projects would reduce cumulatively considerable impacts.

**Impact CUM-3. Cumulative project activities would result in long-term impacts to water quality in stream channels (Class IV).** Projects which may contribute cumulatively to impacts to the long-term water quality within the proposed Project area would include restoration within the Goleta Slough, monitoring associated with permit compliance, the Goleta Sanitary District wastewater treatment plant upgrades, the wetland mitigation associated with the relocation of runway 7/25 and the construction of the new airline terminal facility. However, as with the proposed Project, the majority of these projects are designed to improve water quality within the region in the long-term. This would include all of the aforementioned projects except the construction of the new airline terminal facility. The Project was also determined to result in beneficial long-term water quality impacts on a project-specific basis. As such, cumulative impacts would not be considerable and would primarily be beneficial to water resources.

#### **Mitigation Measures**

None required.

#### **7.4.1.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes**

Project activities within Goleta Beach including the disposal of sediments for beach replenishment purposes and have the potential to impact water resources as discussed below.

**Impact CUM-4. Cumulative projects could result in turbidity of waters offshore of Goleta Beach (Class III).** Sedimentation within the Goleta Beach area would be influenced by the coastal enhancement projects. As discussed above, coastal enhancement projects would entail the stabilization of beach sands within the Project area by sediments collected from onshore or offshore sources along the Goleta Coast. These activities are very similar to, and may actually include sediment generated by the proposed Project. Therefore, impacts caused by coastal enhancement projects would have similar impacts as those caused by the proposed Project. As discussed within Section 5.1 (Water Resources), these would include the degradation of marine water quality resulting from discharge of dredged sediment.





Such Project activities may result in an incremental increase in potential impacts to localized offshore water quality, while at the same time resulting in a beneficial impact to overall sediment availability to Goleta Beach and associated downcast areas. Cumulative impacts could result to water resources should the proposed Project occur during other beach enhancement activities. Because it is unlikely that the beach replenishment projects would occur simultaneously and would each result in limited impacts (spatially and in time), the cumulative increases in turbidity offshore are therefore considerable. As such, the following mitigation measure would apply.

### **Mitigation Measures**

MM CUM-2 would further reduce the likelihood of beach replenishment projects that could adversely affect turbidity from occurring simultaneously.

**Impact CUM-5. Cumulative offshore water quality impacts could result from construction activities within Goleta Beach (Class II).** Projects which may contribute cumulatively to impacts to water quality within the proposed Project area would include the coastal enhancement projects at Goleta Beach. Impacts caused by these Projects could contribute cumulatively to water quality primarily through erosion and runoff during construction activities, as well as potential leaks and spills of fuel, oil and other constituents associated with equipment use and maintenance. The Project's contribution to this offshore water quality impact is cumulatively considerable and mitigable.

### **Mitigation Measures**

SPEIR measure MM SWR-1 Post Advisories, mitigation MM PBIO-12 Spill Prevention Plan, MM Project-1 Sampling Analysis Plan (SAP) and MM WR-1 Defined Best Management Practices as described within the MM WR-1 (Section 5.1 - Water Resources) would reduce the Projects contribution to surface water quality impacts to a level that is not cumulatively considerable. MM CUM-2 would further reduce this impact.

#### **7.4.1.2 Cumulative Impacts Resulting from the Transportation and Disposal of Sediments within the Closed Foothill Landfill for Restoration Purposes**

Project activities within the closed Foothill Landfill restoration site will increase the cap on the existing disposal area and would decrease the permeability of soils within the area. As such the Project would be a beneficial impact and therefore, would not contribute to any adverse surface water quality impacts.

### **7.4.2 Air Quality**

**Impact CUM-6. Cumulative air quality impacts would not be considerable (Class III).** The projects listed above in Tables 7.2-1 through 7.2-3 are all located within the South Central Coast Air Basin under the jurisdiction of the Santa Barbara Air Pollution Control District (SBAPCD) and therefore within the Project vicinity for cumulative consideration. As indicated in Section 5.2 (Air Quality), emissions from the proposed Project would be limited to those associated with the short-term use of construction equipment. The proposed Project would not result in emissions



that would interfere with progress toward the attainment of the ozone standard or equal or exceed the state or federal ambient air quality standards for any criteria pollutant. Impacts would be less than the County's and Santa Barbara County APCD's quantitative thresholds for offsets and ambient air quality modeling. As indicated within Section 5.2, cumulative air quality impacts and consistency with the policies and measures in the Air Quality Supplement of the Comprehensive Plan, other General Plans, and the Air Quality Attainment Plan (AQAP) should be determined for all projects (i.e., whether the project exceeds the AQAP emission projections or growth assumptions). Based on this assessment, the Project would be a minor source of HAP emissions and would not affect sensitive receptors or increase cancer risk for the affected population. Furthermore, the Project is not anticipated to result in an odor or nuisance problem that would impact a considerable number of people. For all of these reasons, the minor emissions associated with the Project are not cumulatively considerable in regards to air quality.

As discussed within Section 5.2 (Air Quality), Project activities have the potential to cumulatively impact the amounts of greenhouse gases currently within the Project air shed thereby affecting global climate change. Although significance criteria have not been established by State or local regulations, by definition any production of greenhouse gases by the proposed Project would be considered cumulative. As such, a detailed discussion has been provided within Section 5.1 regarding cumulative impacts related to greenhouse gas emissions and global climate change. Please refer to **Impact AQ-4** (Greenhouse Gas Emissions and Global Climate Change) for detail.

### 7.4.3 Biological Resources

Of the cumulative Projects considered above, only those directly associated with the Goleta Slough and Pacific Ocean offshore of Goleta Beach have the potential to contribute to cumulative impacts to biological resources within the Project area. These include the wetland mitigation associated with the relocation of Runway 7/25 at the City of Santa Barbara Municipal Airport, restoration within the Goleta Slough, restoration monitoring associated with permit compliance, coastal enhancement projects, and the Goleta Sanitary District plant upgrades. All but one of these projects (the Goleta Sanitary District Plan Upgrades) is designed for the specific purpose of improving the Goleta Slough ecosystem and encouraging and/or ensuring the stability of the natural processes within the Slough and adjacent Goleta Beach area.

#### 7.4.3.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels

**Impact CUM-7. Project would result in a less than significant cumulative impact on flora fauna and the Goleta Slough ecosystem in general (Class III).** As stated above, in addition to the proposed Project, projects which would be cumulatively considerable to sensitive species within the waters of the Goleta Slough include the wetland mitigation associated with the relocation of Runway 7/25, restoration within the Goleta Slough, restoration monitoring associated with permit compliance, coastal enhancement projects, and the Goleta Sanitary District plant upgrades. These projects may cause short term, negative impact to the Goleta Slough ecosystem. As discussed in detail within **Impact BIO-1, -3, -5, -7, -8, -9, -10, and -11** (Biological Resources) the Project would also have specific short-term adverse impacts on the flora and fauna of the creeks and Goleta Slough ecosystem in general. However, the Project



overall as with the cumulative projects described above would be beneficial to the long-term health of the slough. Therefore, these short-term impacts are not cumulatively considerable.

### **Mitigation Measures**

None required.

**Impact CUM-8. The Project would result in cumulatively significant impacts to tidewater goby (Class I).** Tidewater goby is listed as a federally endangered species. Project desilting was determined to result in significant impacts to the species. It is not expected that the specific projects listed above would directly impact tidewater goby within the Project creek channels. However, because the species has been significantly impacted by past projects that have negatively impacted the species as a whole, the Project's impact may be cumulatively considerable as well as significant on a project-specific basis.

### **Mitigation Measures**

Mitigation measure MM BIO-2 Tidewater Goby Refuge, as described in Section 5.4 of this SEIR, would also serve to mitigate the Project's contribution to cumulative impacts on tidewater goby.

Significant Project impacts which are not cumulatively considerable include 1) impacts to biological resources associated with spills in the creeks due to the speculative nature that any other spills related to cumulative development would occur in the Project area; 2) impacts to riparian and wetland vegetation in San Jose Creek due to the lack of other cumulative development projects affecting this resource. Furthermore, project-specific mitigation has been proposed for these impacts that would offset any contributions should there be any.

#### **7.4.3.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes**

**Impact CUM-9. Cumulative development may result in significant cumulative impacts to grunion, nearshore marine habitats and biota (Class II).** In addition to the proposed Project, projects which would be cumulatively considerable to sensitive species or habitats within the waters of the Pacific Ocean include any projects associated with coastal enhancement. Coastal enhancement projects would entail the stabilization of beach sands within the Project area by sediments collected from onshore or offshore sources along the Goleta Coast. Environmental impacts associated with other coastal enhancement projects would likely be similar to those associated with the proposed Project. As discussed within Impact BIO-16, -17, and -18 (Biological Resources), Project activities may result in direct impacts on grunion, nearshore marine habitats and biota. These effects could be exacerbated by other similar projects. However, some of these effects would likely be tempered by the fact that it is unlikely for such projects to occur simultaneously. As such, although unlikely based on project timing and scheduling, effects would be cumulatively considerable **but mitigable**.



## Mitigation Measures

Mitigation measures MM PBIO-16 Grunion Survey and Avoidance or MM BIO-16 Grunion Surveys and Avoidance (alternative) and MM BIO-17 Marine Turbidity Plume Monitoring as described in Section 5.4 of this SEIR would also serve to mitigate the Project's contribution to cumulative impacts on tidewater goby.

### 7.4.3.3 Cumulative Impacts Resulting from the Disposal of Sediments within the Closed Foothill Landfill for Restoration Purposes

Project activities within the closed Foothill Landfill restoration site have the potential to impact biological resources through the removal of native vegetation including the temporary loss of approximately 100 oak trees (**Impact BIO-4**). This was determined to be significant on a project-specific basis. However, no other projects are currently proposed for the closed Foothill Landfill area; and no projects are currently proposing the removal of oaks at the closed Foothill Landfill site. As such no cumulative loss of oak trees would occur. Furthermore, implementation of MM BIO-4 Oak Tree Replacement would mitigate the project specific impact and any concerns with the general loss of oak trees on a regional basis.

### 7.4.4 Noise

Of the projects considered above, only those which would occur within the immediate Project vicinity would have the potential to cumulatively impact noise levels within the Project area. Due to the way in which noise levels decrease as distance increases, the County of Santa Barbara requires that construction noise be limited to daytime hours in areas within approximately 1,600 feet of sensitive receptors. Only those projects which would occur within that distance of sensitive receptors and within the same area as Project activities would have an effect on ambient noise levels and would be cumulatively considerable.

#### 7.4.4.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels

**Impact CUM-10. Cumulative noise impacts associated with stream channel maintenance would be less than significant (Class III).** Of the projects considered above, only those requiring construction equipment within the same staging areas adjacent to sensitive receptors would cumulatively impact noise levels during Project activities. Projects having the potential to contribute cumulatively to noise impacts include improvements associated with the Goleta Sanitary District and the SoCalGas La Goleta Storage Field Enhancement Project.

The Goleta Sanitary District is located to the west and adjacent to San Pedro Creek south of Fowler Road. Construction activities associated with the Sanitary District include refurbishment of a 25-year old trickling filter, construction of a storage garage, replacement of a chemical storage structure as well as construction associated with headworks, an odor reduction tower and emergency generators. Larger improvements will include a major upgrade from the current partial secondary blended process to full secondary treatment, including construction of a biofilter, two secondary sedimentation tanks, an aeration basin, solids handling structures and a shower and locker room building. However, the project will be located within the existing



Sanitary District wastewater treatment plant property and will not be located within the staging areas associated with the proposed Project.

Activities for the La Goleta Storage Field Enhancement Project are currently scheduled for fall 2010. The SoCalGas property is located to the south and adjacent to Atascadero Creek near the Atascadero Creek Bike path staging area. Construction and drilling activities associated with the Storage Field Enhancement would be located approximately 1,500 feet from the Goleta Slough staging area at Atascadero Creek. The SoCalGas La Goleta Storage Field is located on a bluff above Atascadero Creek and is further obscured from the staging area location by windrow vegetation approximately 175 feet high.

Activities within the SoCalGas Field will consist of drilling two exploratory wells and two injection/withdrawal wells, as well as the construction of appurtenant facilities to process the extracted resources. Construction of the appurtenant facilities within the SoCalGas facility will be limited to daytime hours only. However, drilling of the exploratory and injection wells may commence 24-hours a day as necessary for 5 to 6 months over two seasons until completion.

As discussed in Section 5.6 (Noise), the proposed Project has the potential to adversely impact ambient noise levels at the sensitive residential receptors located adjacent to the Atascadero Creek bikepath (Rancho Goleta Mobile Home Park) (Impact NOI-1 - Class III). These impacts would be caused by Project desilting activities including hydraulic dredging and dragline desilting. However, due to the distance from the SoCalGas Field and Goleta Sanitary District, as well as the shielding from vegetation and elevation it is anticipated that construction and drilling activities will contribute to cumulative impacts by a less than significant amount. In addition, Project activities are mobile and temporary in nature and will only occur every 3 to 5 years as necessary. SoCalGas project activities are also temporary and will be completed in approximately 2 construction years. Some activities for the Goleta Sanitary District are already under construction, while others remain in the design phase. Therefore, cumulative noise impacts are not anticipated. Mitigation measures intended to reduce Project-specific impacts would further reduce this potential as described below.

### **Mitigation Measures**

The following mitigation measures, which are applicable to Project-specific impacts would also reduce the Project's contribution to cumulative noise impacts. They include: MM PNOI-1-a Dredging Timing Limitation, MM PNOI-1b Public Notification, MM PNOI-1c Proper Equipment Maintenance and MM PNOI-1d Booster Pump Noise Reduction. Also measures provided in this SEIR and identified as follows apply: MM NOI-1-1a Revised Construction Timing Limitation MM NOI-1b Construction Notification, and MM NOI-1c Booster Pump Noise Reduction. Additionally MM CUM-2 would further reduce potential impacts. As such, the effects would not be cumulatively considerable.





#### 7.4.4.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes

**Impact CUM-11. Cumulative noise impacts associated with beach nourishment activities would be less than significant (Class II).** Coastal enhancement projects occurring within the Goleta Beach area, if any, would be located near enough to Project activities to be considered cumulatively. Coastal enhancement projects would entail the stabilization of beach sands within the Project area by sediments collected from onshore or offshore sources along the Goleta Coast. Impacts from these activities would be similar, to those associated with the proposed Project. Should other projects occur within the same time period as the proposed Project, cumulative impacts may result. It is likely; however, that activities for projects occurring within the same vicinity as the proposed Project will not occur during the same time frame; as Project activities are temporary and mobile in nature and will occur within a 3 to 5 year period.

#### **Mitigation Measures**

The mitigation measures as identified above for impact CUM-10 would reduce the Project's contribution to cumulative noise effects to the extent feasible. Therefore, the impacts would not be cumulatively considerable.

#### 7.4.4.3 Cumulative Impacts Resulting from Project Activities at the Closed Foothill Landfill Sediment Disposal/Restoration Site

Project activities within the closed Foothill Landfill Sediment Disposal/Restoration site have the potential to increase ambient noise levels at sensitive receptors during daytime sediment transportation and placement (Impact NOI-4 - Class III). The primary noise sources for residential receptors located near the closed Foothill Landfill include vehicular traffic (on U.S. Highway 101 and Calle Real), railroad traffic (on tracks located adjacent to U.S. Highway 101) and some overhead air traffic. Construction noise during restoration activities may cause increases in the ambient noise levels at residential receptors by as much as 8.7 dBA as a worst-case scenario. However, since no other projects are currently proposed for the restoration area, cumulative impacts would not be considerable.

### **7.4.5 Cultural Resources**

**Impact CUM-12. Cumulative development has the potential to result in significant impacts to known and presently unidentified archaeological/cultural resources (Class II).** Of the cumulative projects considered above, some have the potential to impact known archaeological sites within the Project impact area. Additionally, due to the general archaeological sensitivity of the Project area there is a potential for the existence of currently unidentified archaeological site to exist. Because the Project (as discussed in Section 5.7, Cultural Resources) and cumulative development have the potential to result in significant impacts to known and unknown archaeological/cultural resources, and due to the past history of degradation of such resources, potential cumulative impacts to archaeological/cultural would not be considerable.



### **Mitigation Measures**

The Projects contribution to cumulative impacts on archaeological/cultural resources would be reduced through implementation of the project-specific mitigation identified in Section 5.7 of this SEIR. These measures include: MM PCR-1a Avoidance of SBA-45 and Locus 2, MM CR-2a Worker Cultural Orientation, and MM CR-2b Demarcation of Archaeological Sites.

#### **7.4.6 Aesthetic Resources**

##### **7.4.6.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels**

**Impact CUM-13. Cumulative development would result in significant, unavoidable, adverse, short-term affects to sensitive viewsheds (Class I).** The proposed Project is located within the Goleta Slough viewshed, which is designated as a scenic resource by the City of Goleta. As such, the proposed Project, although temporary and mobile in nature, would have a significant, unavoidable impact on immediate views for the duration of crane operation activities. Cumulative projects within the Goleta Slough viewshed including the SoCalGas La Goleta Storage Field, Goleta Slough Sanitary District plant upgrade and construction within the City of Santa Barbara Municipal Airport would contribute to aesthetic impacts if construction equipment or activities would also be visible to the public and simultaneously with the proposed Project within the Project viewshed. As such, impacts would be cumulatively considerable.

### **Mitigation Measures**

None proposed.

##### **7.4.6.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes**

**Impact CUM-14. Cumulative impacts would result in significant, unavoidable, adverse short-term affects to sensitive viewsheds during disposal of sediments within Goleta Beach (Class I).** As discussed above, the proposed Project, although temporary and mobile in nature, would have a significant, unavoidable impact on immediate views for the duration of crane operation activities. Cumulative projects within the Goleta Beach viewshed including the SoCalGas La Goleta Storage Field, and the Goleta Slough Sanitary District plant upgrade would contribute to cumulative aesthetic impacts if construction equipment or activities would also be visible to the public and would also be cumulatively considerable should they occur simultaneously with the proposed Project within the Project viewshed. As such, impacts would be cumulatively considerable.

### **Mitigation Measures**

None proposed.



#### 7.4.6.3 Cumulative Impacts Resulting from Project Activities at the Closed Foothill Landfill Sediment Disposal/Restoration Site

Project activities within the closed Foothill Landfill Sediment Disposal/Restoration site have the potential to impact aesthetic resources through the removal of oak trees (Impact AEST-4) and the loss of native vegetation. To compensate for this loss, the Project's proposed Restoration/Revegetation Plan has been designed to address the original aesthetic function of those original plantings as well as improve the overall habitat function and value of the site. Restoration of the closed Foothill Landfill area would occur in phases as sediment becomes available. Under this plan, not all vegetative cover would be removed at once, but rather in stages to allow for regrowth and establishment of habitat. As such, the impacts to views from neighboring areas would be limited to those areas in restorative transition at any given time. By reducing the amount of impact occurring within any given time frame, the impact to the viewshed will be temporary, minimized and less than significant. The long-term result of restoration activities within the closed Foothill Landfill would be a beneficial impact to the viewshed.

Restoration of the site following Project activities would result in replacement habitat consisting of oak trees and native vegetation. No other projects are currently proposed for the closed Foothill Landfill area, and none of the projects considered include the removal of oak trees. Therefore, cumulative impacts would not be cumulatively considerable.

#### 7.4.7 Traffic/Circulation

##### 7.4.7.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels

As discussed within Section 5.9 (Traffic/Circulation) the maintenance activities occurring within the Goleta Slough would be limited to staging areas and flood control access roads. Impacts to traffic/circulation would result from the transportation of sediment and personnel within roadways. No cumulative impacts would result to local transportation routes due to maintenance activities within the stream channels. As such, impacts are not cumulatively considerable.

##### 7.4.7.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes

**Impact CUM-15. The Project contribution to cumulative impacts on transportation roadways associated with beach nourishment would be less than significant (Class III).**

As discussed within Section 5.9 (Traffic/Circulation), transportation to Goleta Beach for Beach replenishment purposes may require the temporary addition of approximately 100 trips during a peak traffic condition while the Project is under underway (Impact TRANS-1 and 2). It is expected that no significant new traffic would be generated once the short-term Project activities have been completed for the season.

It is possible that any or all projects of the projects listed above in Table 7.3-2 could utilize one or more of the access roads currently proposed for transportation to Goleta Beach. However,



due to the proximity of freeway access points and project locations, it is anticipated that those most likely would include the Fairview Commercial Center, Marriot Residence Inn, Goleta Beach coastal enhancement projects, Goleta Slough restoration plan monitoring, wetland mitigation associated with Runway 7/25 and terminal facility construction within the Santa Barbara Airport. Other Projects would most likely use separate access points including those at Patterson Road, Los Carneros Road, and Turnpike Road. In addition to arterial roadways, it is likely that all of the projects listed above in Table 7.3-2 would utilize either U.S. Highway 101 or SR 217 for delivery of materials or personnel.

Of those projects considered, projects would not contribute to significant cumulative impacts unless several projects are required to utilize the same roadways as the proposed Project within the same time frame as the desilting events occurring at each of the creeks every 3 to 5 years as necessary. In addition, these roadways would only be utilized for transportation to Goleta Beach from Atascadero Creek, San Jose Creek and San Pedro Creek should hydraulic desilting be deemed infeasible. It is expected that no significant new traffic would be generated once construction is complete.

Depending on the timing and transportation routes of the projects considered and proposed activities, any of the projects listed above may contribute to traffic impacts within the same area. It is likely; however, that activities for projects occurring within the same vicinity as the proposed Project will not occur during the same time frame; as Project activities are temporary and mobile in nature and will occur within a 3 to 5 year period. Due to the temporary nature of Project activities, its contribution of Project trips is considered to be less than cumulatively considerable.

### **Mitigation Measures**

MM CUM-2 which requires the District to notify other project agencies of Project timing and scheduling in order to ensure that simultaneous Project activities will not cause cumulatively considerable impacts would further reduce the Project's contribution to cumulative traffic impacts.

#### **7.4.7.3 Cumulative Impacts Resulting from Project Activities at the Closed Foothill Landfill Sediment Disposal/Restoration Site**

**Impact CUM-16. The Project contribution to cumulative impacts on transportation roadways associated with transport of sediment to the closed Foothill Landfill Sediment Disposal/Restoration Site would be less than significant (Class III).** As with the transportation of sediment to Goleta Beach, transportation of sediment to the closed Foothill Landfill Sediment Disposal/Restoration Site may require the temporary addition of approximately 100 trips during a peak traffic condition while the Project is under construction (Impact TRANS-1 and 2). It is expected that no significant new traffic would be generated once Project activities are completed for the season.

It is possible that any or all projects of the projects listed above in Table 7.3-2 could utilize one or more of the access roads currently proposed for transportation to the closed Foothill Landfill Sediment Disposal/Restoration Site. However, due to the proximity of freeway access points



and project locations, it is anticipated that those most likely would include the Fairview Commercial Center, Marriot Residence Inn, Goleta Beach coastal enhancement projects, Goleta Slough restoration plan monitoring, wetland mitigation associated with Runway 7/25 and terminal facility construction within the Santa Barbara Airport. Other Projects would most likely use separate access points including those at Patterson Road, Los Carneros Road, and Turnpike Road. In addition to arterial roadways, it is likely that all of the Projects listed above in Table 7.3-2 would utilize either U.S. Highway 101 or SR 217 for delivery of materials or personnel.

Of those projects considered, projects would not contribute to significant cumulative impacts unless several projects are required to utilize Hollister Avenue (West of Ward Drive), SR 217, Fairview Avenue, Ward Drive, or other roadways within the same time frame as the desilting events occurring at each of the creeks every 3 to 5 years as necessary.

**Hollister Avenue.** The annual daily traffic (ADT) capacity (at LOS C) along the majority of Hollister Avenue is currently 34,000 (Table 5.9-3). Current annual daily traffic counts range from approximately 15,700 to 17,800. The proposed Project will likely increase these levels by an average of 100 trips per day, and 500 as a worse case scenario.

**Fairview Avenue.** The annual daily traffic (ADT) capacity (LOS C) at Fairview south of the U.S. Highway 101 Interchange is 34,000. Current annual daily traffic counts are estimated to be approximately 25,000. The proposed Project will likely increase these levels by an average of 100 trips per day, and 500 as a worse case scenario.

**SR 217.** SR 217 will be accessed by Project trucks at three locations; Sandspit Road (for San Pedro and San Jose creeks), Ward Drive at Hollister Avenue (for Atascadero Creek) and at U.S. Highway 101 (for all return trips). The proposed Project will likely increase these levels by an average of 100 trips per day, and 500 as a worse case scenario. Other project truck trips are anticipated to be less than those required for the proposed Project.

**U.S. Highway 101.** U.S. Highway 101 will be accessed by Project trucks at four locations; Fairview Avenue (for Tecolotito and Los Carneros creeks), SR 217 (for Goleta Beach staging area, Atascadero Creek and all merging traffic from San Jose and San Pedro creeks) and El Sueno Road (for return trips). The proposed Project will likely increase these levels by an average of 100 trips per day, and 500 as a worse case scenario. Other project truck trips are anticipated to be less than those required for the proposed Project.

Due to the fact that resulting Project trips would be limited to short-term duration on a periodic basis, the Project's contribution to cumulative traffic impacts is not cumulatively considerable.

### **Mitigation Measures**

MM CUM-2 which requires the District to notify other project agencies of Project timing and scheduling in order to ensure that simultaneous Project activities will not cause cumulatively considerable impacts would further reduce the Project's contribution to cumulative traffic impacts.





#### 7.4.8 Recreation

Of the Projects considered above, only those associated with recreational use within the Goleta Slough area have the potential to contribute to cumulative impacts to recreation. These include the Goleta Slough restoration plan monitoring for permit compliance, the SoCalGas La Goleta Storage Field enhancement project and any coastal enhancement projects.

##### 7.4.8.1 Cumulative Impacts Resulting from Maintenance Activities within Stream Channels

As indicated in Section 5.10 (Recreation), the Project would not result in significant impacts to recreational resources in the area. This is due mainly to Project design and scheduling which defer desilting activities from periods of peak recreational use (May 15<sup>th</sup> and September 15<sup>th</sup>). Although the Project is located within an area of high recreational use, desilting activities would be limited to within stream channels. Since none of the projects listed above are proposing in-creek activities, the only potential for cumulative impacts to occur would result from activities outside of stream channels. No cumulative impacts would result from additional projects occurring within the stream channels of the Goleta Slough.

##### 7.4.8.2 Cumulative Impacts Resulting from the Disposal of Sediments within Goleta Beach for Beach Nourishment Purposes or the Closed Foothill Landfill.

**Impact CUM-17. Cumulative development would result in less than significant impacts on recreation in the Goleta Slough and Goleta Beach areas (Class III).** The only potential for Project activities to interfere with recreation would occur adjacent to roadways as trucks transporting sediment would cross along bike paths or walkways while entering or exiting a street. Although Class 1 bike paths currently exist (or are proposed) within Hollister Avenue, Fairview Avenue, and along San Jose Creek and Atascadero Creek, any surface street within the Project area may be used as a bicycle or recreational walking route. As such, of those projects listed in Table 7.3-2, it is anticipated that those most likely to cumulatively impact recreation would include the Fairview Commercial Center, Marriot Residence Inn, Goleta Beach coastal enhancement projects, Goleta Slough restoration plan monitoring, wetland mitigation associated with Runway 7/25 and terminal facility construction within the Santa Barbara Airport. Furthermore, due to the likelihood that desilting of Atascadero Creek, San Jose Creek and San Pedro Creek will occur via hydraulic dredging, the impact to bike paths or walkways from those activities would be further limited to include only the coastal enhancement projects associated with Goleta Beach.

As with the proposed Project, any other projects (including any coastal enhancement projects with Goleta Beach at Goleta Beach Park) would be required to abide by all traffic rules and regulations including stopping at traffic lights and stop signs. This would allow existing bicycle and pedestrian traffic the opportunity to cross roadways safely. Blockages of recreational paths would only occur for a few seconds as trucks and equipment moved across. Cumulative projects within the area may also temporarily block access along bicycle or walking paths for minimal amounts of time. However, as with the proposed Project these occasions would be minimal and even if projects should occur simultaneously; the potential impacts would not be cumulatively considerable.



### **Mitigation Measures**

MM CUM-2 which requires the District to notify other project agencies of Project timing and scheduling in order to ensure that simultaneous Project activities will not cause cumulatively considerable impacts would further reduce the Project's contribution to cumulative recreational impacts.



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## **8.0 GROWTH INDUCING IMPACTS**

The State of California CEQA Guidelines require that an EIR assess the growth-inducing impacts of a project, particularly the potential for a project to:

“...foster economic or population growth or the construction of new housing, either directly or indirectly in the surrounding environment. Included in this are projects which would remove obstacles to population growth.”

As indicated above, a project could have either a direct or indirect impact on growth-inducement potential. A project would be considered to have a direct impact on growth should it require the construction of new housing. A project would be considered to have an indirect impact on growth if it would involve a substantial construction effort with short or long-term employment requirements such as the building of a new commercial complex. A project may also be considered growth-inducing if it removed an obstacle to additional growth development, such as the creation of a new utilities or service facilities which would create an excess of resources that could eventually be filled by new development.

The proposed Project includes the continuance of maintenance dredging/draglining (desilting) of sediment from the lower reaches of the Goleta Slough and its tributaries including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. The Project does not include the construction of new housing which could be considered a direct growth-inducing impact. The Project is an extension of existing maintenance activities currently being performed at the site and would not require additional personnel or employment opportunities which would lead to an indirect growth potential. The Project does not include the construction of new infrastructure or service systems. Therefore, and as discussed within the original Program EIR/Draft EA for Routine Maintenance Activities within the Goleta Slough (1993), the Project would not include any growth-inducing impacts.



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## **9.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The State of California CEQA Guidelines Section 15126.2c requires that an EIR assess the irreversible and irretrievable commitment of resources which would be caused by the implementation of the proposed Project. Specifically, CEQA states the following:

*“Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”*

The proposed Project includes the continuation of maintenance dredging/draglining (desilting) of sediment from the lower reaches of the Goleta Slough and its tributaries including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Activities associated with the proposed Project would result in primarily short-term commitment of resources. Specifically, short-term impacts would be associated with direct maintenance activities occurring during Project construction and desilting operations. These would include impacts to local and regional air quality (Section 5.2 - Air Quality); temporary noise impacts to adjacent residential or recreational areas (Section 5.10 - Recreation); impacts to visual resources caused by the presence and use of the desilting crane; and impacts to water clarity (turbidity) within the Slough and beach replenishment areas caused by desilting or beach replenishment activities. In addition to short-term impacts, long-term commitment of resources would be associated with the burning of fossil fuels including diesel and gasoline for construction vehicles and equipment.



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## **10.0 BENEFICIAL IMPACTS**

The proposed Project includes the maintenance dredging/draglining (desilting) of sediment from the lower reaches of the Goleta Slough and its tributaries including Tecolotito Creek, Los Carneros Creek, Atascadero Creek, San Jose Creek, and San Pedro Creek. Although not required by State of California CEQA legislation, the information provided in Table 10-1 is a summary of beneficial impacts as outlined within the individual environmental analysis sections provided within Section 5.0 (Environmental Impact Analysis). These beneficial impacts are the result of Project objectives in conformance with the following goals:

- Removing sediments that would otherwise fill in the slough and diminish the biological productivity of the marsh as habitat;
- Increasing the creeks' capacity to convey flood flows, thereby decreasing the potential for frequent inundation of large areas adjacent to the slough, including commercial areas, the airport, residences and streets;
- Increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough; and
- Replenishing a local beach, that receives heavy public use, through replacement of eroded sand.



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## **11.0 PREPARERS OF THIS REPORT**

This Environmental Impact Report was prepared for the Santa Barbara County Flood Control and Water Conservation District by Padre Associates, Inc in coordination with Heritage Discoveries Inc. Persons directly involved in its preparation include:

### **11.1 SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT**

#### **11.2 PADRE ASSOCIATES, INC.**

Simon Poulter, Principal

Jennifer Carnine, Project Manager/Environmental Analyst

Donna Hebert, Senior Environmental Scientist

Matt Ingamells, Senior Biologist

Ray de Wit, Marine Biologist

Sierra Kelso, Environmental Scientist

Sarah Gray, Environmental Scientist

Suzun Rasmusson, CAD Operator/Graphics

Annette Varner, Word Processing

#### **11.3 SUBCONSULTANTS**

Thor Conway, Heritage Discoveries, Inc.





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## APPENDICES

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**APPENDIX A**  
**NOTICE OF PREPARATION (NOP),**  
**DISTRIBUTION LIST, AND RESPONSES TO NOP**

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## **NOTICE OF PREPARATION**

To: Responsible and Trustee Agencies  
County and Local Agencies, and  
Interested Public and Groups

From: Ms. Maureen Spencer  
County of Santa Barbara  
Public Works Department  
Flood Control District  
123 East Anapamu Street  
Santa Barbara, CA 93101

**SUBJECT: Notice of Preparation of a Draft Supplemental Environmental Impact Report**

**PROJECT NAME: Goleta Slough Routine Maintenance Activities**

**PROJECT LOCATION: Flood Control Maintenance Activities within Atascadero, San Jose, San Pedro, Los Carneros, and Tecolotito Creeks - Santa Barbara County, CA**

**PROJECT CASE #: 93-EIR-4**

### ***BACKGROUND and INTRODUCTION:***

The County of Santa Barbara, Public Works Department - Flood Control District will be the Lead Agency to prepare a Supplemental Environmental Impact Report (SEIR) for Goleta Slough Routine Maintenance Activities.

In November 1993, a Program EIR for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) was prepared for the District's maintenance dredging activities. In order to continue providing routine stream maintenance activities within the lower Goleta Slough tributaries in a manner that will maintain the capacity and conveyance of these watercourses while minimizing the threat of damage to life, public property and existing infrastructure; the District has committed to development of an updated Maintenance Program and associated Supplemental Environmental Impact Report (SEIR).

### ***SUPPLEMENTAL EIR FOCUS - ENVIRONMENTAL ISSUE AREAS:***

The Standard Maintenance Practices from the PEIR for Santa Barbara County Flood Control Routine Maintenance Activities (93-EIR-4) would be applied to the Proposed Project as appropriate. Based on the description of the revised project and on the existing EIR, the environmental issue areas that will be addressed in the Draft SEIR will include:

- Water Resources/Flooding
- Air Quality
- Geology
- Biological Resources (Marine and Terrestrial)
- Risk of Upset/Hazardous Materials
- Noise

- Cultural Resources
- Aesthetics
- Traffic/Circulation
- Recreation
- Land Use Policy Consistency

***NOTICE:***

The project description, location and the potential environmental effects are contained in the attached materials. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

***NOP CONTACT AND RESPONSE INFORMATION:***

Please send your response to:

Ms. Maureen Spencer  
 County of Santa Barbara  
 Public Works Department - Flood Control District  
 123 E. Anapamu Street  
 Santa Barbara, CA 93101  
 (805) 568-3437  
 mospenc@cosbpw.net

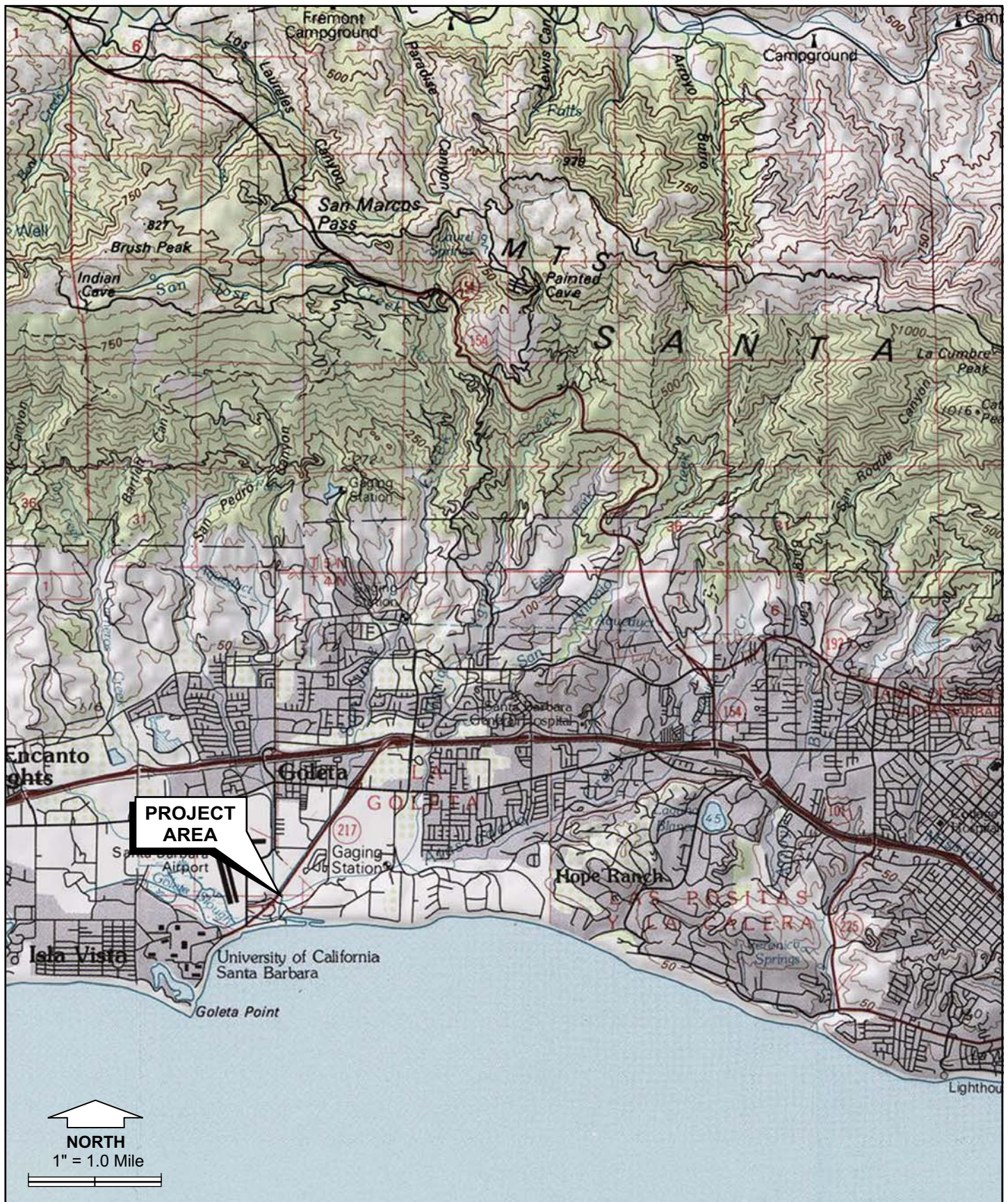
Please send your response to Ms. Maureen Spencer, Operations and Environmental Manager for the County of Santa Barbara Public Works Department - Flood Control District at the address shown above. We will need the name of a contact person in your agency. Due to the time limits mandated by State law, your response must be received at the earliest possible date but not later than February 13, 2009 (30 days after release of this notice).

cc: Clerk of the Board (please post for 30 days)

Encl: Site Location Map  
 Project Description



Project No. 0702-0062  
Goleta Slough Routine Maintenance Activities - Supplemental EIR







## 1.0 INTRODUCTION

### 1.1 BACKGROUND

The Santa Barbara County Flood Control and Water Conservation District (District) provides flood protection throughout the County by constructing flood control facilities; acquiring federal funds and assistance for capital projects; assisting other County departments regarding flood control issues; and maintaining capacity in key watercourses to protect public infrastructure, life and property. The District is governed by the Board of Supervisors, acting as the Board of Directors for the District. The District is funded through property tax assessments and benefit assessments. The proposed flood control maintenance activities in the Goleta Slough fall within the South Coast Flood Zone. Atascadero, San Jose and San Pedro Creeks are within the jurisdiction of Santa Barbara County and Carneros and Tecolotito Basins are within the Santa Barbara City limits (Table 1-1).

**Table 1-1. Summary of Project Background Information**

<b>Project Title</b>	Flood Control Maintenance Activities in the Goleta Slough
<b>Assessor's Parcel Numbers</b>	073-450-003 071-210-001 071-190-017, 028, 030 071-200-003, 008, 009, 011, 017, 022, 023
<b>Landowner</b>	City of Santa Barbara; County of Santa Barbara; Southern California Gas Company; Goleta Sanitary District
<b>Applicant</b>	Santa Barbara County Flood Control District 123 East Anapamu Street Santa Barbara, CA 93101 (805) 568-3443 Attn: Dana Zertuche
<b>Supervisory District</b>	Second, Janet Wolf, Supervisor

The District has routinely maintained the five creeks that flow into the Goleta Slough for over 40 years. Up until 1994, all of the creeks were desilted using a crane rigged with a dragline bucket. The sediment was stockpiled adjacent to the drainages and left until a contractor needing material would come and remove it at no cost to the District. In November 1993, a PEIR for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) using a hydraulic dredge was written for the District's maintenance activities. Since that time the Goleta Slough has been maintained several times using either hydraulic dredge or dragline desilting methodologies. In order to incorporate the experience gained through the maintenance activities since 1993, the District has decided (as further described in Section 3.0 below) to write a Supplemental EIR to cover the continued maintenance of the Goleta Slough so flood protection can be provided within this important portion of the Goleta Valley.



## **1.2 EXISTING ROUTINE MAINTENANCE PROGRAM**

Stream maintenance occurs on an as-needed basis, typically after severe storm events and wildfires. The current Routine Maintenance Program within the lower Goleta Slough tributaries includes yearly analysis and as-needed maintenance (desilting) activities within Atascadero, Carneros, San Pedro, Tecolotito, and San Jose Creeks.

## **1.3 NEED FOR AN UPDATED MAINTENANCE PROGRAM**

In order to continue providing routine stream maintenance activities within the lower Goleta Slough tributaries in a manner that will maintain the capacity and conveyance of these watercourses while minimizing the threat of damage to life, public property and existing infrastructure; the District has committed to development of an updated Maintenance Program and associated Supplemental Environmental Impact Report (SEIR), herein referred to as the "Project". While the existing Maintenance Program has been successfully implemented, a greater understanding of the site conditions and operating parameters of maintenance equipment has allowed the District to development a more comprehensive Maintenance Program.

The updated Maintenance Program will be used for routine maintenance events that will not require annual re-evaluation and permitting efforts. The methodology proposed for the Program is similar to that currently utilized; however the updated Maintenance Program will incorporate updated project description information based on the past 13 years of sediment removal maintenance experience. The updated Program will enable the District to establish a construction working window that will minimize potential environmental impacts while optimizing the efficiency of proposed desilting operations for replenishment of Goleta Beach.

## **1.4 SCOPE OF SUPPLEMENTAL EIR**

As previously noted, a Program Environmental Impact Report was written for Routine Maintenance Activities in the Goleta Slough in November 1993. The Standard Maintenance Practices from the PEIR for Santa Barbara County Flood Control Routine Maintenance Activities (93-EIR-4) would be applied to the Proposed Project as appropriate. Specifically, measures identified to mitigate potential Class I (unavoidable) impacts to air quality, biological resources, noise, and cultural resources will be incorporated into the revised Project design as further discussed within the Supplemental EIR. Additionally, the purpose of the Supplemental EIR is to incorporate the experience gained through the maintenance activities since 1993.





## **2.0 CURRENT MAINTENANCE PROGRAM**

### **2.1 ORIGIN OF THE PROGRAM**

Prior to 1994, the District routinely desilted the five creeks that flow into the Goleta Slough using a crane rigged with a dragline bucket, and the sediment was stockpiled adjacent to the drainages and left until a contractor needing fill would come and remove it. In the early 1990s, a decision was made to add a hydraulic dredge component to Atascadero, San Jose and San Pedro Creeks and write an environmental document which would include beach disposal of sediments, definition of a long term Maintenance Program for the Goleta Slough to analyze project alternatives, and obtain all the necessary permits and approvals to conduct long-term maintenance within the Goleta Slough. The Final PEIR/EA for the existing Program was completed in late 1993, and the District has worked under this PEIR/EA and associated permits since that time.

### **2.2 PROGRAM OBJECTIVES**

The program objectives of the current Maintenance Program include the following:

- Removing sediments that would otherwise fill in the slough and diminish the biological productivity of the marsh as habitat;
- Increasing the creeks' capacity to convey flood flows, thereby decreasing the potential for frequent inundation of large areas adjacent to the slough, including commercial areas, the airport, residences and streets;
- Increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough; and
- Replenishing a local beach, that receives heavy public use, through replacement of eroded sand.

### **2.3 PROJECT DESCRIPTION/SUMMARY**

The Project area is located within the lower reaches of the Goleta Slough. The five creeks feeding into the slough that are subject to maintenance activities are Tecolotito, Carneros, Atascadero, San Jose, and San Pedro. Carneros and Tecolotito creeks are within the Santa Barbara city limits; the remaining creeks are in the unincorporated area of Santa Barbara County. The District routinely assesses conditions within each of the creeks to determine if desilting is necessary to fulfill the program objectives of increasing biological function of the system and protecting public and private land interests. As further described below, the Tecolotito and Carneros Creek Basins are typically desilted utilizing dragline methodology. When dragline desilting is required, a 100-ton crane rigged as a dragline is utilized and the material is stockpiled and dewatered prior to beach replenishment or upland disposal. Atascadero, San Jose, and San Pedro Creeks are primarily hydraulically desilted; however they may also be proposed for draglining if conditions are appropriate for this



methodology. During hydraulic desilting of Atascadero, San Pedro and San Jose Creeks, sediment removed is directly discharged to Goleta Beach for beach replenishment.

The approximate sediment removal volumes of the five Creeks are as follows (Table 2-1):

**Table 2-1. Approximate Sediment Removal Volumes**

<b>Creek/Basin</b>	<b>Location (and dimension of basin, if applicable)</b>	<b>Volume (cy)</b>	<b>Removal Methodology</b>
<b>Tecolotito</b>	Located on Tecolotito Creek just downstream of Hollister Avenue (8' x 100' x 500')	10,000	Dragline (Based on Proximity and Design)
<b>Carneros</b>	Located on Carneros Creek downstream of Hollister Avenue (6' x 60' x 600')	8,100	Dragline (Based on Proximity and Design)
<b>Atascadero</b>	Starting at the Check Structure at the End of Ward Drive	30,000	Hydraulic/Dragline
<b>San Jose</b>	Starting at the Southern end of the Lined Channel by the Santa Barbara Twin-Screen Drive-In Theater	10,000	Hydraulic/Dragline
<b>San Pedro</b>	Starting Just Downstream of the Bridge on James Fowler Road	10,000	Hydraulic/Dragline

**Atascadero Creek.** Atascadero Creek receives drainage from Cieneguitas Creek, Hospital Creek, San Antonio Creek, and Maria Ygnacio Creek for a total watershed of 13,231 acres, capable of generating a 13,000 cubic feet per second (cfs) flood flow during a 100-year return period event. The tidally influenced portion of Atascadero Creek begins near the check structure at the end of Ward Drive and continues to the mouth of the Slough for a length of approximately 4,900 feet. The District has routinely desilted the channel downstream of the check structure for a length of approximately 3,600 feet.

**San Jose Creek.** San Jose Creek and its main tributary, Fremont Creek, drain a 5,503-acre watershed capable of generating 5,300 cfs of flood flow during a 100-year return period event. The tidally influence portion of San Jose Creek begins at the end of the lined section near the drive-in theater and continues downstream to the mouth of the slough for a length of approximately 2,500 feet. The District has routinely desilted the channel just downstream of the lined section for the total length.

**San Pedro Creek.** San Pedro Creek has two smaller tributaries that join it before it enters the Slough; Encina Creek and Las Vegas Creek, for a total watershed of 4,555 acres capable of generating 6,000 cfs of flood flow during a 100-year return period event. The tidally influenced portion of San Pedro Creek begins at Matthews Street and continues downstream to the confluence with San Jose Creek. The District has routinely desilted the channel just downstream of James Fowler Road for a length of approximately 2,000 feet.

**Carneros Creek Basin.** The Carneros Basin watershed drains approximately 2,641 acres capable of generating 3,500 cfs of flood flow during a 100-year return period event. Lake Los Carneros is located within the watershed, but traps very little sediment in relation to the total



watershed (approximately 1/10 of the total). The existing sediment basin (6' x 60' x 600') located on Carneros Creek downstream of Hollister Avenue traps most of the sediment before it enters the slough. District activities typically have been restricted to desilting this basin, although the creek has been desilted to its confluence with Tecolotito Basin after large storms.

**Tecolotito Creek Basin.** Tecolotito Basin drains the 3,858 acre Glen Annie Canyon watershed, which is capable of generating 4,600 cfs during a 100-year return period event. The existing sediment basin (8' x 100' x 550') just downstream of Hollister Avenue traps most of the sediment before entering the slough. District activities have typically been restricted to desilting this basin, although the creek has been desilted to its confluence with Carneros Creek after large storms.

### 2.3.1 Hydraulic Desilting (Dredging)

Hydraulic desilting in Atascadero, San Jose, and San Pedro Creeks (methodology utilized when quantities of sediment exceed 50,000 cy in the three creeks combined) is accomplished by using a hydraulic pipeline "cutterhead" dredge. A hydraulic dredge mixes large quantities of water with the excavated material to create a slurry which is then pumped out of the three channels and is piped to Goleta Beach. A cutterhead dredge has an active rotating auger surrounding the suction line. The material is pumped up to the dredge and discharged through a pipeline onto the beach for beach nourishment purposes. The District hires dredging contractors to perform the hydraulic dredging operations and operate the dredge to pipe the excavated beach compatible material directly into the surf zone at Goleta County Beach Park. Compatible material is transported by means of a 12" discharge pipeline which passes through a 24" diameter PVC pipe sleeve that has been permanently installed underneath the parking lot at Goleta Beach County Park.

Historically, the Program design depth has averaged approximately -3.5 feet on the Vertical Datum = NAVD88 and Horizontal Datum = NAD83. The mean lower low water (MLLW) depth is -3.59 feet. The maximum -3.5 foot dredging depth is utilized in all hydraulic dredging operations and allows for enough sediment to be removed from the three channels in order to maintain sufficient flow capacity in the creeks. The sediment that is removed from the -3.5 foot dredging depth is sandy material. Sediment that is found deeper than -3.5 feet is often found to be made up of finer sediment, which usually does not consist of beach compatible material. Also, sediment that is deeper than -3.5 feet contains more clay-like characteristics.

Staging areas are utilized to prepare and store dredging equipment for hydraulic dredging operations. There are two potential staging areas along the eastern parking lot at Goleta Beach County Beach Park and one staging area alongside Atascadero, San Jose, and San Pedro Creeks.

In past years when the District has done hydraulic desilting the dredge has been placed in the slough by a crane at the east end of the Goleta Beach parking lot and then it begins to work upstream (Figure 2-3). A 12-inch polyurethane pipe attached to the dredge has been floated towards a point on Atascadero creek where the pipe exits the water, runs under the bike path (in 2 locations), and then through a sleeve under the parking lot to the discharge point into



the surfzone approximately 2,500 feet west of the Slough mouth (Figures 2-4 and 2-5). If any material is found to be unsuitable for beach disposal, then this portion of the creek would not be hydraulically dredged and instead would be dragline desilted and that sediment would be trucked to a permitted upland disposal site instead. The bike path crossings are installed each year and repaired to pre-project conditions at the end of each season. In cases where high surf conditions threaten to cause damage to the outfall or if too much sediment builds up at the discharge point due to insufficient surf action, a loader has been utilized to relocate the end of the discharge pipeline to a better location. Additional pipe is added as the dredge moves upstream.

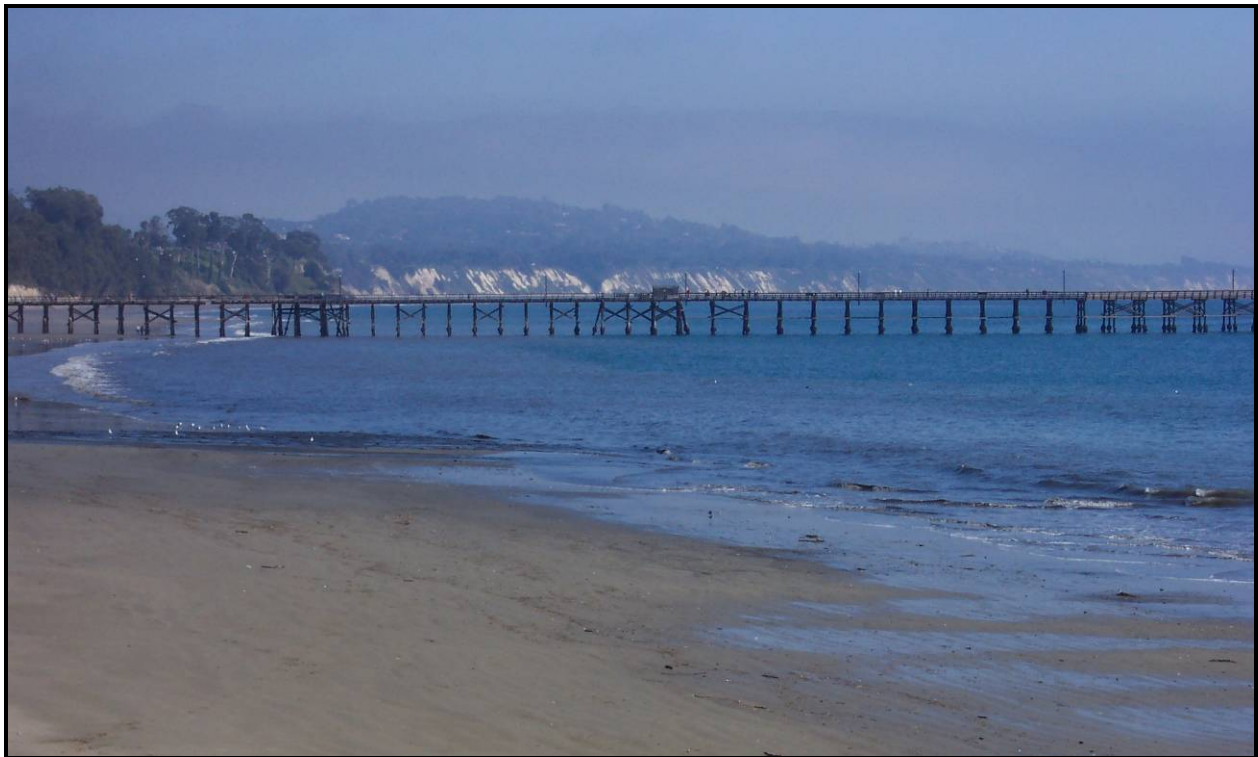


**Figure 2-3. Hydraulic Desilting (Winter 2005)**





**Figure 2-4. Discharge Pipe into Surf Zone at Goleta Beach**



**Figure 2-5. View Looking East at Discharge Pipe into Surfzone**





### **2.3.2 Dragline Desilting**

Until 1994, sediment was traditionally removed from all the creeks in the slough with a dragline. From 1994 until present, Tecolotito and Carneros Basins are the only watercourses that have continued maintenance using only dragline desilting due to the fact that these creeks were specifically designed to be maintained in this manner since it would not be economically or technically feasible to extend a pipeline from a hydraulic dredge placed in the basins to the coast. However, when desilting volumes have not reached a total of 50,000 cubic yards and maintenance activities are still required, dragline desilting is also utilized in the Atascadero, San Jose, and San Pedro basins that are typically hydraulically desilted.

Access for draglining Tecolotito and Carneros Creek Basins is via Hollister Avenue turning south on Firestone or South Los Carneros Roads. Stockpiling of soils is located along the eastern bank/access roadway to the Carneros Creek Basin and along both western and eastern bank/access roadways for the Tecolotito Creek Basin. If required, access to Atascadero, San Pedro, and San Jose Creeks is via Hollister Avenue to South Fairview Avenue, South Kellogg Avenue, or Ward Drive. Stockpiling of sediment would be on eastern bank/access roadway of San Pedro Creek, western bank/access roadway of San Jose Creek, and along the northern bank/access roadway of the Atascadero Creek Channel.

A dragline bucket system consists of a large bucket which is suspended from a boom (a large truss-like structure) with wire ropes. The bucket is maneuvered by means of a number of ropes and chains. The hoist rope, powered by large diesel or electric motors, supports the bucket and hoist-coupler assembly from the boom. The dragrope is used to draw the bucket assembly horizontally. In a typical cycle of excavation, the bucket is positioned above the material to be excavated. The bucket is then lowered and the dragrope is then drawn so that the bucket is dragged along the surface of the material. The bucket is then lifted by using the hoist rope. A swing operation is then performed to move the bucket to the place where the material is to be dumped. The dragrope is then released causing the bucket to tilt and empty. The bucket can also be 'thrown' by winding up to the jib and then releasing a clutch on the drag cable. This would then swing the bucket like a pendulum. Once the bucket had passed the vertical, the hoist cable would be released thus throwing the bucket.

The primary limitations of draglines are their boom height and boom length, which limit the width of the channel that can be desilted and where the dragline can unload the material removed. Another primary limitation is their dig depth, which is limited by the length of rope the dragline can utilize.



**Figure 2-6. Dragline Desilting**

### **2.3.3 Sediment Removal Volumes**

As indicated in Table 2-2, approximately 919,796 cubic yards of sediment have been removed to maintain the basins and channels within the Goleta Slough since 1993. Dragline desilting accounts for approximately 550,300 cy removed from the five cumulative tributaries and hydraulic dredging accounts for approximately 369,496 cy removed from Atascadero, San Jose, and San Pedro Creeks. It is important to note that both dragline and hydraulic desilting methodologies can be used during any given maintenance year (as shown during the 94/95, 98/99, and 2005 maintenance seasons).

During the eight (8) seasons that desilting activities have been performed an average of 115,000 cubic yards have been removed per season. However, based on seasonal conditions the amount of material accumulated varies; accounting for a range of 10,000-238,000 cubic yards removed in any given year to provide the best balance of flood protection, habitat protection, and desilting economy.



**Table 2-2. Summary of Sediment Volumes Removed (Cubic Yards)**

YEAR	ATASCADERO		SAN PEDRO		SAN JOSE		CARNEROS	TECOLOTITO	TOTALS
	<i>Hydraulic</i>	<i>Dragline</i>	<i>Hydraulic</i>	<i>Dragline</i>	<i>Hydraulic</i>	<i>Dragline</i>	<i>Dragline</i>	<i>Dragline</i>	
<b>94/95 (Phase I)</b>	50,000	80,000	-	50,000	-	30,000	18,000	40,000	268,000
<b>95/96 (Phase II)</b>	63,853	-	12,134	-	18,054	-	-	-	94,041
<b>98/99</b>	51,500	40,000	4,500	30,000	13,000	20,000	10,000	30,000	199,000
<b>00/01</b>	14,800	-	6,100	-	4,100	-	6,000	-	31,000
<b>01/02</b>	33,540	-	9,565	-	17,850	-	1,400	3,000	65,355
<b>2003</b>	-	8,100	-	6,600	-	7,200	-	-	21,900
<b>2005</b>	46,520	20,000	10,790	50,000	13,190	35,000	20,000	35,000	230,500
<b>2006</b>	-	-	-	5,000	-	-	5,000	-	10,000
<b>TOTALS</b>	<b>260,213</b>	<b>148,100</b>	<b>43,089</b>	<b>141,600</b>	<b>66,194</b>	<b>92,200</b>	<b>60,400</b>	<b>108,000</b>	<b>919,796 cy</b>
<b>ADDED TOTALS</b>	<b>408,313</b>		<b>184,689</b>		<b>158,394</b>		<b>60,400</b>	<b>108,000</b>	<b>369,496 Hydraulic</b>  <b>550,300 Dragline</b>



## 2.4 SEDIMENT ANALYSIS AND DISPOSAL ALTERNATIVES

### 2.4.1 Sediment Analysis

During the past maintenance activities, prior to desilting and/or discharge; sediments within the creek have historically been sampled in accordance with a pre-approved Sampling and Analysis Plan (SAP) that includes sampling for various constituents (including; but not limited to total petroleum hydrocarbons, pesticides, PCBs, metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (Table 2-4). The results shown in Table 2-4 and Figure 2-6 indicate that sediment removed from the Goleta Slough tributaries has predominantly been suitable (i.e. fines < 25%) for beach replenishment. Sediment samples taken from Atascadero Creek and Tecolotito Basin have always had sediments suitable for beach replenishment. Samples taken from Carneros Basin and San Jose/San Pedro Creeks have exceeded required percentages of fines on occasion; ranging from a slight overage up to approximately 43.5% in San Pedro Creek.

It is important to note that testing results for contaminants have always been at levels below the established State action level guidelines. When sampled, analytical results for fecal coliform have shown very low levels (2-4 MPN/gm) within San Jose, San Pedro, and Carneros Creeks/Basin; however may be higher in the lower reaches of the Goleta Slough in areas such as lower Atascadero Creek (3,000-5,000 MPN/gm) and Tecolotito Basin (11,000-17,000 MPN/gm).

### 2.4.2 Disposal Options

The following disposal options have been utilized during the past maintenance activities:

- **Beach Replenishment.** Since 1993, approximately 77% of dredged materials from the Goleta Slough have been taken/discharged to Goleta Beach for beach replenishment (Tables 2-4, 2-5 and Figure 2-1), although 85%+ of material removed has been tested as suitable, but have sometimes been utilized for upland re-use. Beach replenishment can be accomplished through a direct discharge during hydraulic desilting activities or through hauling of dried stockpiled material after draglining has occurred.
  - **Direct Discharge During Hydraulic Desilting.** When hydraulic desilting is proposed, sediments are sampled and analyzed to achieve a stream depth that maximizes the amount of beach-suitable sediment to be removed. The removed sediment is directly discharged for beach replenishment through a 12-inch polyurethane pipe attached to the dredge that has been floated towards a point on Atascadero creek where the pipe exits the water, runs under the bike path, then through a sleeve under the parking lot to the discharge point into the surfzone, approximately 2,500 feet west of the Slough mouth.
  - **Hauling By Subcontractors to Goleta Beach.** When the desilted material removed by dragline has been shown to be compatible for beach replenishment, it is allowed to dry sufficiently such that it can be safely hauled on the local public



roads to Goleta Beach Park. The District has worked with County Parks to minimize impacts to park users. The District and Parks have reinforced the roadway in the park and have built a ramp that allows the trucks hauling the material to back down onto the beach. Once the material is dumped from the truck a bulldozer operated by an experienced District employee pushes the sand into the surf zone.

- **Upland Re-Use.** If the material is shown to be too fine or otherwise unsuitable for beach replenishment, they have been made available to the public; and have been historically removed within one year. Approximately 130,000 cy of desilted material (that was shown to be generally suited for beach replenishment) was utilized after the 98/99 season and approximately 40,000 cy in 2005 was utilized for upland development fill. The sediment is readily accessible and typically has been removed by contractors at no cost to the County, who are required to obtain an encroachment permit before bringing in their own loader and trucks. Access to Tecolotito Basin is from Hollister Avenue, and Carneros Basin is accessed from Firestone Road. A Flood Control District representative is responsible for checking on the Contractor's employees on a daily basis when spoils are being removed. Strict dust control measures are implemented by the contractor with oversight from District personnel.
- **Disposal.** In the event that contractors do not want the spoils for fill material, the material has been historically taken to southern Santa Barbara County dirt stockpile sites or disposed of at a local landfill with available capacity.

#### 2.4.3 Typical Truck Trips Resulting from Disposal

The following provides an estimate of trucks/hour based on past experience when hauling spoils to the beach or to the Foothill Landfill during desilting operations within the Goleta Slough.

##### **Atascadero Creek:**

To Beach: 10 Trucks/Hour  
To Foothill: 10 Trucks/Hour

##### **San Jose Creek:**

To Beach: 15 Trucks/Hour  
To Foothill: 10 Trucks/Hour

##### **San Pedro Creek:**

To Beach: 15 Trucks/Hour  
To Foothill: 10 Trucks/Hour

##### **Carneros:**

To Beach: 10 Trucks/Hour  
To Foothill: 10 Trucks/Hour

##### **Tecolotito:**

To Beach: 10 Trucks/Hour  
To Foothill: 10 Trucks/Hour





**Table 2-4. Summary of Historic Sampling Results and Disposal of Dredged Material (June 2001 – October 2006)**

Monitoring Report	Included	Desilting Methodology	Sediment Sample Results			Disposal Recommendation
			Mean Fines (passing #200 sieve)	Contaminates?	Fecal Coliform	
4/20/93	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	~24%	Below established State action level guidelines	Not Sampled	No recommendations
7/9/93	Tecolotito and Los Carneros	Dragline	Los Carneros: 4% Tecolotito: 30%	Not available	Not Sampled	No recommendations
7/9/98	Atascadero, San Jose, San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. 13% for 10 composite samples	Not available	Not Detected	No recommendations
12/6/00	Tecolotito and Los Carneros	Dragline	Los Carneros: 9% Tecolotito: 11%	Below established State action level guidelines	Not Detected (fecal) 30-90 (total)	Suitable for disposal at Goleta Beach
6/1/00	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. of 30% for 10 composite samples	TPH C12-C38 25-140 mg/kg	20 MPN/gm (fecal) *2100 MPN/gm (fecal) Atascadero 70-80 MPN/gm (total) *3600 MPN/gm (total) Atascadero	No recommendations
8/11/00	Atascadero, San Jose, and San Pedro	Hydraulic/Dragline	Sediments within Planned desilting depths of the three creeks avg. of 17% for 9 composite samples	TPH C12-C38 1.2-140 mg/kg	Not Detected at Laboratory Detection Limits	No recommendations
3/23/01	San Pedro and Los Carneros	Dragline	San Pedro: 7% Los Carneros: 11%	Below established State action level guidelines	San Pedro: 11 MPN/gm Los Carneros: 14 MPN/gm	Suitable for disposal at Goleta Beach
6/11/01	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 6% San Jose: 12% San Pedro: 17%	Below established State action level guidelines	Not Sampled	Suitable for disposal at Goleta Beach
11/28/01	Tecolotito and Carneros	Dragline	Tecolotito: 21% Carneros: 17%	Below established State action level guidelines	Not Sampled	Goleta Beach, with exception of finer grained silty sand at the downstream end of Carneros
9/22/03	Atascadero, San Jose, and San Pedro	Hydraulic	Atascadero: 9.75% San Jose: 28.5% San Pedro: 8.75%	Below established State action level guidelines	Not Sampled	No recommendations
1/20/05	San Jose Creek San Pedro Creek	Hydraulic/Dragline	Los Carneros: 28.4% San Pedro: 13.4%	Below established State action level guidelines	4 out of 6 < 2 MPN/gm	90% suitable for beach disposal, 10%



**Table 2-4. Summary of Historic Sampling Results and Disposal of Dredged Material (June 2001 – October 2006)**

Monitoring Report	Included	Desilting Methodology	Sediment Sample Results			Disposal Recommendation
			<i>Mean Fines (passing #200 sieve)</i>	<i>Contaminates?</i>	<i>Fecal Coliform</i>	
	Carneros Basin		San Jose: 23.6%		San Pedro and San Jose (2 and 4 MPN/gm)	from Carneros disposal at upland disposal site
1/24/05	Tecolotito Basin	Dragline	17.6% (avg)	Below established State action level guidelines	Between 11,000-17,000 MPN/gm	No recommendations
2/2/05	Atascadero Creek	Hydraulic	10.6% (avg)	Below established State action level guidelines	3,000-5,000 MPN/gm	No recommendations
11/7/05	Atascadero*, San Jose, and San Pedro	Hydraulic+ Excavation	Atascadero: 21.9% San Jose: 7.5% San Pedro: 43.5%	Below established State action level guidelines	Not Detected at Laboratory Detection Limits	Goleta Beach
10/26/06	San Pedro and Carneros	Hydraulic	San Pedro: 33.8% Carneros: 36% Goleta Beach West: 13.6% Goleta Beach East: 9.4%	Below established State action level guidelines	Not Sampled	Upper material suitable for beach disposal, while deeper finer grained material should be disposed at upland site

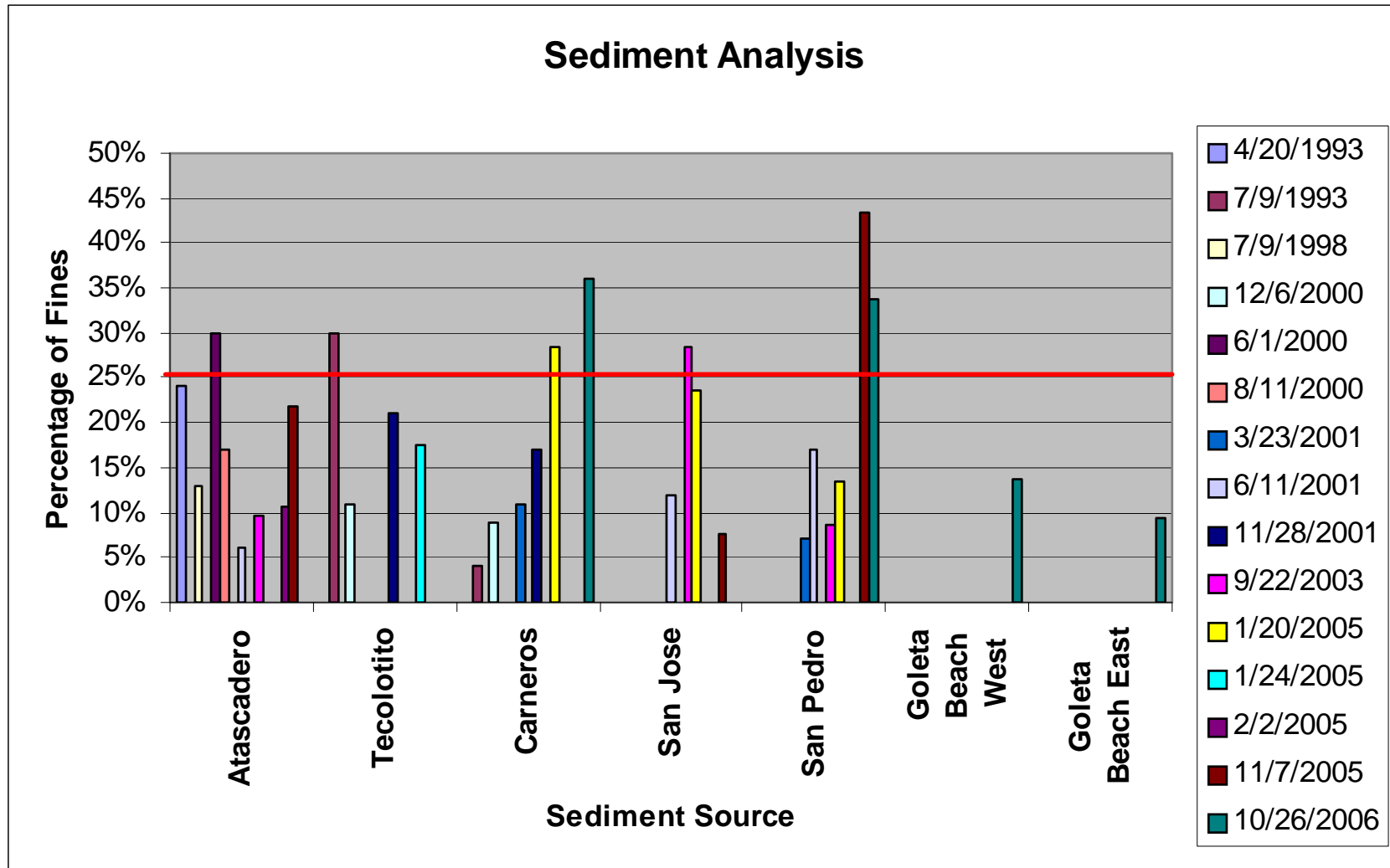
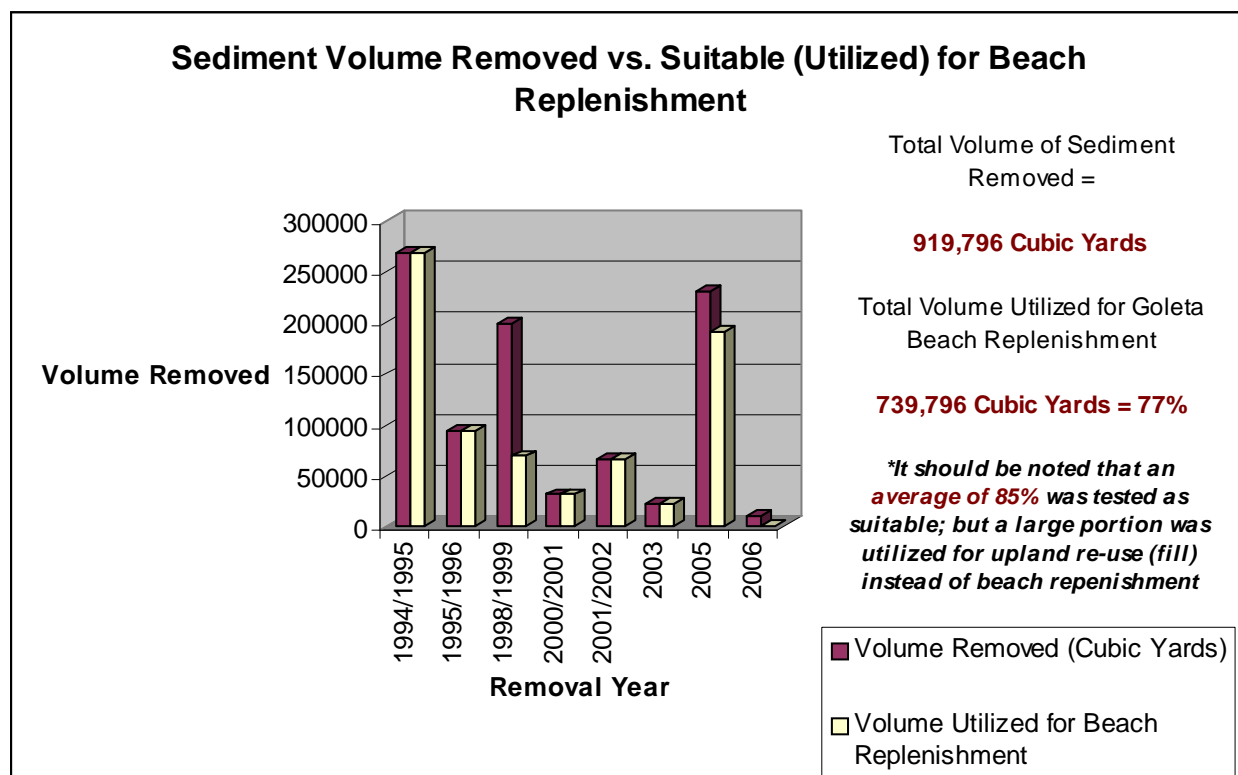


Figure 2-6. Sediment Analysis Summary: Percentage of Fines (2001-2006)



**Table 2-5. Dredged/Desilted Volume Removed vs. Amount Utilized for Beach Replenishment**

Year	Volume Removed (Cubic Yards)	Amount Utilized for Beach Replenishment	Percentage of Material Suitable for Beach Replenishment
<b>94/95 (Phase I)</b>	268,000	Total Volume Removed	100%
<b>95/96 (Phase II)</b>	94,041	Total Volume Removed	100%
<b>98/99</b>	199,000	69,000 Beach 130,000 Upland* <i>(Although Sediment Qualified for Beach Replenishment - Contractor Would Haul for Free to Upland Development Site that Needed Fill)</i>	35%*
<b>00/01</b>	31,000	Total Volume Removed	100%
<b>01/02</b>	65,355	Total Volume Removed	100%
<b>2003</b>	21,900	Total Volume Removed	100%
<b>2005</b>	230,500	190,500 Beach 40,000 Upland	83%
<b>2006</b>	10,000	None	0%



**Figure 2-7. Sediment Removed vs. Volume Utilized for Beach Replenishment**



## 2.5 COMPLIANCE WITH EXISTING PERMITS

In order to perform routine maintenance activities within the Goleta Slough, the District has obtained the following permits (Table 2-6). These permits have incorporated measures outlined within the PEIR (1993) and also contain site-specific conditions of approval that have been implemented and monitored as necessary throughout previous maintenance events. Future maintenance activities would also require a permit from the newly incorporated City of Goleta.

**Table 2-6. Summary of Existing Project Permits**

County Permit	Dated	Valid Through
CCC – Coastal Development Permit No. 4-05-139	12/12/05	12/12/10
CDFG – Stream or Lake Alteration Agreement (Notification No. 5-109-00)	11/7/00 And 9/5/06	11/1/08
USACE – Permit No. 200001339-JEM	1/10/05	9/30/10 Under 33 CFR 325.7(b)
CSLC – Desilting of Lease PRC 7763.9	12/9/05	12/9/10
CRWQCB – Central Coast Region: Order No. 94-17	6/3/94	2009
City of SB – Resolution No. 049-00	11/2/00	11/2/10 in accordance with CDP
SBC APCD –	9/11/01	Pending

**Goleta Slough Mouth Opening.** In accordance with existing conditions of approval and cooperative agreements with US Army Corps of Engineers and the BEACON Project; the District must open the mouth of the Goleta Slough within two (2) weeks of it closing. In order to open the Goleta Slough mouth, material is removed as necessary until the inlet areas has stabilized. Since establishment of this task as part of the County routine maintenance activities, the Goleta Slough mouth has been re-opened on the following dates:

- 1/11/94
- 3/23/94
- 4/25/94
- 3/10/97
- 9/2/98
- 10/8/99
- 10/8/03
- 6/30/04
- 12/9/04
- 12/22/04
- 8/10/06
- 12/29/06
- 5/11/07
- 11/16/07
- 11/20/07
- 12/8/07





**Figure 2-8. Re-opening of Goleta Slough Mouth During Routine Maintenance Activities**

**Timing Restrictions.** As shown in Table 2-7\* below, the existing Program is subject to several permit conditions of approval that limit the timing of various maintenance activities (starting from the fall work season). White boxes indicate those times when activities are permitted; grey are those that have timing restrictions from the issuing permitting agency. As shown, October is the primary month that has been left unrestricted for the purposes of flood control desilting maintenance activities.

\* Note that the "calendar" in Table 2-7 starts in September.



**Table 2-7. Current Conditions of Approval - Timing Restrictions**

Permit Condition	Month of Occurrence											
	S	O	N	D	J	F	M	A	M	J	J	A
<b>Dragline Desilting: Tecolotito and Carneros Basins, Atascadero, San Jose and San Pedro Creeks</b>												
CCC: All draglining/desilting shall occur only during the period 10/15 through 4/1												
CDFG: Activities within stream course is limited from 5/1 to 11/30												
USACE: Dragline desilting activities shall only occur before the rainy season between 8/1 and 11/1 of any given year to avoid adverse affects to steelhead migration												
CRWQCB: Operations to be concluded before 3/31 to avoid Grunion												
City of SB: Draglining of Tecolotito and Carneros siltation basins will occur after 8/1 and before the first winter storm to minimize siltation to downstream reaches and impacts to birds												
City of SB: Perform activities after swallow breeding season has been completed and prior to next season (4/1 to 8/1)												
<b>Hydraulic Desilting: Atascadero, San Jose, and San Pedro Creeks</b>												
CCC: All desilting/desilting shall occur only during the period 10/15 through 4/1												
CDFG: Hydraulic desilting can occur from 10/15 through 4/1												
USACE: Hydraulic Desilting shall be scheduled to begin 10/15 and cease 2/1 to prevent adverse impacts to outmigrating smolts												
CRWQCB: Operations to be concluded before 3/31 to avoid Grunion												
<b>Sand Replenishment</b>												
CDP: Sediment disposal/beach replenishment may not occur from Memorial Day (end of May) through Labor Day (beginning of Sept)												
USACE: No beach disposal during Grunion spawning 3/1 through 9/1												
CRWQCB: Discharge to the surf zone shall be limited to the interval between 11/1 and 3/31												
<b>Restoration Activities</b>												
CDFG: All planting shall be done 10/1 through 2/1 to take advantage of winter rainy season												
<b>KEY:</b>		<b>= Work May Occur</b>			<b>= Work May Not Occur</b>							



### **3.0 PROPOSED UPDATED MAINTENANCE PROGRAM**

#### **3.1 UPDATED PROGRAM OBJECTIVES**

The intent of the District is to prepare an updated Maintenance Program for Flood Control maintenance activities in the Goleta Slough and an associated Supplemental EIR. The Program will be used for routine maintenance events that will not require yearly re-evaluation or addendum to the SEIR. The methodology proposed for the Program is similar to that currently utilized; however the updated Maintenance Program will incorporate the following:

- Updated Project-description information: Desilting practices, incorporation of construction best management practices, and recognized/administered permit conditions of approval based on past 13 years of sediment removal maintenance experience (Section 3.2);
- Establishment of a construction working window based on past experience that will minimize potential environmental impacts while utilizing the timeframe appropriate to perform maintenance activities in a manner that will optimize efficiency of proposed desilting operations and potential beach replenishment opportunities (Section 3.3);
- Construction-timing and coordination of desilting activities in relation to established practices with respect to endangered/threatened species of special concern (such as California Steelhead and Tidewater Goby) (Section 3.3);
- Development of a Sampling and Analysis Plan that will establish pre-project sampling requirements and protocol and will further define parameters of beneficial re-use of materials for beach replenishment versus other disposal options (Section 3.4), and
- Establishment of Upland Disposal Site at the closed Foothill Landfill (Section 3.5).

#### **3.2 UPDATED PROJECT DESCRIPTION/METHODOLOGY**

As described in Section 2.0 (Current Maintenance Program), a combination of hydraulic and dragline desilting methods are utilized by the District as appropriate to perform maintenance within Tecolotito and Carneros Creek Basins as well as Atascadero, San Jose, and San Pedro Creeks. These two methodologies will remain consistent within the updated Maintenance Plan, but the methodology chosen each season will depend on volume of material required for removal, access to areas requiring maintenance, and seasonal conditions that would require expedient timing of operations. It is estimated by the District that when volumes of sedimentation exceed 50,000 cubic yards (on San Pedro, San Jose, and Atascadero combined); it is economically feasible to utilize hydraulic desilting. When volumes have not reached a total of 50,000 cubic yards and maintenance activities are still required; dragline desilting will be utilized; even in the Atascadero, San Jose, and San Pedro creeks that are typically hydraulically desilted. Proposed maintenance, staging, and equipment areas for both desilting methodologies are shown on Figure 3-1 and further described below.









### 3.2.1 Hydraulic Desilting

Continuing the use of a floating hydraulic dredge is proposed to desilt the tidally influenced portions of Atascadero, San Jose, and San Pedro Creeks when there is sufficient material (greater than 50,000 cubic yards) present. If feasible; hydraulic desilting would be done as frequently as necessary to remove accumulated sediment to maximize Program efficiency by avoiding the prolonged periods of dredging operations required for larger volumes of material.

Consistent with past operations, the dredge will be placed in the slough by a crane at the east end of the Goleta Beach parking lot and work upstream. A 12-inch polyurethane pipe attached to the dredge will be floated towards a point on Atascadero creek where the pipe exits the water, runs under the bike path (in 2 locations), then through a sleeve under the parking lot to the discharge point into the surfzone approximately 2,500 feet west of the Slough mouth at Goleta Beach. If any material is found to be unsuitable for beach disposal, this portion of the creek would not be hydraulically dredged and instead would be dragline desilted and that sediment would be trucked to a permitted upland disposal site as further described in Section 3.5 (Disposal Options) below. The bike path crossings are installed each time hydraulic dredging occurs and repaired to pre-project conditions at the end of each season. The bike path remains usable during dredging operations. In cases where high surf conditions threaten to cause damage to the outfall or if too much sediment builds up at the discharge point due to insufficient surf action, a loader has been utilized to relocate the end of the discharge pipeline to a better location. Additional pipe is added as the dredge moves upstream.

**Equipment.** The type of hydraulic dredge that has been used to desilt Goleta Slough has been similar to the Ellicot 270/370 or DMC Barracuda 10 series. These dredges run on diesel and are capable of moving approximately 100 to 300 cubic yards of sediment per hour. For purposes of this analysis, an average discharge rate of 200 cubic yards per hour is assumed.

Hydraulic dredges contain onboard pumping equipment. The suction pipe is fitted with a rotating cutterhead that loosens the material to be excavated for easier entrainment. The dredge can pivot on swing spuds or can be pulled in an arc by cable anchored to “deadman” points on shore, thus enabling it to dredge the width of the channel. It can also use just the spuds to move forward as well as side to side. If the dredge contractor chooses to use cable they can be moved as needed to previously established “deadman rigs” by truck. A deadman rig is essentially a 10 foot length of 3 inch diameter pipes pounded into the ground that the cables can pull against. Truck access currently exists along the affected creeks.

Due to the distance from the desilting starting point to the mouth of the slough, and depending on the exact dredge that is used in a given year, a booster pump may be required to maintain 200 cubic yards per hour of discharge. There are several booster pumps available that could be floated like the dredge or stationed on the bank of the slough approximately 3,000 feet from the working area. A typical hydraulic desilting equipment spread is shown in Table 3-1 below.





**Staging/Access.** Access to the Project Site/staging areas is via Highway 101 and heading south on Highway 217 to Goleta Beach County Park. As shown in Figure 3-1, one staging area has been established at each creek and one in Goleta Beach Park near the mouth of the slough. An area estimated at 200 feet long x 100 feet wide has been secured for pipeline and float storage near each creek. The comparably sized staging area in Goleta Beach Park has been used for placing the downstream sections of the pipeline and for launching the dredge. An alternative dredge launch area has been considered along the eastern extent of Atascadero Creek channel south of Ward Drive. Each area is utilized for the duration of the desilting in that area in addition to a 1 to 2-week mobilization and demobilization period. The staging area at Goleta Beach Park would be occupied during the entire construction period, although it can be reduced in size when operations occur further upstream. As shown in Figure 3-1, there are four delineated resource areas of avoidance where staging will not occur during hydraulic desilting operations.

**Personnel Requirements.** Under normal circumstances, an average of four workers is anticipated for hydraulic desilting activities at any given time. Two are required to operate the dredge and the other two are moving and connecting pipe and checking on the discharge point. Under certain circumstances more labor may be required for short periods of time on specific tasks. Additionally, a District staff member would check on the desilting operations at least two times a day.

**Timing.** Hydraulic desilting has historically been performed a minimum of 10 hours a day, but also can be done up to 24 hours a day, seven days a week. Desilting takes approximately 38 days (excluding holidays) if 10 hour days are assumed, and 16 days if desilting takes place 24 hours a day. Based on past operational experience mobilization and demobilization will take approximately 10 days each to complete.

**Summary.** Table 3-1 provides a summary of equipment/personnel requirements for hydraulic desilting of Atascadero, San Jose, and San Pedro Creeks.

**Table 3-1. Equipment/Personnel Requirements for Hydraulic Desilting**

HYDRAULIC DESILTING Atascadero, San Jose, and San Pedro Creeks	
<i>Equipment</i>	<i>Personnel</i>
(1) Crane: 15 Ton Grove (1) Hydraulic Dredge: (Ellicot 270/370 or DMC Barracuda 10) (1) Forklift: Ingersoll Rand VR-642C (1) Loader/Dozer: John Deere 550G (1) Welding Machine: MQ Whisperweld 300 amp DC welder (1) Fusion Machine: McElroy Manufacturing Skiff (1) Rubber Track Dump Truck: Kamatsu 220 V-Turbo (1) Booster Pump (If necessary)	4 workers 1 FCD employee



### 3.2.2 Dragline Desilting

Dragline desilting methodology will be utilized for maintenance activities for the Tecolotito and Carneros Creek Basins due to the fact that they were designed to be maintained in this manner, and it would not be economically or technically feasible to extend a pipeline from a hydraulic dredge placed in the basins to the coast. However, when desilting volumes have not reached a total of 50,000 cubic yards and maintenance activities are still required, dragline desilting will also be utilized in the Atascadero, San Jose, and San Pedro Creeks that are typically hydraulically desilted.

Dragline desilting is dictated by need, with each basin/creek requiring routine maintenance approximately every 3 to 5 years. The basins within the creeks are designed to trap sediments and minimize the amount of maintenance that would be required downstream; however, in the event of severe storms or other conditions resulting in the deposition of unusually large amounts of sediments, some maintenance of the lower portions of the creeks could be required.

**Equipment.** To remove the sediment, a crane (rated at 100-tons or larger) rigged as a dragline would work from the sides of the creeks or basins, depositing the spoils in designated stockpile areas, approximately 30 to 150 feet from the top of the bank. The affected area where material is stockpiled would be approximately 40-70' wide for Carneros Creek Basin as well as Atascadero, San Jose, and San Pedro Creeks (if draglined) and 100-150' wide for Tecolotito Creek Basin (see Figure 3-1).

**Staging/Access.** As shown in Figure 3-1, access for draglining of the Tecolotito and Carneros Creek Basins is via Hollister Avenue turning south on Firestone or South Los Carneros Roads. Stockpiling of soils is located along the eastern bank/access roadway to the Carneros Creek Basin and along the western and eastern bank/access roadway for the Tecolotito Creek Basin. If required, access to Atascadero, San Pedro, and San Jose Creeks is via Hollister Avenue to South Fairview Avenue, South Kellogg Avenue, or Ward Drive. Stockpiling of soils would be on eastern bank/access roadway of San Pedro Creek, western bank/access roadway of San Jose Creek, and along the northern bank/access roadway of the Atascadero Creek Channel.

**Personnel Requirements.** It is estimated that one or two workers would be required to operate and maintain the crane during dragline desilting operations at a single location. Additionally, a District staff member would check on the desilting operations at least two times a day.

**Timing.** Dragline desilting would take place approximately 10 hours per day, five days a week. It is estimated that 100 cubic yards per hour can be removed by dragline desilting; therefore ~1,000 cubic yards/day can be removed from each location. If conditions allow, more than one site may be draglined at a time. Based on past experience, it is anticipated that draglining maintenance activities would last approximately 4 weeks not counting the time it takes to remove the spoils after they have dried sufficiently to be hauled. Consistent with what has been done in past maintenance activities (Section 2.4.3), sediment suitable for hauling to



Goleta Beach is anticipated to require up to 15 truck trips/hour from the sediment stockpiling areas to the beach. Spoils not suitable for beach replenishment would be transported from the sediment stockpiling areas to Foothill Landfill at a rate of approximately 10 truck trips/hour.

**Summary.** Table 3-2 provides a summary of equipment/personnel requirements for dragline desilting maintenance activities.

**Table 3-2. Equipment/Personnel Requirements for Dragline Desilting**

<b>DRAGLINE DESILTING</b> <b>Typically Tecolotito and Carneros Basins; May also be appropriate for Atascadero, San Jose, and San Pedro Creeks if removal volume is cumulatively less than 50,000 cy</b>	
<b>Equipment</b>	<b>Personnel</b>
(1) >100 ton crane  <u><i>If sediment is good for beach replenishment:</i></u>  (10) Trucks/Hour to haul for beach replenishment (1) Bulldozer  <u><i>If sediment is not beach compatible:</i></u>  (10) Trucks/Hour for hauling by contractors	1-2 workers (at each location) 1 FCD employee

### 3.3 PROJECT TIMING

As previously discussed (Section 2.5 and Table 2-7), there is a very limited construction window available thru permits the District currently has to accomplish the Maintenance Program objectives outlined in Section 3.1. As such, the District has proposed the following Project timing for typical operations, beach replenishment, and upland re-use/disposal activities. Emergency operations are not included in the typical operation timing windows. The proposed timing has been selected in order to minimize potential environmental impacts while providing enough time to perform maintenance activities in a manner that will optimize efficiency of proposed desilting/beach replenishment operations. It is important to note that ***when timing is in exceedance of previously approved conditions of approval***, mitigations have been incorporated into the proposed Program order to reduce the potential for environmental impacts to the greatest extent feasible.

#### **Operational Window (Desilting Activities): September 15<sup>th</sup> - March 31<sup>st</sup>**

Under typical conditions, the proposed operational window for desilting activities is September 15<sup>th</sup> through March 31<sup>st</sup>. However, in the event that desilting is required



outside of the suggested operational window, the following Project-incorporated mitigation measures will be implemented to reduce the potential for biological impacts:

- *Desilting occurring within steelhead migration or smolting periods will be conducted following a presence/absence survey. If steelhead or other special-status species are found to be present within the area requiring maintenance activities, exclusionary netting will be set-up around the desilting operations in order to re-direct fish and avoid conflict with migration/breeding activities.*

**Beach Replenishment: September 15<sup>th</sup> - May 15<sup>th</sup>**

During hydraulic desilting activities, beach replenishment will occur from September 15<sup>th</sup> through March 31<sup>st</sup>. Hydraulic discharge to the surfzone is proposed during periods of high seasonal coastal turbidity to replace sand scoured from the beach during the winter months.

Dragline desilting may result in stockpiled materials that will be transported to Goleta Beach by trucks until May 15<sup>th</sup> (in order to avoid active recreational use after Memorial Day). In the event that the optimal beach replenishment has not been accomplished by this time; the following Project-incorporated mitigation measures/alternatives will be implemented to reduce the potential for biological and recreational impacts:

- *Discharge of sediments will be directed to the eastern portion of Goleta Beach in order to minimize potential conflict with recreational users of the area.*
- *Surveys for California grunion and special-status bird species will be performed prior to discharge. If these species are observed utilizing the beach for spawning or breeding activities, beach replenishment activities will be suspended until the grunion spawning season and active bird nesting/breeding season is completed.*

**Upland Re-use/Disposal: Year-Round**

If sediments removed are only appropriate for upland re-use and/or disposal; the District may coordinate with contractors to stockpile the material removed or have it trucked offsite to the closed Foothill Landfill at any time during the year. Proposed truck routes from the Project Site to Foothill Landfill are shown in Figure 3-2.









### 3.4 SAMPLING, MONITORING, AND REPORTING ACTIVITIES

The District is including this Sampling and Analysis Plan (SAP) to establish pre-project sampling requirements and protocol. The purpose of a Project-incorporated SAP is to further define parameters of beneficial re-use of materials for beach replenishment versus other disposal options. Based on historic sampling event results and conditions, the following procedures will be followed prior to each maintenance season.

#### 3.4.1 Pre-Project Sampling/Surveys

**Sediment Profiling for Development of Maintenance Plan.** Each spring the District surveys the Goleta Slough maintenance area to determine whether desilting activities will be necessary. If maintenance activities are required, the District will implement a Sampling and Analysis Plan (SAP) to determine the extent of material that must be removed. Based on the formula  $n=A^{1/2}/50$  (where  $n$ =number of samples and  $A$ =area), up to five boring samples will be taken from each maintenance location and tested for grain size and chemical composition. Samples will also be collected at the receiver site along two perpendicular transects to the shoreline as shown in Figure 3.4-1. For the source site samples, the boring depth shall extend no more than one (1) foot below the anticipated excavation depth.

Physical analysis of the sediment will include testing of representative samples for grain size, contaminants, color, particle shape, debris content and compatibility. Specifically, the following geotechnical and analytical tests will be performed on each boring sample in accordance with ASTM and USEPA guidelines as well as USACE and CCC permit application requirements:

##### Geotechnical:

<i>ASTM No. D4318</i>	Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
<i>ASTM No. D422</i>	Standard Test Method for Particle-Size Analysis of Soils
<i>ASTM No. D2974</i>	Standard Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

##### Analytical:

<i>USEPA No. 8080</i>	Chlorinated Pesticides and Polychlorinated Biphenyls
<i>USEPA No. 6020</i>	Total Metals: Be, Cd, Cr, Cu, Ni, Ag, Zn, An, As, Pb, Se, Ti
<i>USEPA No. 7471</i>	Total Metals: Hg
<i>USEPA No. 8270</i>	Polynuclear Aromatic Hydrocarbons
<i>USEPA No. 418.1</i>	Total Recoverable Petroleum Hydrocarbons



**Figure 3.4-1. Receiver Site Sampling Locations**

Based on these results, the District will design a desilting maintenance plan to remove material from the creeks to an approximate maximum depth of -3.5 mllw on the Vertical Datum = NAVD88 and Horizontal Datum = NAD83. The mean lower low water (mllw) depth is -3.59 feet. This depth has shown through historic testing to contain the required percentages (< 25% fines) of material with a composition to be primarily suitable for beach replenishment and meets the District's goal of providing necessary flow capacity. The side-slope ratio is 3:1 based on the presence of archaeological sites, the width of the creek channels, and an attempt to keep the dredging operations away from the banks of the creeks.

**Pre-Project Biological Resources Surveys.** In order to limit potential impacts to biological resources within the maintenance area, a pre-project biological survey will be conducted to characterize seasonal conditions and the presence/absence of special-status species within each site. Results of the survey may determine which offshore disposal location is selected for beach replenishment activities and which Project-incorporated mitigation measures will be appropriate.

### **3.4.2 Operations**

**Timing.** As indicated in Section 3.3 (Project Timing), the Project operational window has been selected in order to maximize efficiency of desilting operations while protecting



environmental resources to the greatest extent feasible. Project-incorporated mitigation measures will be followed as outlined above for protection of biological resources and recreational use of Goleta Beach. Additionally, 24-hour hydraulic desilting activities will not occur when flows exceed 20 cfs at the Maria Ygnacia stream flow gauge.

**Monitoring.** During operations, District personnel provide oversight and operational monitoring for consistency with Project-incorporated mitigation measures and permit conditions of approval. As indicated in Table 2-4 and Figure 2-6 above, previous testing has shown that a majority of sediment removed from the five creeks (> 85%) is well within the established criteria (25% or less fines) for direct beach replenishment. However, during years where desilting maintenance activities have resulted in a small amount of material in excess of 25% (historically less than 45%), this material may still be appropriate for offshore discharge if water quality/turbidity levels are observed to be consistent with those shown during a severe storm event. While hydraulic desilting is being conducted or material has been placed within the surfzone from dragline desilting activities; visual observations of water quality will be conducted in the vicinity of the offshore discharge area to ensure compliance. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report.

### 3.4.3 Post-Project Compliance

**Monitoring and Reporting.** Visual observations of offshore water quality within the vicinity of the Goleta Beach discharge location will also be conducted after maintenance activities are completed in order to document the potential effects of beach replenishment from desilting activities. Special attention will be paid to offshore presence of kelp beds and changes in beach profiles up and downcoast from the Goleta Slough mouth. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report. Reported findings will be distributed to responsible agencies following Project completion.

## 3.5 DISPOSAL

**Beach Replenishment.** Based on historic sediment testing results and subsequent post-construction monitoring/reporting performed at Goleta Beach; sediment removed during Goleta Slough maintenance desilting operations is proposed to continue to be disposed of at Goleta Beach. Although there are existing proposed ultimate limitations as established through the BEACON Program regarding the volume of sand (100,000 cubic yards) that is allowed for disposal at Goleta Beach per year, the District believes that sand replenishment from the compatible sources within the lower Goleta Slough tributaries should take precedence in fulfilling this volume. The California Coastal Commission currently permits the District to discharge up to 200,000 cy per year. Due to seasonal fluctuations in the amount of sand available for replenishment/retention; the District's is proposing maintenance activities to discharge compatible sand up to 250,000 cy at Goleta Beach in a maintenance season for beach replenishment.



**Upland Re-Use/Disposal.** In the event that sediment cannot be directly discharged for beach replenishment, it will be stockpiled and made available for blending with future desilted material to achieve desired fine percentages; or made available to the public for upland re-use as previously described. In the event that contractors do not want the spoils for fill material, the material can be taken to southern Santa Barbara County dirt stockpile sites or disposed of at a local landfill with available capacity. If necessary, the closed Foothill Landfill is the preferred disposal location. Currently, the District has a cooperative agreement established with the County Resource Recovery and Waste Management Division to provide landfill cover material at the closed Foothill Landfill. Further information regarding Foothill Landfill is provided in Section 3.5.1 below.

### **3.5.1 Closed Foothill Landfill**

**Introduction/Background.** The County Foothill Landfill is a former Class III (municipal waste) landfill that was covered with soil and closed in June 1967. The landfill is located directly across from the existing Santa Barbara County South Coast Recycling and Transfer Station, located south of Cathedral Oaks Road, between El Sueno Road and Transfer Station Road, and north of Highway 101. The proposed sediment disposal site covers approximately 27 acres of the 143 acre County-owned parcel. See Figure 3-3. The closed Foothill Landfill is being designated as an upland sediment disposal site to receive clean fill dirt that will provide additional soil cover (cap) to the landfill. The cap will eventually be restored with native vegetation once the total design fill amount is reached within the different areas on site. The Santa Barbara County Public Works Department Resource Recovery and Waste Management Division (RRWMD) currently oversees and will continue to maintain the site to ensure that the public and the environment are protected from the historic waste disposal activities. The closed Foothill Landfill has capacity for approximately 250,000 additional cubic yards of sediment.

Potential routine sources of clean sediment could include:

- Sediment from Goleta Slough Routine Maintenance that does not meet the beach nourishment percent fine permit requirements; and
- Routine Santa Barbara County maintenance activities that generate extra sediment that needs to be disposed of at an upland disposal site.





**Figure 3-3. Vicinity Map of the Closed Foothill Landfill Sediment Disposal Site**

**Site Characteristic.** The landfill site ranges in elevation from 110 feet above mean sea level (msl) at the southern toe to 283 feet msl at the berm east of the Transfer Station Road. The current topography of the site is a direct result of the historic landfilling operations. The site is currently vegetated primarily with weedy ruderal species such as castor bean, mustard, and non-native grasses, however in the early 1990s approximately 350 pine, oak, olive and eucalyptus trees and 193 toyon shrubs were planted on the landfill site and along Transfer Station Road to improve the aesthetics and provide erosion control. Additionally, the RRWMS is actively restoring approximately 7 acres of the site with native vegetation for wildlife habitat and passive recreational use with funding from state and local grants and County matching funds. The restoration is scheduled to continue for the next several years. Interpretive signs will also be installed at the site to support the use of existing roads as trails. The seven acre restoration area and trail system are outside of the proposed fill areas.

4H H.E.A.R.T.S., a riding program for the developmentally disabled, occupies several acres of the site with horse stalls, small buildings, and riding arenas. Their facilities will be relocated to the upper northeast corner of the site once that area has been completely filled and graded thus opening their current location to receive fill.

Growing Solutions Restoration and Education Institute, a non-profit educational and native plant nursery also occupies a portion of the closed landfill parcel; however their operation is outside of the proposed fill area.





**Proposed Fill Plan.** The landfill has capacity for approximately 250,000 cubic yards of sediment and the proposed fill plan delineates the site into three areas with the northeast area (Area 1) as the first designated to receive sediment. Figure 3-4 shows the three general areas and their order for receiving fill. Figure 3-4 shows a preliminary fill plan with the associated topography. This EIR will include a figure showing the final proposed topography of the site which may change slightly in terms of general contouring of the side slopes, however the maximum elevations, as shown on the preliminary figure will not change. At each of the fill areas, the side slopes of the landfill will be graded to a 2:1 slope or flatter and the tops will be graded to have a plateau with a 3% or flatter grade to allow for drainage.

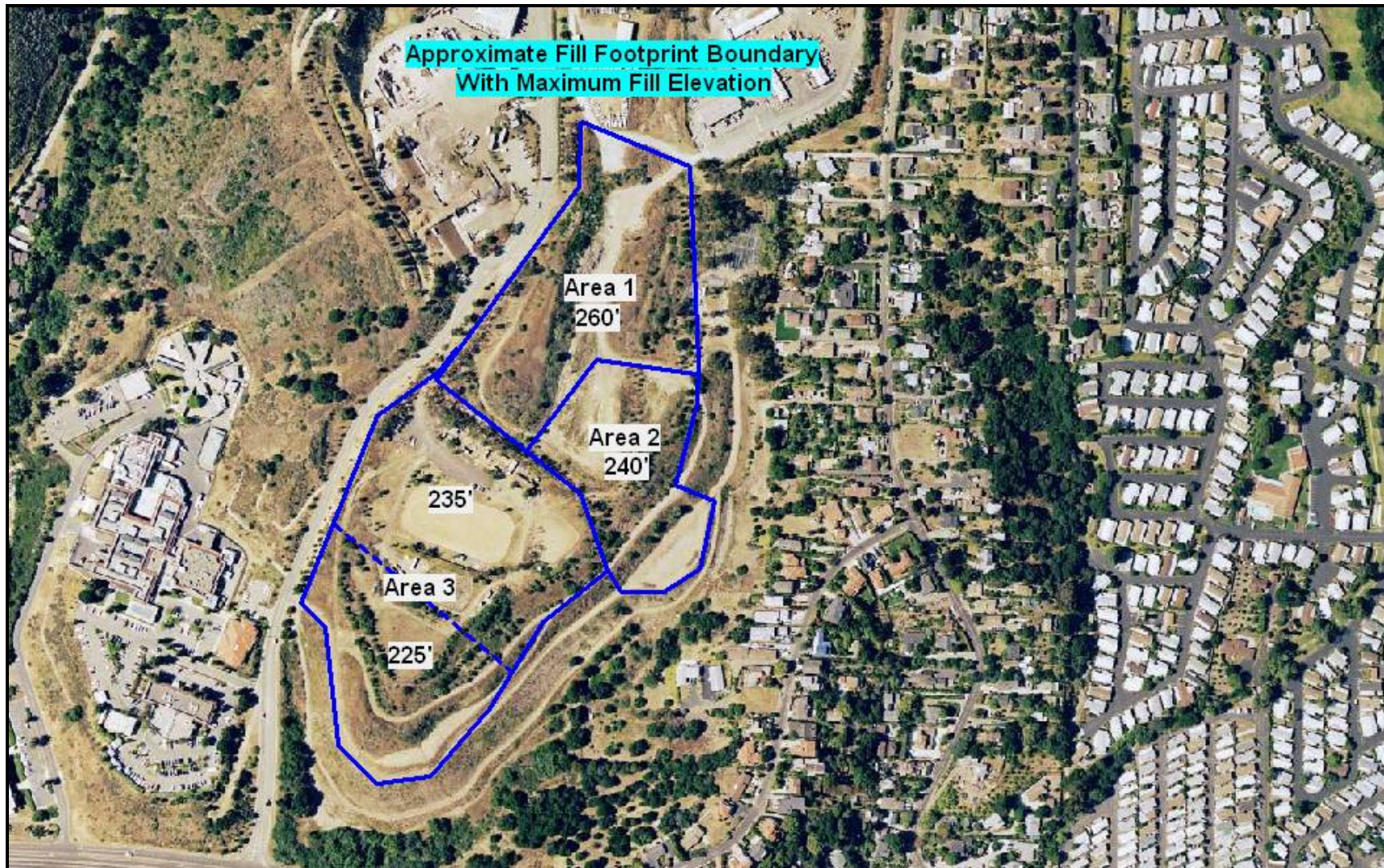
Once Area 1 is filled and shaped (estimated to take approximately 30,000 cubic yards) the 4H H.E.A.R.T.S. facilities will be moved to this location.

The maximum elevation at the landfill (located within Area 1) is currently 283' msl on an existing earthen berm. The maximum proposed fill elevation will be 260' within Area 1; therefore the proposed fill would not exceed the maximum existing elevation on site. Most of the fill capacity at the site will come from adding soil to and reshaping the landfill side slopes while the increase in elevation will be very incremental. Within Area 1, the maximum elevation will be 260' and this area already has land features at that elevation. Clean sediment will be used to fill the slopes and reshape the overall area to its final dimensions.

Area 2 currently has a maximum elevation of approximately 245' msl and clean sediment will be used to fill and contour the sloped and lower areas to a maximum elevation of 240'.

Area 3 is similar to Areas 1 and 2 in that most of the capacity comes from filling and shaping the side slopes. The two bench areas within Area 3 have maximum current elevations of 232' msl and 210' msl respectively and will be filled to 235' msl and 225' msl respectively.





**Figure 3-4. Closed Foothill Landfill Sediment Disposal Site showing the boundary of the fill, the three areas designated to receive fill numbered corresponding to their priority and their maximum fill elevation.**





**Interim Restoration.** The rate at which the different areas within the landfill are filled is completely dependent upon the amount of sediment that is generated by county agencies or occasional contractors and varies considerably. Depending upon County maintenance needs or whether the South Coast area experiences sediment generating emergencies, portions of the landfill may be filled quickly or it may be several years between fill opportunities. As discussed previously, the fill would be completed in one area before moving to a new area. Since it may take several years to reach final grades, interim weed control, erosion control and restoration will be an important element of the ongoing management of the Closed Foothill Landfill Sediment Disposal Site.

#### **Weed Control:**

In order to protect the ongoing restoration efforts, encourage any native vegetation that grows on site either as volunteers or through the seeding process as described below, highly invasive weed species, such as castor bean, black mustard, wild radish and tumbleweed will be controlled within the newly filled portions of the landfill by either hand crews pulling the plants or by using Round-up herbicide. Other weeds, if they become too invasive and are out competing native vegetation, will be controlled as well.

#### **Erosion Control/Restoration:**

Jute netting will be placed on newly created bare slopes prior to the rainy season in order to protect them from erosion. Additionally, a native seed mixture will be broadcast on the slopes and flat areas in an effort to inoculate the site and encourage the growth of native plants in the interim between fill events since they may occur sporadically. This native seed mix has been successfully used at the Foothill Landfill site as part of the 7 acre of restoration site. This seed mix or a similar native mix will be used.

#### **Native Seed Mix:**

SPECIES	COMMON NAME	BULK #'s/ACRE	MIN % PLS*
<i>Artemisia californica</i>	California Sagebrush	2.00	10
<i>Collinsia heterophylla</i>	Chinese Houses	2.00	85
<i>Encelia californica</i>	Bush Sunflower	3.00	25
<i>Eriogonum fasciculatum</i>	California Buckwheat	12.00	10
<i>Eriophyllum confertiflorum</i>	Golden Yarrow	3.00	25
<i>Eschscholzia californica</i>	California Poppy	2.00	85
<i>Lasthenia glabrata</i>	Goldfields	2.00	85
<i>Leymus condensatus</i>	Giant Wildrye	4.00	70
<i>Lotus scoparius</i>	Deerweed	8.00	85
<i>Lupinus succulentus</i>	Arroyo Lupine	4.00	90
<i>Salvia mellifera</i>	Black Sage	2.00	40
<i>Sisyrinchium bellum</i>	Blue-eyed Grass	2.00	80
<i>Vulpia microstachys</i>	Small Fescue	6.00	85
<b>Total:</b>		<b>52.00</b>	

\* MIN % PLS (Pure Live Seed) = Seed Purity x Germination Rate  
Seed: 52 lbs per acre

**Final Restoration.** Once each of the individual fill Areas within the landfill have reached their final capacity and grading, a final restoration plan covering the approximately twenty-seven



acre site will be implemented. However, depending upon available revenue and grant funding, the restoration may be implemented in a phased approach to spread the cost over several seasons. Weed control of the noxious species will continue, though, prior to and throughout the implementation of the final restoration plan.

The proposed fill plan will result in the removal of most of the 350 trees and less than 10 of the toyons planted in the early 1990s. The proposed restoration plan will be designed to address the original aesthetic function of those original plantings as well as improve the overall habitat function and value of the site. A final restoration plan, delineating oak woodland, coastal sage scrub and chaparral habitats, will be presented in this EIR.



## 4.0 PROJECT ALTERNATIVES

CEQA requires that EIRs describe a range of reasonable alternatives to the project or to the location of the project that could feasibly attain the basic objectives of the project. The EIR/EA must evaluate the comparative merits of the alternatives. CEQA mandates that the discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing their level to insignificance. CEQA and NEPA also require that the “No Project” alternative be evaluated.

**Preferred Project vs. “No Project” Alternative.** The Proposed Project would include the maintenance desilting associated with five Goleta Slough tributaries. The Project is intended to maintain the biological productivity of the Goleta Slough while protecting adjacent private property interests from flooding. These activities are currently approved in the PEIR for Goleta Slough Maintenance activities that was written in 1993. The currently Proposed Project is intended to improve upon methodologies outlined in the PEIR and provide a framework for prioritization of Goleta Beach sand replenishment. A “no project” alternative would not accomplish these objectives and is not carried forward into further analysis.

### Alternative Discharge Scenarios

The preferred Project will focus on hydraulic and dragline desilting operations of clearly defined locations within the slough. Assumptions about the characteristics of the sediment that will come into the slough will be based on the data contained in past sampling results. The focus of the efforts will be directed to beach replenishment using this specific material. Materials with fines of less than 25% will targeted for beach replenishment per the past seasonal restrictions. Material with greater fine content (up to 45%) will be either stockpiled or hydraulically desilted during appropriate times and made available for beach replenishment during period of high seasonal coastal turbidity.

Hydraulic dredging will have three potential discharge points including the western beach location used during past operations. A secondary site east of the slough mouth would be an alternative discharge location for materials with higher fine content or for time periods when heavy recreational activities occur on Goleta Beach. Deep water dredge materials disposal would include discharge of material beyond 25 foot water depth. This would occur by hanging a pipe off the Goleta Pier, a tie in to the existing wastewater outfall pipeline, or a new pipeline.

Alternative dredge material disposition includes upland disposal as landfill cover and deep water discharge. Landfill cover would be made available to the Foothill site and to Taijiquas landfill. Trucking of materials to a bluff location near the existing lift station would also be considered to allow greater availability of sand to the entire Goleta Beach sand cell.

**Deeper Ocean Discharge.** In the event that the grain size evaluation determines the level of fines within sediments removed during basin maintenance to be in exceedance of 25%,





an alternative would be to construct the outfall discharge pipe further offshore (beyond 25-foot water depth) and outside of the active surf/disposition zone. Further offshore, the sediment composition has been shown to include more fine materials; therefore desilted materials containing too many fines for beach replenishment would be made available to an area that has a similar composition, and can then be mixed/transported by littoral currents down shore for beach replenishment to areas east of Goleta Beach.

- **Wastewater Treatment Outfall Tie-In.** A deeper ocean discharge alternative would consider tie-in of the desilted material to the existing wastewater treatment outfall line located parallel to Goleta Pier. Coordination of a blended outfall would require engineering consideration of currently existing pipeline capacity during a maximum outflow event. Additionally, the wastewater treatment outfall NPDES discharge permit issued by the RWQCB would have to be altered and re-issued to address the additional outfall source.

- **Goleta Pier Pipeline Alignment.** In order to minimize potential impacts to the seafloor, a discharge pipeline could be hung from the existing Goleta Pier pilings to its terminus offshore. By utilizing the existing right-of-way, the pipeline would not have to lay on the seafloor and the pier would provide structural support for the outfall from swell and surf conditions.

- **HDD.** In the event that a deeper ocean discharge is considered the preferred alternative for discharge of desilted materials from the Goleta Slough; and other deeper ocean discharge alternatives are not considered feasible, the outfall could be constructed through Horizontal Directional Drilling (HDD) methodology. By utilizing HDD, outfall installation would avoid beach/recreational and potential seafloor impacts. However, use of HDD is not as cost-effective as the other alternatives considered and would require additional monitoring/contingency measures intended to protect the environment from the threat of drilling fluid release if selected.

**Eastern Discharge.** In the event that levels of contaminants are found to be in exceedance of established guidelines; the outfall discharge pipe would be relocated to the eastern portion of Goleta Beach. By relocating the pipeline further east; the discharge point would avoid heavily utilized recreational areas.

**Western Discharge.** In order to replenish sand further west sand may be trucked to a bluff location near the existing lift station and placed in the surf zone order to allow for greater availability of sand to the entire Goleta Beach sand cell.

### **Alternative Re-use/Disposal Opportunities**

**Upland Re-use/Disposal - Tajiguas Landfill.** Currently, the District has a cooperative agreement established with the County Resource Recovery and Waste Management Division to provide fill cover material to the closed Foothill Landfill. This alternative would only be utilized when sand fine percentages exceed 25% and are not stockpiled for blending and future beach replenishment activities or taken by contractors for use as fill material. In the event that Foothill



Landfill does not need the material, a second alternative would be to offer the material for re-use as cover at Tajiguas Landfill.

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DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

South Coast Region  
4949 Viewridge Avenue  
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(858) 467-4201



February 18, 2009

Maureen Spencer  
County of Santa Barbara  
Public Works, Flood Control District  
123 E. Anapamu  
Santa Barbara, Ca 93101  
Fax #: (805) 568-3434

**Subject: Notice of Preparation of a draft Environmental Impact Report for  
Goleta Slough Routine Maintenance Activities, SCH #2000031092**

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The proposed project includes maintenance activities in five creeks or tributaries to the Goleta Slough. The five creeks are Tecolotito, Carneros, Atascadero, San Jose, and San Pedro. Maintenance includes desilting activities designed to fulfill program objectives of increasing biological function of the system and protecting public and private land interests. Desilting would be accomplished utilizing dragline and/or hydraulic techniques.

To enable the Department staff to adequately review and comment on the project we recommend the following information, where applicable, be included in the Draft Environmental Impact Report:

1. A complete, recent assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats.
  - a. A thorough recent assessment of rare plants and rare natural communities, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (attachment).
  - b. A complete, recent assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.
  - c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380).
  - d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 324-3812 to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas

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identified under Chapter 12 of the Fish and Game Code. Also, any Significant Ecological Areas (SEAs), Significant Natural Areas (SNAs), or Environmentally Sensitive Habitats (ESHs) or any areas that are considered sensitive by the local jurisdiction located in or adjacent to the project area must be addressed.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. This discussion should focus on maximizing avoidance, and minimizing impacts.
  - a. CEQA Guidelines, § 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.
  - b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided. The analysis should also include a discussion of the potential for impacts resulting from such effects as increased vehicle traffic and outdoor artificial night lighting.
  - c. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
  - d. Impacts to migratory wildlife affected by the project should be fully evaluated. This can include such elements as migratory butterfly roost sites and neo-tropical bird and waterfowl stop-over and staging sites. All migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of birds and their active nests, including raptors and other migratory nongame birds as listed under the MBTA.
  - e. Impacts to all habitats from City or County required Fuel Modification Zones (FMZ). Areas slated as mitigation for loss of habitat shall not occur within the FMZ.
  - f. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (February 1- August 15) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). If project activities cannot avoid the breeding bird season, nest surveys should be conducted and active nests should be avoided and provided with a minimum buffer as determined by a biological monitor (the Department recommends a minimum 500 foot buffer for all active raptor nests).
3. An EIR shall describe feasible measures which could minimize significant adverse impacts (CEQA Guidelines §15126.4(a)(1)). Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize impacts. Compensation for unavoidable

impacts through acquisition and protection of high quality habitat elsewhere should be addressed.

- a. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts. The List of California Terrestrial Natural Communities is available on request or may be viewed and downloaded online by visiting the Department's website at [http://www.dfg.ca.gov/whdab/html/natural\\_communities.html](http://www.dfg.ca.gov/whdab/html/natural_communities.html).
  - b. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.
4. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources including wetlands/riparian habitats, alluvial scrub, coastal sage scrub, native woodlands, etc. should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.
5. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested:
  - a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
  - b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.
6. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent, ephemeral, or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife populations.
  - a. The Department requires a streambed alteration agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact to a lake or stream bed, bank or channel or associated riparian resources. The Department's issuance of a stream bed alteration agreement may be a project that is subject to CEQA. To facilitate our issuance of the agreement when CEQA applies, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the

project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

The Department suggests a pre-project or early consultation planning meeting for all projects. To make an appointment, please call Sean Carlson, Staff Environmental Scientist, at (909) 596-9120. Thank you for this opportunity to provide comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Edmund J. Pert', written in a cursive style.

Edmund J. Pert  
Regional Manager  
South Coast Region

Attachment

cc: Helen Birss, Los Alamitos  
Betty Courtney, Newhall  
Mary Meyer, Ojai  
Natasha Lohmus, Santa Barbara  
Martin Potter, Ojai  
Sean Carlson, La Verne  
Scott Morgan, State Clearinghouse, Sacramento

# Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California  
THE RESOURCES AGENCY  
Department of Fish and Game  
December 9, 1983  
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine **when** a botanical survey is needed, **who** should be considered qualified to conduct such surveys, **how** field surveys should be conducted, and **what** information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

- a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

3. Botanical consultants should possess the following qualifications:

- a. Experience conducting floristic field surveys;
- b. Knowledge of plant taxonomy and plant community ecology;
- c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
- d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- e. Experience with analyzing impacts of development on native plant species and communities.

4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:

- a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project

area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.

c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.

e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and EIS's, and should contain the following information:

- a. Project description, including a detailed map of the project location and study area.
- b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
- c. Detailed description of survey methodology.
- d. Dates of field surveys and total person-hours spent on field surveys.
- e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
- f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
- g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
- h. Recommended measures to avoid impacts.
- i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
- j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
- k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
- l. Name of field investigator(s).
- m. References cited, persons contacted, herbaria visited, and the location of voucher specimens.



**Zertuche, Dana**

**From:** Spencer, Maureen  
**Sent:** Tuesday, February 17, 2009 12:04 PM  
**To:** Zertuche, Dana; Ford, Beth  
**Subject:** FW: Goleta Slough Maint Activities NOP comments

Here is the one I hadn't sent yet.

Did you get the one from Brian Trautwein too--EDC? I think that was hard copy as I don't see an email version

---

**From:** Pat Saley [mailto:psaley@silcom.com] *GSMC*  
**Sent:** Thursday, February 12, 2009 3:47 PM  
**To:** Spencer, Maureen  
**Cc:** Quimby, Karin; 'Darlene Chirman'; holmgren@lifesci.ucsb.edu; abermond@santabarbaraca.gov  
**Subject:** Goleta Slough Maint Activities NOP comments

Dear Maureen:

On behalf of the Goleta Slough Management Committee, I offer the following comments on the Goleta Slough Routine Maintenance NOP. First of all, thank you for coming to our meeting this morning as your participation in the discussion was very helpful. As you know, the Goleta Slough Management Committee was established in 1991 and has worked cooperatively with regulatory agencies, property owners and public interest groups to provide for a healthy Goleta Slough. GSMC continues to identify and resolve issues related to management of the Goleta Slough Ecosystem Management Area and serves in an advisory capacity to lead agencies (e.g., City, County, Coastal Commission and UC Regents). We offer the following comments for inclusion in the Supplemental EIR:

1. **Erosion control and revegetation after dragline dredging** – We would like the SEIR to study the issues associated with periodic dragline dredging including the loss of native vegetation and erosion that may occur along the dredged creek banks that are not revegetated after dredging. We understand that Flood Control would not want to replant with shrubby species but some sort of native grass (e.g., saltgrass) would help to keep weeds in check and reduce erosion.
2. **Dredging of sediment basins and loss of restored habitats** – Along the same line, we have observed that dredging activities in the Airport's sediment basins have disturbed native vegetation that has been planted as mitigation for airfield projects. Any loss of native habitat, especially if it was planted as mitigation, must be replaced at an appropriate ratio.
3. **Goleta Slough mouth opening** – Based on our experience, keeping the Slough mouth open is vital to the overall health of the Slough. If Flood Control's activities, directly or indirectly, were to cause the prolonged closure of the Slough mouth, several significant impacts would occur. Mitigation would simply be the continuation of the practice of opening the Slough mouth within two weeks of it closing.
4. **Impacts to steelhead and fish passage upstream** – It is important that the SEIR evaluate any impacts dredging may have on fish passage, particularly in Atascadero Creek.
5. **Protocol for monitoring gobies post dredging** – As you know, the discovery of the Tidewater gobies in the two Airport sediment basins near Hollister was a big surprise. We believe it would be appropriate to develop protocols for monitoring gobies after dredging as a partial mitigation of any potential impacts that may occur.

We appreciate the opportunity to comment on the Notice of Preparation.

Regards, Pat Saley for GSMC

2/17/2009

Pat Saley, AICP  
Pat Saley & Associates  
693 Circle Drive  
Santa Barbara, CA 93108  
(805) 969-4605



# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003



IN REPLY REFER TO:  
2009-FA-0054

February 13, 2009

Maureen Spencer, Environmental Manager  
County of Santa Barbara  
Public Works Department, Flood Control District  
123 East Anapamu Street  
Santa Barbara, California 93101

Subject: Scoping Comments on the Supplemental Environmental Impact Report for Goleta Slough Routine Maintenance Activities, Santa Barbara County, California

Dear Ms. Spencer:

We are writing in response to the County of Santa Barbara's (County) notice of preparation of a supplemental environmental impact report (SEIR) for routine maintenance activities in the Goleta Slough, pursuant to the California Environmental Quality Act (CEQA). The proposed project includes maintenance to five creeks that feed into the Goleta Slough including Tecolotito, Carneros, Atascadero, San Jose, and San Pedro. Proposed maintenance includes hydraulic desilting, desilting using a dragline, slough breaching, and disposal of sediment. We are concerned about the potential effects of the project to the following federally listed species that occur or have the potential to occur within the project vicinity: the endangered tidewater goby (*Eucyclogobius newberryi*), California brown pelican (*Pelecanus occidentalis californicus*), California least tern (*Sterna antillarum browni*); and the threatened western snowy plover (*Charadrius alexandrinus nivosus*), and listed vernal pool branchiopod species (e.g., the threatened vernal pool fairy shrimp (*Branchinecta lynchi*)).

The U.S. Fish and Wildlife Service's (Service) responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or threatened species. Section 3(18) of the Act defines take to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Service regulations (50 CFR 17.3) define harm to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species. Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways. If a project is to be funded, authorized, or carried out by a Federal agency and may affect a listed species, the Federal agency must consult with the Service,

pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the take of a listed animal species, the project proponent should apply to the Service for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act.

Our assessment of the proposed project does not constitute a full review of potential effects to species listed pursuant to the Act. To assist the County in adequately evaluating the proposed project from the standpoint of fish and wildlife protection, we offer the following comments and recommendations.

Tidewater goby are found throughout Goleta Slough (FAA Western Pacific Region 2007). Tidewater gobies may be killed or their burrows can be smothered during dredging and slough breaching operations. Please consider potential impacts to tidewater goby from dredging and breeching activities in the SEIR.

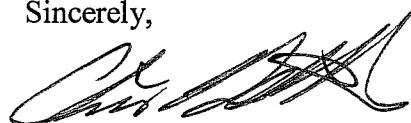
Loafing, roosting and wintering sites for western snowy plovers, loafing and roosting sites for brown pelicans, and roosting sites for California least terns may be disturbed by truck-transported sediment deposited onto Goleta Beach. Please consider the impacts to western snowy plovers, brown pelicans, and California least terns in the SEIR.

The common habitat for vernal pool fairy shrimp includes small swales or earthen slumps with a grassy or muddy bottom in unplowed grassland where water will persist for 6 to 7 weeks in the winter or as few as 3 weeks in the spring (Eriksen and Belk, 1999). Please consider the potential impacts to vernal pool fairy shrimp from non-beach storage and disposal of sediments in the SEIR.

This letter does not reflect a comprehensive review of the SEIR Scoping Document on our part; however, we are concerned that the Track 3 revisions, may have adverse impacts on federally listed species, and recommend that you consider these potential impacts in the SEIR. We also encourage the County to coordinate with us to ensure compliance with the Act.

We appreciate the opportunity to provide comments on the proposed project and look forward to working with the County in the future to address and minimize the potential impacts on federally listed species within your jurisdiction. If you have any questions regarding these comments, please contact Jenny Marek of our staff at (805) 644-1766, extension 325.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chris Dellith', with a stylized flourish at the end.

Chris Dellith  
Senior Biologist

## REFERENCE CITED

- Eriksen, C.H. and D. Belk. 1999. Fairy shrimps of California's puddles, pools, and playas. Mad River Press, Eureka.
- FAA Western Pacific Region. 2007. Year 1 post-construction surveys for tidewater goby (*Eucyclogobius newberryi*) and benthic macroinvertebrates second annual report. Prepared by URS.





**Santa Barbara County  
Air Pollution Control District**

**Our Vision**  **Clean Air**

February 12, 2009

Maureen Spencer  
County of Santa Barbara  
Public Works Department  
Flood Control District  
123 East Anapamu St.  
Santa Barbara, CA 93101

**Re: NOP of a Draft Supplemental EIR for Goleta Slough Routine Maintenance Activities**

Dear Ms. Spencer:

The Santa Barbara County Air Pollution Control District (APCD) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report (EIR) for Goleta Slough Routine Maintenance Activities. The County of Santa Barbara Public Works Department – Flood Control District will be the Lead Agency for the subject project, which is located within Atascadero, San Jose, San Pedro, Los Carneros, and Tecolotito Creeks in Santa Barbara County, California.

In November 1993, a Program EIR for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) was prepared for the District's maintenance activities within the lower Goleta Slough tributaries in a manner that will maintain the capacity and conveyance of these watercourses while minimizing the threat of damage to life, public property and existing infrastructure. The District has committed to development of an updated Maintenance Program and associated Supplemental EIR, which will address impacts in the following environmental issue areas: Water Resources/Flooding, Air Quality, Geology, Biological Resources (Marine and Terrestrial), Risk of Upset/Hazardous Materials, Noise, Cultural Resources, Aesthetics, Traffic/Circulation, Recreation, and Land Use Policy Consistency.

APCD staff reviewed the NOP for the Draft Supplemental EIR, and concurs that air quality impacts should be addressed in the EIR. The most current version of APCD's guidance document, entitled Scope and Content of Air Quality Sections in Environmental Documents, is available online at [www.sbcapcd.org/apcd/landuse.htm](http://www.sbcapcd.org/apcd/landuse.htm). This document should be referenced for general guidance in assessing air quality impacts in the Draft EIR. The EIR should evaluate the following potential impacts related to the proposed project:

**1. Attainment Status and Consistency with the APCD 2007 Clean Air Plan (CAP).** The APCD has posted the most up-to-date attainment status for the County on the APCD website [www.sbcapcd.org/sbc/attainment.htm](http://www.sbcapcd.org/sbc/attainment.htm) and the most recent Clean Air Plan is available at [www.sbcapcd.org/cap.htm](http://www.sbcapcd.org/cap.htm). The website should be consulted for the most up-to-date air quality information prior to the release of the Public Draft EIR.

The EIR should examine whether the proposed project is consistent with the 2007 Clean Air Plan. Combustion equipment associated with the subject project, such as the dredge and crane, may be

subject to APCD rules and permit requirements. Commercial or industrial projects will be considered consistent with the CAP if they are consistent with APCD rules and regulations. Large industrial stationary source projects may be found inconsistent if their direct emissions are not considered in the CAP stationary source emission inventory (Section 4.4 of APCD's Scope and Content document).

**2. Permits for Non-Vehicular Combustion Equipment.** Combustion equipment that meets the definition of a motor vehicle is not subject to local APCD permit requirements. However, some of the proposed equipment, such as the hydraulic dredge and possibly the crane used for dragline desilting, may require an APCD permit. Alternatively, the State of California administers a Portable Equipment Registration Program (PERP) that can be used to permit portable engines for operation in California. The EIR should address this issue and demonstrate compliance with permit requirements for all portable combustion equipment.

**3. Land Use Conflicts Related to Air Quality Emissions.** The EIR should examine whether any of the operations associated with the proposed project will result in air quality impacts to sensitive land uses such as residential, childcare facilities, schools, or senior living communities. Examples of this type of impact include odors from restaurants, dust, or toxic air contaminants such as diesel particulate emissions from trucks or other diesel-powered combustion equipment.

**4. Increase in Emissions from Proposed Project.** The EIR should present significance thresholds for ozone precursor emissions (reactive organic compounds [ROC], and oxides of nitrogen [NO<sub>x</sub>]) and particulate matter and determine whether the proposed project will produce emissions in excess of the thresholds. APCD's Scope and Content document contains the APCD Board-adopted criteria for evaluating the significance of adverse air quality impacts for APCD projects. However, the County of Santa Barbara has identified its own air quality significance thresholds in its Environmental Thresholds and Guidelines Manual (republished in October 2008), which should be applied to the subject project to determine significance of air quality impacts.

The proposed project will involve air quality impacts associated with motor vehicle trips from project workers, and from trucks hauling sediment and debris. The air quality impact analysis should be based on a project-specific traffic study whenever possible. In addition to motor vehicle emissions, the analysis should include emissions associated with project-related combustion equipment such as the dredge, crane, loaders and forklifts. Emissions from all of these sources should be evaluated for the baseline (existing) environment, and for all of the proposed alternatives.

Stationary and area source emissions must be added to transportation source emissions prior to applying the project-specific thresholds of significance. If the proposed project exceeds the significance thresholds for air quality, mitigations should be applied to reduce those emissions to below the levels of significance. Section 5 of APCD's Scope and Content document offers ideas for air quality mitigations. However, project-specific measures should be developed that are pertinent to the subject project and are enforceable by the lead agency.

**5. Construction Impacts.** The EIR should discuss the potential air quality impacts associated with construction-related activities for the proposed project. Although the subject project does not involve construction of buildings, it does involve earth-moving activities related to sediment removal and placement at upland disposal sites such as the Closed Foothill Landfill. APCD's June, 2008 Scope and

Content document, Section 5.1, presents recommended mitigation measures for fugitive dust and equipment exhaust emissions associated with construction projects. Mitigation measures should be enforced as conditions of approval for the project. The EIR should have a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigations and establishes a mechanism for enforcement.

**6. Global Climate Change/Greenhouse Gas Impacts.** Global climate change is a growing concern that needs to be addressed in California Environmental Quality Act (CEQA) documents, and we recommend that the discussion be included under cumulative impacts. Although there are currently no published thresholds for measuring the significance of a project's cumulative contribution to global climate change, the California Office of Planning & Research (OPR) issued a Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review* (dated June 19, 2008, available at the OPR website, [www.opr.ca.gov](http://www.opr.ca.gov)). OPR is in the process of updating the CEQA Guidelines, and draft changes to the guidelines are available at their website. This advisory provides guidance to land use agencies in the interim period, until the state CEQA Guidelines are revised. The advisory states on page 4, in the third paragraph, "*Public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.*" Furthermore, the advisory document indicates in the third bullet item on page 6 that "*in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact', individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.*"

In light of this guidance from OPR, APCD staff strongly recommends disclosing potential GHG emissions associated with the proposed project and the use of all feasible mitigation measures for long-term impacts. For more information regarding climate change impacts and mitigation measures, please refer to the CAPCOA CEQA & Climate Change document, available at [www.sbcapcd.org/apcd/landuse.htm](http://www.sbcapcd.org/apcd/landuse.htm).

We hope you find our comments useful. We look forward to reviewing the Draft EIR. Please contact me at 961-8838 or by e-mail at [mmp@sbcapcd.org](mailto:mmp@sbcapcd.org) if you have questions.

Sincerely,



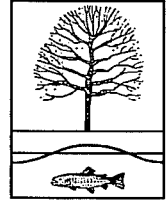
Molly Pearson  
Air Quality Specialist  
Technology and Environmental Assessment Division

cc: Project File  
TEA Chron File

*SANTA BARBARA URBAN CREEKS COUNCIL*

P.O. Box 1467, Santa Barbara, CA 93102 (805) 968-3000

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February 12, 2009

Flood Control District  
Public Works Dept.  
County of Santa Barbara  
123 E. Anapamu St.,  
Santa Barbara, CA 93101

Attn: Maureen Spencer

**Re: Scoping of Supplemental EIR - Updated Goleta Slough Maint. Program**

Dear Maureen Spencer,

Santa Barbara Urban Creeks Council (UCC) recommends that the document evaluate and address concerns about impacts of dredging operations in the slough to endangered steelhead trout (*onchorynchus mykiss*). We understand that past maintenance of the slough has not formally considered impacts to steelhead. Since the original EIR was prepared in 1993, Southern steelhead were listed as endangered by the U.S. Environmental Protection Agency (in 1997). In addition, the Stoecker Report of 2002 identifies the check structure just East of Ward Drive on Atascadero Creek as a significant barrier to fish migration. These circumstances give us concern that endangered fish trapped below the structure may be harmed during dredging operations by physical injury due to contact with dredging equipment, or that disturbances resulting from dredging operations may harm habitat while fish may be present, resulting in interruption to feeding or other activities essential to their survival.

We think that the scoping of the document should include analysis of dredging impacts to steelhead and should also address the feasibility of modifying the check structure to facilitate upstream migration, thereby lessening exposure of steelhead to impacts of dredging, and increasing their chances of survival.

Thank you for the opportunity to submit our concerns. We look forward to seeing the draft document.

Sincerely,  
/s/

Eddie Harris  
Santa Barbara Urban Creeks Council

# **Santa Barbara Audubon Society, Inc.**

*A Chapter of the National Audubon Society*



5679 Hollister Avenue, Suite 5B, Goleta, CA 93117

(805) 964-1468

February 12, 2009

County of Santa Barbara  
Public Works--Flood Control District  
Attention: Ms. Maureen Spencer  
123 E. Anapamu Street  
Santa Barbara, CA 93101  
mospenc@cosbpw.net

**RE: Scope of Supplemental EIR  
Updated Goleta Slough Maintenance Program--Dredging**

Dear Ms. Spencer:

Santa Barbara Audubon (Audubon) is a local non-profit organization with a mission to conserve and restore ecosystems and improve biological diversity locally. We wish to comment on the scope of the Supplemental EIR (SEIR) for the Goleta Slough Maintenance Program. These comments generally apply to areas where either hydraulic dredge *or* dragline can be used to remove sediment and provide flood conveyance. San Jose and San Pedro Creek, adjacent to "The Pie" and Atascadero Creek from check structure east of Ward Drive to the confluence with San Jose Creek. These are the areas with which Audubon is most familiar, having conducted habitat restoration projects on the adjacent Gas company property, and areas examined re this Notice of Preparation (NOP). Some of these comments will be applicable to the entire project area.

As noted in the NOP the Flood Control District now has 16 years experience with hydraulic dredging since EIR completed in 1993. Since that time several other things have changed. Southern Steelhead were federally listed as endangered in Aug. 1997. Barriers to steelhead migration were evaluated in the Stoecker Steelhead Report in 2002<sup>1</sup>. Tidewater gobies were listed as federally Endangered on February 4, 1994. These fish were re-discovered in Goleta Slough in 2006 during the relocation of Tecolotito Creek on the airport; these fish were living in the Flood Control sediment basins.

Thank you, Ms. Spencer, for your attendance at the Goleta Slough Management Committee on February 12, which clarified some issues for preparing these comments. You have the photographs now, that accompany this letter.

**Dredge Spoil Stockpile Area reduction.**

An opportunity to be explored in the EIR is the smaller dredge spoils stockpile areas generally utilized currently, since the hydraulic dredge is generally used for larger amounts of sediment in San Jose, San Pedro, and Atascadero Creek. According to the NOP, dragline dredging generally done in years with minimum amounts of sediment, generally less than



50,000 cubic feet. The EIR should evaluate opportunity to reduce the dredge spoil areas kept permanently barren and devoid of habitat value. For example, on Atascadero Creek, the areas between the bikepath and the top of bank is barren, except for some weeds, approximately 850 feet in length, and 100 feet in width. Similar bare areas are found on The Pie, along San Pedro and San Jose Creeks. Areas that are not needed, except under rare circumstances, should be revegetated. Along San Pedro Creek now, only a limited area has been recently disturbed (fall 2008, per M. Spencer), and the rest has recruited many natives, either naturally or by seeding. These are environmentally sensitive areas in the Coastal Zone, within the wetland buffer.

### **Creekbank rehabilitation--dredging impacts.**

Creekbanks disturbed by dredging should be rehabilitated with revegetation. The criteria for mitigation revegetation, and the extent of restoration that is to be required should be evaluated in the Supplemental EIR. This must recognize that disturbance is repetitive, but sometimes with years between disturbance events. The level of disturbance is greater and different with dragline desilting and hydraulic dredging. Where dragline desilting recurs every year, the criteria should be different than areas where it is infrequent.

Limited areas appear to have been disturbed by dragline sediment removal in the past year on San Pedro and San Jose Creek (per M. Spencer), an upstream zone in each case. This zone is more extensive on Atascadero Creek, approximately 850 feet in length. According to Ms. Spencer, it has been several years since dragline desilting was conducted here; the creekbank remains disturbed, with erosion gullies and mostly weedy vegetation. Data for rain year 2007-08 and fall 2008 (fire emergency work) needs to be included in the Updated EIR, to evaluate the impacts of recent dredging activity.

It is unacceptable for creek-bank disturbance from dragline dredging to remain unmitigated, potentially for years until this method of sediment removal is again used. My recollection is that Flood Control did revegetate the bank of San Jose Creek years ago, and were then disappointed to have the site disturbed when dragline dredging was again used. However, most of that reach is well-established with native vegetation.

While this is unfortunate, it does not absolve the Flood Control district from revegetation of the disturbed bank. Note in the accompanying photographs the erosion gullies, which are noted at several points along the banks where dragline impact is presumed. Restoration techniques that provide for rapid cover and lower-cost revegetation can be used in the areas most likely to be disturbed again: Pickleweed sprigging on the lower bank, and seed mix of rapid, high-germination species on the upper bank: Coyote bush, Quail bush, Mugwort, maybe the rhizomatous Ragweed. In the erosion gullies, biotechnical techniques in the Flood Control Maintenance Plan (for creeks) Revegetation Plan might be employed: Willow wattles, live fascines, brush mattress, and/or brush layering. The SEIR should determine which techniques should be included in the range available for Goleta Slough erosion control efforts.

To compensate for loss of rarer habitat, creek bank areas unlikely to be disturbed can be planted with a more complex plant pallet. Areas suggested: the point on the southwest corner of The Pie, which is a stockpile exclusion zone due to existing sensitive resources, at the confluence of San Pedro and San Jose Creek. Natives such as Quail bush and Pickleweed are in this area, but weeds such as Mustard, Cocklebur and Bristly ox tongue could be removed, and infill revegetation with natives would be desirable.

Another area where compensatory restoration could be accomplished is north of the confluence of Atascadero and San Jose Creek, south of the Highway 217. This is on Gas Company and CalTrans property, but is a large stand of *Myoporum*, *Arundo*, Palm trees and iceplant, approximately 1/3 acre in size. These areas could be utilized where disturbance results from maintenance, but cannot be mitigated on site.

The hydraulic dredge has lower impacts to the vegetated creekbanks than dragline dredging. However, some disturbance results where cables are utilized from the dredge to the deadmen in place on the bank. It is unclear how the cable is used. If a cable is used over one deadmen, and attached at two locations on the boat, we can expect some vegetation disturbance below the deadmen. If cables are attached to two adjacent deadmen, the disturbance arc would be the opposite. As long as the technique is consistent, then there is a zone between or below the deadmen that can be vegetated with large shrubs, with little disturbance. In the "disturbance arc" Pickleweed would be little affected on the lower bank, and the upper bank can be planted with species such as Saltgrass, Mugwort, and Ragweed, which are low-growing and rhizomatous. They can easily recover from some disturbance. The SEIR can evaluate the opportunity for revegetation that will minimize future disturbance while enhancing the slough margin habitat.

#### **Steelhead impacts and mitigations.**

Southern Steelhead were federally listed as endangered in Aug. 1997. Thus the 1993 probably did not address impacts to steelhead. The SEIR needs to do so. Steelhead do traverse, and sometimes persist in the Goleta Slough, and thus may be negatively impacted by desilting operations. If steelhead remain in pools below barriers to upstream migration, they are more likely to be impacted by dredging. Barriers to steelhead migration were evaluated in the Stoecker Steelhead Report in 2002<sup>1</sup>.

The check structure on Atascadero Creek, east of Ward Drive, has an apron that is undercut. According to the Steelhead Assessment in 2002, this grade control structure was in poor condition and is a high barrier to steelhead migration, with a rating of 0.8. The structure should be evaluated for needed repair, and the effect of dredging downstream of the structure on its integrity. When repairs are needed, the structure should be redesigned to improve fish passage. At a minimum, the Stoecker report recommended cutting a notch 5 feet wide and 10" deep to concentrate low flows and extend the water regimes under which fish passage is feasible<sup>1</sup>. The updated EIR should evaluate the nexus and whether repair and modification of the check structure could be included in the SEIR, or whether separate environmental review would be required. See photos of steelhead seen in San Pedro Creek, one that may have been killed by the desilting operation in 1995 (found by a Archeological monitor).

The City of Goleta and Flood Control are planning a separate project that will improve flood capacity and fish passage on San Jose Creek.

<sup>1</sup>Steelhead Assessment & Recovery Opportunities in Southern Santa Barbara County, Stoecker and Conception Coast Project, 2002.

### **Tidewater Goby impacts and mitigation.**

Tidewater gobies were listed as federally Endangered on February 4, 1994. These fish were re-discovered in Goleta Slough in 2006 during the relocation of Tecolotito Creek on the airport; these fish were living in the Flood Control sediment basins. They were captures and re-located; while this occurred the engineering project was on hold.

Monitoring for tidewater gobies prior to desilting operations each year and a protocol for management if they are found needs to be included in the SEIR. I believe that surveys have been done for Flood Control by URS prior to dredging operations, and only one Tidewater goby has been found in, Atascadero Creek, none in San Pedro or San Jose Creeks (M Spencer). However, this can change since the endangered fish are in the estuary (~1500 were relocated as part of the creek relocation project) (personal communication, biologist Julie Love). The protocol for monitoring should be evaluated in the SEIR.

### **Erosion West Bank San Pedro Creek.**

The west bank of San Pedro Creek appeared eroded in many sections. The EIR should evaluate the impact of dredging on the stability of the creekbank. This is the property of the Goleta Sanitary District, and extensive erosion could be extremely hazardous with potential sewage contamination of Goleta Slough.

Where mitigation is needed on the west bank, or mitigation is required but on site revegetation is deemed infeasible, stabilization of this west bank is a potential site. Removal of the *Myoporum* shrubs, biotechnical bank stabilization with willow mattress or willow wattles could be evaluated. Willows occur naturally at the confluence of San Jose and San Pedro Creek, so they might be utilized for biotechnical bank stabilization along San Pedro Creek. See photos of eroded fenceposts.

### **Invasive Weed Control.**

Flood control maintenance in Goleta Slough results in site disturbance and vegetation removal at times, which fosters the growth of weeds.. Some invasive species control is conducted now: While surveying Atascadero Creek on 2/5/09, Flood Control staff were spraying Aquamaster to Castor bean and Tree tobacco.

Non-native, invasive species that could be targeted as mitigation actions needed to compensate for impacts--see table (not all-inclusive). One species of particular concern at The Pie is Crystalline Iceplant. As this annual noxious plant is in the stockpile area, it could easily be spread with disposal of the dredge spoils. It has an extremely long life in the seedbank--possibly 50 years. Management should be included in the SEIR, with some ranking of species to target. Only one Tamarisk shrub was noted on the north bank of Atascadero Creek--this should be removed as an incipient threat.

<b>Common Name</b>	<b>Scientific Name</b>	<b>Note</b>
Bermuda grass	<i>Cynodon dactylon</i>	
Bristly ox tongue	<i>Picris ecioides</i>	
Castor bean	<i>Ricinus communis</i>	
Cocklebur	<i>Xanthium strumarium</i>	
Iceplant, Crystalline	<i>Mesembryanthemum crystallinum</i>	San Jose Creek, stockpile area
Iceplant (Hottentot fig)	<i>Carpobrotus edulis</i>	Atascadero Creek

Kikuyu grass	<i>Pennisetum clandestinum</i>	
Mustard	<i>Brassica sp.</i>	
Myoporum	<i>Myoporum laetum</i>	
Pampas grass	<i>Cortaderia selloana</i>	Mostly adjacent to slough margin, The Pie
Poison hemlock	<i>Conium maculatum</i>	
Smilo grass	<i>Piptatherum miliaceum</i>	
Tamarisk	<i>Tamarix sp.</i>	One noted Atascadero Creek; remove!
Thistle, Italian	<i>Carduus pycnocephalus</i>	
Thistle, Milk	<i>Sylibum marianum</i>	
Thistle, Russian	<i>Salsola tragus</i>	

The SIER should include a palette of native species that should be included in Goleta Slough revegetation that should be required. One sensitive plant species extensively along San Pedro Creek in the dredge spoil stockpile area, and a few plants along Atascadero Creek, is Southern tarweed. To compensate for disturbance if the San Pedro stockpile area is needed for future dredge spoils, is planting in areas unlikely to be disturbed, such as the exclusion zone at the confluence of San Pedro and San Jose Creeks.

Native species that might be included in Goleta Slough restoration palette:

Common Name	Scientific Name	Comment
Bee plant	<i>Scrophularia californica</i>	Understory species
California sagebrush	<i>Artemisia californica</i>	
Coyote bush	<i>Baccharis pilularis</i>	
Giant ryegrass	<i>Leymus condensatus</i>	Good erosion control
Mugwort	<i>Artemisia douglasiana</i>	Rhizomatous
Pickleweed	<i>Salicornia virginica</i>	Lower banks
Quailbush	<i>Atriplex lentiformis</i>	
Ragweed, Western	<i>Ambrosia psilostachya</i>	Rhizomatous
Saltgrass	<i>Distichlis spicata</i>	Rhizomatous, low-growing
Southern tarweed	<i>Centromadiaa parryi australis</i>	Sensitive species; annual CNPS 1B.1
Verbena	<i>Verbena lasiostachys</i>	
Willow, Arroyo	<i>Salix lasiolepis</i>	Biotechnical bank stabilization

### Summary.

Santa Barbara Audubon recognizes the value of desilting Goleta Slough. The use of the hydraulic barge, in locations where it is feasible, reduces the disturbance to the creekbanks and native vegetation in this environmentally sensitive habitat. The Supplemental EIR should address opportunities to “reclaim” native habitat areas that were needed for dredge spoils when only dragline desilting was used. Disturbance to creekbanks must be mitigated; the SEIR might have a tiered system of revegetation depending on the likely length of time until disturbance in the same location may be repeated.

Scope of Supplemental EIR, Goleta Slough Maintenance

Santa Barbara Audubon comments

Page 6 of 6

Southern steelhead and Tidewater goby have been listed under the Endangered Species since the EIR currently in effect was completed. Potential impacts to these species and mitigations to reduce these impacts should be evaluated in the SEIR. Modification of the check structure on Atascadero Creek to improve fish passage should be evaluated; this could allow Steelhead to migrate out of the project area.

Sincerely,

Darlene Chirman  
President

Copies to:

California Department of Fish & Game  
Natasha Lohmus  
1933 Cliff Drive Suite 9  
Santa Barbara CA 93109

Martin Potter [MPotter@DFG.CA.gov](mailto:MPotter@DFG.CA.gov)  
Mary Larson [MLarson@DFG.CA.gov](mailto:MLarson@DFG.CA.gov)

Coastal Commission  
Steve Hudson  
89 S. California Street , 2nd Floor  
Ventura, CA 93001

Mark Capelli  
NOAA Steelhead Recovery Planning  
735 State Street, Suite 616  
Santa Barbara, CA 93101





**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

In reply refer to:  
SWR/2009/00224:MRM

FEB 12 2009

Maureen Spencer  
County of Santa Barbara  
Public Works Department  
Flood Control  
123 East Anacapa Street  
Santa Barbara, California 93101

Dear Ms. Spencer:

NOAA's National Marine Fisheries Service (NMFS) reviewed the Notice of Preparation (NOP) of a Supplemental Environmental Impact Report (SEIR) for the updated routine dredging and maintenance project for Goleta Slough (Project) near Santa Barbara, California. As requested in the NOP, NMFS provides the following information to assist the Santa Barbara County Flood Control (County) formulate the SEIR.


The Project is of concern because endangered steelhead (*Oncorhynchus mykiss*) and critical habitat for this species are present in the action area. Accordingly, the SEIR should clearly identify and describe the Project including interrelated and interdependent actions to the extent that NMFS could develop an understanding of the potential effects (offsite, onsite, direct, indirect, temporary, permanent) of the Project on steelhead and critical habitat. The SEIR should include a list of measures for avoiding and minimizing potential negative effects of the Project on steelhead and their habitat. Unavoidable effects should be fully described according to life stage (i.e., spawning, rearing and migration) and features of this species' habitat. The manner in which the preferred alternative would be implemented (e.g., construction schedule, level of manpower, equipment types, access roads) should be clearly described. The potential benefits of the Project for steelhead, including any compensatory mitigation measures, should be described. Engineered design drawings and results of topographic surveys and creek-hydraulic analyses should be included in the SEIR.

The SEIR should describe the relationship of the Project to Section 7 of the U. S. Endangered Species Act (ESA). NMFS understands that an U.S. Army Corps of engineers permit will be necessary to continue maintenance and dredging operations. In this regard, the SEIR should disclose whether consultation with NMFS is necessary prior to undertaking the Project, in accordance with Section 7 of the ESA.



NMFS appreciates the opportunity to provide information that would assist the County to develop the SEIR for the Project. Matt McGoogan is NMFS' representative for this specific project. Please call him at (562) 980-4026 if you have a question concerning this letter or if you require additional information.

Sincerely,

*for*   
Rodney R. McInnis  
Regional Administrator



735 State Street #201, Santa Barbara, CA 93101; (mail) PO Box 90106, Santa Barbara, CA 93190  
Telephone (805) 965-7570; fax (805) 962-0651

Tuesday, February 10, 2009

Via Electronic Mail

County of Santa Barbara  
Public Works Department – Flood Control District  
Attn: Ms Maureen Spencer  
123 E. Anapamu Street  
Santa Barbara, CA 93101  
mospenc@cosbpw.net

**Re: Notice of Preparation of a Draft Supplemental Environmental Impact Report - Goleta Slough Routine Maintenance Activities**

On behalf of Heal the Ocean please accept the following comments on the preparation of a Draft Supplemental Environmental Impact Report (SEIR) for Goleta Slough Routine Maintenance Activities:

Disposal Options 2.4.2

Some of the material removed from the creeks are said to be 'too fine or otherwise unsuitable' for beach replenishment. The parameters to be defined in the Sampling and Analysis Plan (SAP) need to include specific criteria that make material unsuitable for beach replenishment (i.e. what parameters are considered "too fine" and specifically what parameters are considered "otherwise unsuitable?"). The SEIR needs to spell this out.

Sampling, Monitoring and Reporting Activities 3.4.1-3.4.3

Despite indications of high levels of fecal coliform in the lower reaches of the Goleta Slough in 2000 and 2005 (Atascadero Creek: 3,000-5,000 MPN/gm and Tecolotito: 11,000-17,000 MPN/gm), the SAP did not then, nor does it now, have any recommendations for disposal when these levels exist (see Table 2-4). The current SAP does not indicate a test for pathogens. There has been inconsistent sampling and analysis, sometimes no sampling or analysis at all, even though there have been high fecal coliform levels. The SAP needs to include sampling for all pollutants that are required to be monitored by wastewater treatment plants in Santa Barbara County. Further, the updated Maintenance Program needs to include a specific protocol for disposal of material polluted above levels of required wastewater treatment plants by the SWRCB.

Closed Foothill Landfill 3.5.1

The NOP states that re-used sediment material will be transported to the closed Foothill Landfill. The Foothill Landfill is currently being restored with native plants and there are currently experimental projects underway at the landfill that include sustainable projects such as the planting of *Jatropha* for

the purpose of using the oil from the seeds as a key ingredient for bio-fuels. Restoration of this area took place as recently as December 13, 2008 and has included the planting of 350 trees and at least 193 toyon shrubs (which were only planted in the early 1990s). The current project proposes to remove 350 trees and some of the toyons. The SEIR must address the impact of removing trees and eliminating a portion of the restoration area for the purpose of disposing Goleta Slough material. The SEIR should address whether or not this area of the Foothill Landfill will be re-restored and replanted at a future date, and when that date will be.


#### Project Alternatives 4.0

Some material may be biologically polluted well above levels of required treatment plants by the SWRCB and unsuitable for stockpile sites and landfills, therefore the SEIR must include a complete description of the proposed upland disposal alternatives. The NOP describes the closed Foothill Landfill as appropriate for receiving "clean fill dirt" (3.5.1) but the NOP does not outline any plan for SEIR determination of what level of contamination is considered clean or not clean. The Tajiguas Landfill is described in the NOP as an alternative for the disposal of re-used material if the material is not clean enough for Foothill Landfill, but the NOP does not address the issue of what level of contaminants the Tajiguas Landfill will reject, and where this material would go if it is rejected by Tajiguas. The SEIR must include an analysis of impacts associated with 1) trucking sediment to Tajiguas, and 2) trucking sediments to a toxic waste landfill (such as Kettleman) if Tajiguas rejects the material.

To conclude, Heal the Ocean asks that the County include in its Draft SEIR for Goleta Slough Routine Maintenance Activities the following:

- 1) Describe what constitutes "otherwise unsuitable" contaminants in the material that cannot be used for beach replenishment;
- 2) Describe a program of consistent testing for pollutants in an updated SAP;
- 3) Analyze the impact of removing trees and a portion of the restoration project at the Foothill Landfill;
- 4) Analyze the impact of trucking sediment to the Tajiguas Landfill;
- 5) Analyze the impact of trucking sediment to a toxic landfill.

Sincerely,



Hillary Hauser, executive director

cc: Roger Briggs, Executive Director Regional Water Quality Control Board  
 Brian Trautwein, Environmental Defense Center  
 Kira Redmond, Channelkeeper  
 Stephanie Mutz, HTO Science and Policy Analyst

**Ford, Beth**

**From:** Spencer, Maureen  
**Sent:** Wednesday, February 18, 2009 1:15 PM  
**To:** Zertuche, Dana; Ford, Beth; Raaf, Andrew  
**Subject:** FW: Question re Foothill Landfill & FCD Gol Slu desilting upland disposal area

Here are the comments we received from Brian Trautwein, EDC

Thanks again, Beth for remembering this.

**From:** Leipner, Joddi  
**Sent:** Wednesday, February 04, 2009 9:52 AM  
**To:** Spencer, Maureen  
**Subject:** FW: Question re Foothill Landfill & FCD Gol Slu desilting upland disposal area

Here it is.

*Joddi Leipner  
Senior Engineering Environmental Planner  
Resource Recovery & Waste Management  
130 E. Victoria Street  
Santa Barbara, CA 93101  
Phone: 805 882-3614  
Fax: 805 882-3601  
JLEIPNER@COSBPW.NET*

**From:** Brian Trautwein [mailto:btraut@edcnet.org]  
**Sent:** Thursday, January 29, 2009 12:22 PM  
**To:** Leipner, Joddi; mspencer@co.santa-barbara.ca.us  
**Cc:** 'Growing Solutions'  
**Subject:** Question re Foothill Landfill & FCD Gol Slu desilting upland disposal area

Hi Joddi and Maureen,

I skimmed the Goleta Slough Maintenance NOP and I have some thoughts re the FCD's NOP & EIR for Goleta Slough Maintenance

**Upland Disposal and Ongoing Restoration**

The area being restored on the old landfill is discussed in Flood Control's NOP. Flood Control's NOP says the restoration area is outside the proposed upland fill areas, but Fig 3.4 of the NOP seems to show fill areas potentially overlapping with some of the restoration area e.g. south end of Area 3. We're glad FCD recognizes the need to avoid the restoration area. There will likely be indirect effects. Some care should be taken to provide a buffer between the restoration area and the proposed fill.

The NOP states they can dispose of up 250,000 cubic yards. Short and long-term erosion control and sediment control will be very important mitigation measures.

**Weed Control**

The plan also calls for weed control – which is and will be needed - but only within the areas being filled. Perhaps weeds should be controlled by flood control beginning with certification of the EIR to minimize future weed dispersal associated with flood control's work. Also, perhaps weed control should occur around the perimeter of



the disposal areas so to minimize future invasions into the filled and restored areas. If weeds are only controlled within the confines of the fill areas but not the weedy areas surrounding the fill areas, this will create a situation where the filled and restored areas may likely see ongoing invasions of weeds into the future. Therefore perhaps the EIR should analyze controlling weeds within and around the weedy perimeter of the proposed fill sites, and should begin sooner rather than later.

#### Restoration Plan

The EIR will include a "final restoration plan." Perhaps the County can make sure the seed mix and plants are all from local seed sources, to the fullest extent possible, to avoid any adverse biological impacts related to genetics.

Thanks for your interest in our comments on the NOP.  
Brian

**Brian Trautwein,**  
Environmental Analyst  
Environmental Defense Center  
906 Garden Street  
Santa Barbara, CA 93101  
[btraut@edcnet.org](mailto:btraut@edcnet.org)  
(805) 963-1622 X 108  
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## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
(916) 657-5390 - Fax



January 28, 2009

Maureen Spencer  
County of Santa Barbara-Public Works, Flood Control District  
123 E. Anapamu  
Santa Barbara, CA 93101

RE: SCH#200031092 Goleta Slough Routine Maintenance Activities; Santa Barbara County

Dear Ms. Spencer:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5 minute quadrangle name, township, range and section required.**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,

*Katy Sanchez*  
Katy Sanchez  
Program Analyst

CC: State Clearinghouse

**Native American Contact**  
Santa Barbara County  
January 28, 2009

Ernestine DeSoto  
1027 Cacique Street, #A  
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(805) 962-3598

Chumash

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Chumash  
Tataviam  
Fetnandeño

Patrick Tumamait  
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Chumash

Owl Clan  
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(805) 472-9536

Chumash

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Chumash

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(805) 686-9578 Fax

Chumash

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Chumash

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2000031092 Goleta Slough Routine Maintenance Activities; Santa Barbara County.

**Native American Contact**  
Santa Barbara County  
January 28, 2009

Gilbert M. Unzueta Jr.  
571 Citation Way  
Thousand Oaks , CA 91320  
(805) 375-7229

Chumash

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ndnrandy@hotmail.com  
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Chumash  
Fernandeño  
Tataviam  
Shoshone Paiute  
Yaqui

Diane Napoleone and Associates  
Diane Napoleone  
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La Conchita , CA 93001  
dnaassociates@sbcglobal.net

Chumash

Coastal Band of the Chumash Nation  
Janet Garcia, Chairperson  
P.O. Box 4464  
Santa Barbara , CA 93140  
805-964-3447

Chumash

Stephen William Miller  
189 Cartagena  
Camarillo , CA 93010  
(805) 484-2439

Chumash

Charles S. Parra  
P.O. Box 6612  
Oxnard , CA 93031  
(805) 340-3134 (Cell)  
(805) 488-0481 (Home)

Chumash

Santa Ynez Tribal Elders Council  
Adelina Alva-Padilla, Chair Woman  
P.O. Box 365  
Santa Ynez , CA 93460  
elders@santaynezchumash.org  
(805) 688-8446  
(805) 693-1768 FAX

Chumash

Santa Ynez Band of Mission Indians  
Sam Cohen, Tribal Administrator  
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Santa Ynez , CA 93460  
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(805) 686-9578 Fax

Chumash

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This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2000031092 Goleta Slough Routine Maintenance Activities; Santa Barbara County.

**Native American Contact**  
Santa Barbara County  
January 28, 2009

Carol A. Pulido  
165 Mountainview Street  
Oak View , CA 93022 Chumash  
805-649-2743 (Home)

Melissa M. Para-Hernandez  
119 North Balsam Street  
Oxnard , CA 93030 Chumash  
805-988-9171

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2000031092 Goleta Slough Routine Maintenance Activities; Santa Barbara County.**



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**Attachment 2 Notice of Completion**

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**Notice of Completion & Environmental Document Transmittal**

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613  
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

**Project Title:** Goleta Slough Routine Maintenance ActivitiesLead Agency: County of Santa Barbara - Public Works, Flood Control Dist.Contact Person: Ms. Maureen SpencerMailing Address: 123 E. AnapamuPhone: (805) 568-3437City: Santa BarbaraZip: 93101County: Santa Barbara**Project Location:** County: Santa BarbaraCity/Nearest Community: GoletaCross Streets: Highway 217, U.S. 101, Hollister AvenueZip Code: 93111Longitude/Latitude (degrees, minutes and seconds): 34 ° 25 ' 12 " N / 119 ° 49 ' 45 " W Total Acres: N/AAssessor's Parcel No.: 073-450-003, 071-210-001, 071-199 Section: 4N Twp.: 28/29 Range: 17 Base: \_\_\_\_\_Within 2 Miles: State Hwy #: 217, U.S. 101Waterways: Atascadero, Carneros, San Pedro, Tecolotito, San JoseAirports: Santa BarbaraRailways: Union PacificSchools: N/A**Document Type:**

CEQA: ☒ NOP  
☐ Early Cons  
☐ Neg Dec  
☐ Mit Neg Dec

☐ Draft EIR  
☐ Supplement/Subsequent EIR  
(Prior SCH No.) \_\_\_\_\_  
Other: \_\_\_\_\_

NEPA: ☐ NOI  
☐ EA  
☐ Draft EIS  
☐ FONSI

Other: ☐ Joint Document  
☐ Final Document  
☐ Other: \_\_\_\_\_

**Local Action Type:**

☐ General Plan Update  
☐ General Plan Amendment  
☐ General Plan Element  
☐ Community Plan

☐ Specific Plan  
☐ Master Plan  
☐ Planned Unit Development  
☐ Site Plan

☐ Rezone  
☐ Prezone  
☐ Use Permit  
☐ Land Division (Subdivision, etc.)

☐ Annexation  
☐ Redevelopment  
☒ Coastal Permit  
☐ Other: \_\_\_\_\_

**Development Type:**

☐ Residential: Units \_\_\_\_\_ Acres \_\_\_\_\_  
☐ Office: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  
☐ Commercial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  
☐ Industrial: Sq.ft. \_\_\_\_\_ Acres \_\_\_\_\_ Employees \_\_\_\_\_  
☐ Educational: \_\_\_\_\_  
☐ Recreational: \_\_\_\_\_  
☐ Water Facilities: Type \_\_\_\_\_ MGD \_\_\_\_\_

☐ Transportation: Type \_\_\_\_\_  
☐ Mining: Mineral \_\_\_\_\_  
☐ Power: Type \_\_\_\_\_ MW \_\_\_\_\_  
☐ Waste Treatment: Type \_\_\_\_\_ MGD \_\_\_\_\_  
☐ Hazardous Waste: Type \_\_\_\_\_  
☒ Other: Flood Control Maintenance Desilting

**Project Issues Discussed in Document:**

☒ Aesthetic/Visual  
☐ Agricultural Land  
☐ Air Quality  
☒ Archeological/Historical  
☒ Biological Resources  
☒ Coastal Zone  
☐ Drainage/Absorption  
☐ Economic/Jobs

☐ Fiscal  
☒ Flood Plain/Flooding  
☐ Forest Land/Fire Hazard  
☒ Geologic/Seismic  
☐ Minerals  
☒ Noise  
☐ Population/Housing Balance  
☐ Public Services/Facilities

☒ Recreation/Parks  
☐ Schools/Universities  
☐ Septic Systems  
☐ Sewer Capacity  
☐ Soil Erosion/Compaction/Grading  
☒ Solid Waste  
☐ Toxic/Hazardous  
☒ Traffic/Circulation

☒ Vegetation  
☒ Water Quality  
☐ Water Supply/Groundwater  
☐ Wetland/Riparian  
☐ Growth Inducement  
☒ Land Use  
☐ Cumulative Effects  
☐ Other: \_\_\_\_\_

**Present Land Use/Zoning/General Plan Designation:**

Open Space/Recreation

**Project Description:** (please use a separate page if necessary)

Please See Enclosed

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

## Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".  
If you have already sent your document to the agency please denote that with an "S".

<input type="checkbox"/> Air Resources Board	<input type="checkbox"/> Office of Emergency Services
<input type="checkbox"/> Boating & Waterways, Department of	<input type="checkbox"/> Office of Historic Preservation
<input type="checkbox"/> California Highway Patrol	<input type="checkbox"/> Office of Public School Construction
<input type="checkbox"/> Caltrans District # _____	<input checked="" type="checkbox"/> Parks & Recreation, Department of
<input type="checkbox"/> Caltrans Division of Aeronautics	<input type="checkbox"/> Pesticide Regulation, Department of
<input type="checkbox"/> Caltrans Planning	<input type="checkbox"/> Public Utilities Commission
<input type="checkbox"/> Central Valley Flood Protection Board	<input checked="" type="checkbox"/> Regional WQCB # <u>3CC</u>
<input type="checkbox"/> Coachella Valley Mtns. Conservancy	<input type="checkbox"/> Resources Agency
<input checked="" type="checkbox"/> Coastal Commission	<input type="checkbox"/> S.F. Bay Conservation & Development Comm.
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
<input checked="" type="checkbox"/> Conservation, Department of	<input type="checkbox"/> San Joaquin River Conservancy
<input type="checkbox"/> Corrections, Department of	<input type="checkbox"/> Santa Monica Mtns. Conservancy
<input type="checkbox"/> Delta Protection Commission	<input checked="" type="checkbox"/> State Lands Commission
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Energy Commission	<input type="checkbox"/> SWRCB: Water Quality
<input checked="" type="checkbox"/> Fish & Game Region # <u>5</u>	<input type="checkbox"/> SWRCB: Water Rights
<input type="checkbox"/> Food & Agriculture, Department of	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Forestry and Fire Protection, Department of	<input type="checkbox"/> Toxic Substances Control, Department of
<input type="checkbox"/> General Services, Department of	<input checked="" type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> Health Services, Department of	
<input type="checkbox"/> Housing & Community Development	Other: _____
<input checked="" type="checkbox"/> Integrated Waste Management Board	Other: _____
<input checked="" type="checkbox"/> Native American Heritage Commission	

### Local Public Review Period (to be filled in by lead agency)

Starting Date January 14, 2009 Ending Date February 13, 2009

### Lead Agency (Complete if applicable):

Consulting Firm: <u>Padre Associates, Inc.</u>	Applicant: <u>County of Santa Barbara, Public Works - Flood Control</u>
Address: <u>5290 Overpass Road, Ste. 217</u>	Address: <u>123 E. Anapamu</u>
City/State/Zip: <u>Goleta, CA 93111</u>	City/State/Zip: <u>Santa Barbara, CA 93101</u>
Contact: <u>Mr. Simon Poulter</u>	Phone: <u>(805) 568-3437</u>
Phone: <u>(805) 683-1233, x 4</u>	

Signature of Lead Agency Representative: \_\_\_\_\_ Date: 1/12/09

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.



**APPENDIX B**  
**FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT**  
**DRAFT ENVIRONMENTAL ASSESSMENT FOR ROUTINE**  
**MAINTENANCE ACTIVITIES IN THE GOLETA SLOUGH**  
**NOVEMBER 1993 - CD**

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**Final  
Program Environmental Impact Report/  
Draft Environmental Assessment for  
Routine Maintenance Activities  
in the Goleta Slough**

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93-EIR-4  
92-CP-28

November 1993

Prepared by  
**Santa Barbara County  
Flood Control and Water Conservation District  
Contact: Karl Treiberg**

Prepared with the assistance of  
**Science Applications International Corporation  
Environmental Programs Division**

**816 State Street, Suite 500  
Santa Barbara, CA 93101**

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**Final**  
**Program Environmental Impact Report/**  
**Draft Environmental Assessment for**  
**Routine Maintenance Activities in the Goleta Slough**

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93-EIR-4  
92-CP-28

November 1993

Prepared by  
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**Flood Control and Water Conservation District**  
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**816 State Street, Suite 500**  
**Santa Barbara, CA 93101**

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## 1.0 INTRODUCTION

### 1.1 PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires the preparation of Environmental Impact Reports (EIRs) when projects have potentially significant impacts on the environment. EIRs are prepared in order to "...identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which such significant effects can be mitigated or avoided" (California Administrative Code, Section 15011 6.a). The National Environmental Policy Act (NEPA) requires the preparation of an Environmental Assessment (EA) to determine the extent of a project's environmental impacts and whether those impacts are significant. An EA provides adequate information to allow the decisionmaker to determine whether an Environmental Impact Statement (EIS) or Finding of No Significant Impact (FONSI) is required.

EIRs and EAs are intended to serve as informational documents for decisionmakers and the general public regarding the environmental consequences of a project. Both CEQA and NEPA have provisions for preparing joint documents to eliminate duplication of efforts. This document is considered a program EIR/EA, intended to cover the impacts of ongoing maintenance activities for five creeks in the Goleta Slough. CEQA, Section 15168 defines a program EIR as one that:

may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically, (2) as logical parts in the chain of contemplated actions, (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

NEPA has similar provisions for preparing programmatic environmental documents.

The decision to require an EIR for Santa Barbara County Flood Control District (District) maintenance activities in the Goleta Slough was based on an Initial Study prepared by the Santa Barbara County Resource Management Department (RMD), which identified potentially significant impacts associated with the project. The Initial Study was used to define the work program used in preparing this document and is included as Appendix A. The following potentially significant long-term impacts pertaining to the following resources were identified:

- Water Resources/Flooding
- Geologic Processes
- Biological Resources
- Archaeological Resources

The following potentially significant short-term impacts to the following resources were identified, as well:

- Air Quality
- Transportation/Circulation
- Noise
- Aesthetics



- Land Use
- Risk of Upset
- Recreation

Environmental review is also required as a portion of the District's application for Section 404 permits under the Clean Water Act.

In accordance with CEQA and NEPA requirements, alternative maintenance procedures are considered coequally, including the no-project alternative. Mitigation measures are recommended for each significant impact, when feasible. Other mitigations are recommended to minimize potentially adverse but insignificant impacts.

This report has drawn on pertinent policies, guidelines, and existing reports and documentation to determine baseline conditions, impacts, and design of mitigation measures. All elements of the Santa Barbara County Comprehensive Plan were consulted, as were the Goleta Community Plan, Santa Barbara County Coastal Plan, City of Santa Barbara Airport and Goleta Slough Coastal Plan, Airport Master Plan, and 1990 *Environmental Thresholds and Guidelines Manual* prepared by RMD. Copies of pertinent documents and guidelines are on file in the appropriate offices of the Santa Barbara County and in the Santa Barbara Public Library.

The following categories for impact significance are used in this analysis:

- **Class I:** Significant adverse impacts that cannot be mitigated to insignificance or avoided. (These impacts require decisionmakers to make findings and statements of overriding consideration for project approval.)
- **Class II:** Significant adverse impacts that can be mitigated or avoided. (Decisionmakers are required to make findings that impacts have been mitigated to the maximum extent feasible by implementation of mitigation measures.)
- **Class III:** Adverse impacts that are not significant. (These impacts do not require that findings be made.)
- **Class IV:** Beneficial impacts.

## 1.2 SUMMARY OF IMPACTS AND MITIGATIONS

Impacts and mitigations for the proposed project and alternatives are presented in tables 1.2-1 through 1.2-8. Table 1.2-9 identifies by month when dredging would be subject to high, medium, or low environmental constraints for those resources that have a seasonal component. Significant impacts and mitigations as well as beneficial impacts are summarized below by resource for the proposed project.

### **Proposed Project**

**Water Resources.** Fecal coliform could be introduced into the ocean through the dredge sediments. This could have potentially adverse impacts on recreationists and shellfish farming operations. Impacts could be mitigated through monitoring the sediments before and during

Table 1.2-1

## SUMMARY OF IMPACTS -- PROPOSED PROJECT

(page 1 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
AIR QUALITY	Exceedance of the RMD 3-month NO <sub>x</sub> emission threshold (Phase II).	<p>Maintain construction equipment in tune with manufacturer's specifications, unless otherwise stated below.</p> <p>Retard fuel injection timing on diesel equipment by two degrees from manufacturer's specifications.</p> <p>Use minimal practical engine size for construction equipment.</p> <p>Minimize the pieces of construction equipment operating simultaneously.</p> <p>Install catalytic converters on all gasoline-powered equipment.</p> <p>Use electric booster pump. Electrify construction equipment where feasible.</p> <p>If deemed feasible, (1) substitute compressed natural gas-powered equipment for diesel- or gas-powered equipment and (2) curtail (cease or reduce) dredging activities during periods of high ambient pollutant concentrations (O<sub>3</sub> episodes).</p>	<p>Considered significant because application of best available control technology and mitigation measures may not be sufficient to reduce emissions below RMD threshold levels (Phase II only).</p>

Table 1.2-1

## SUMMARY OF IMPACTS -- PROPOSED PROJECT

(page 2 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> (cont.)			
BIOLOGICAL RESOURCES	Loss of aquatic organisms, vegetation, or birds from large spill of fuel or hydraulic fluid in Tecolotito, Carneros, San Jose, San Pedro, or Atascadero creeks, or Goleta Slough (phases I and II and ongoing).	Spill cleanup and contingency plan.	Potentially significant.
NOISE	Exceedance of noise thresholds at Goleta Beach ranger's residence (phases I and II and ongoing).	Inform public of purpose and schedule of dredging.  Limit dredging hours to weekdays between 7:30 A.M. and 5:30 P.M.  Properly maintain and muffle equipment.	Short term but significant.
CULTURAL RESOURCES	In the unlikely event that Locus 2 and SBA-45 remains cannot be feasibly avoided by redesign, Native American cultural values associated with prehistoric archaeological sites would be violated (phases I and II and ongoing).	Retain local Chumash observer with demonstrated cultural resources experience during all earth disturbances within archaeological sites and 10 foot buffer. Consult with local Native American representatives to avoid impacts to maximum extent feasible.	Significant.
AESTHETICS	Short-term deterioration of views of Atascadero Creek from the bikeway (phases I and II and ongoing).	No feasible measures have been identified.	Significant during construction.
	Short-term deterioration of aesthetic resources of Goleta Beach (phases I and II and ongoing).	No feasible measures have been identified.	Significant during construction.

Table 1.2-1

## SUMMARY OF IMPACTS -- PROPOSED PROJECT

(page 3 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class II Impacts</u> <sup>2</sup>			
WATER RESOURCES/ FLOODING	Introduction of fecal coliform bacteria into ocean waters used for water-contact recreation and shellfish harvesting (phases I and II and ongoing).	Test sediments before and during dredging.	Insignificant.
AIR QUALITY	Exceedance of the RMD 3-month NO <sub>x</sub> emission threshold (Phase I and ongoing).	See Class I Mitigation Measures for Air Quality.  For ongoing maintenance limit dredge volumes to avoid exceedance of threshold.	Insignificant (Phase I and ongoing only).
BIOLOGICAL RESOURCES	Loss of < 1 acre of wetland/riparian vegetation in San Jose Creek basin (Phase I).	Habitat restoration/enhancement on creek banks.	Insignificant.
	Disturbance of raptor or heron roosting/perching near mouth of Goleta Slough (phases I and II and ongoing).	Monitor responses of birds to disturbance and develop measures to reduce or eliminate impacts.	Insignificant.
	Disruption of swallow nesting (Tecolotito Creek and Goleta Slough) (phases I and II and ongoing).	Conduct dredging in summer and autumn after nesting complete.	Insignificant.
	Preclusion of grunion spawning (phases I and II and ongoing).	Conduct survey to determine if spawning occurs; if so, suspend activities at night.	Insignificant.
RISK OF UPSET/ HAZARDOUS MATERIALS	Potential undermining of piling supporting high pressure gas pipelines by dredging activities (Phase I).	District shall coordinate with the Southern California Gas Company to ensure pilings are supported adequately.	Insignificant.

Table 1.2-1

**SUMMARY OF IMPACTS -- PROPOSED PROJECT**

(page 4 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class II Impacts</u> (cont.)			
NOISE	Excessive noise at residential areas near Atascadero, San Jose, and San Pedro creeks (Phase I and ongoing).	Limit operation to 10 hours per day; additionally, mitigations described under Class I would further minimize impacts.	Insignificant.
CULTURAL RESOURCES	Excavation of channels could encroach on potentially significant remains of Locus 2 and SBA-45 (phases I and II and ongoing).	Avoid dredging within creekbanks and 25-foot buffer along creek banks adjacent to Locus 2 and SBA-45. If not feasible, perform an extended Phase I program to identify extent of Locus 2 and SBA-45 remains. Based on results, incorporate 10-foot buffer from edge of defined cultural deposit and avoid all ground disturbances within this area. If not feasibly avoided, perform Phase II significance assessment program and if significant, Phase III data recovery program pursuant to County Cultural Resource Guidelines prior to construction.	Insignificant.
RECREATIONAL RESOURCES	Damage to surface of Goleta Beach parking lot (phases I and II).	District to repair damaged surface.	Insignificant.
	Incompatibility with recreational uses for sites to be hydraulically dredged (phases I and II and ongoing).	Limit maintenance to mid-November to early April.	Insignificant.



Table 1.2-1

**SUMMARY OF IMPACTS -- PROPOSED PROJECT**

(page 5 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class II Impacts (cont.)</u>			
TRAFFIC AND CIRCULATION	Potential safety impacts from construction vehicles entering roadways and bikepaths (Atascadero and San Pedro creeks, Goleta Beach) (phases I and II and ongoing).	Designate a flagperson to facilitate entrance and egress to the project site.	Insignificant.
<u>Class III Impacts</u> <sup>3</sup>			
WATER RESOURCES/ FLOODING	Introduction of suspended discharge plume into ocean (phases I and II and ongoing).	None requested	Insignificant.
AIR QUALITY	Short-term increase in combustive and fugitive dust emissions (phases I and II and ongoing).	None required.	Insignificant.
BIOLOGICAL RESOURCES	Loss of aquatic vegetation and benthos from dredging; turbidity effects on aquatic biota; disturbance to wildlife (phases I and II and ongoing).	None required; but weed control and revegetating with native species would substantially reduce impacts.	Insignificant.
	Spoil storage adjacent to Tecolotito and Carneros creeks (phases I and II and ongoing).	None required; however, revegetating disturbed areas with non-invasive, non-native grasses and weed control would reduce impact substantially.	Insignificant.
	Disturbance of sensitive species (e.g., Belding's savannah sparrow) (phases I and II and ongoing).	None required.	Insignificant.
	Effects of turbidity and deposition of sediments on marine biota in nearshore waters (phases I and II and ongoing).	None required.	Insignificant.

Table 1.2-1

**SUMMARY OF IMPACTS -- PROPOSED PROJECT**

(page 6 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<b><u>Class III Impacts</u></b> (cont.)			
NOISE	Increased noise in residential areas (phases I and II and ongoing).	None required; however, mitigations described under Class I impacts would further reduce impacts.	Insignificant.
	Potential annoyance to users of Atascadero Bikeway (phases I and II and ongoing).	None required.	Insignificant.
AESTHETICS	If 24-hour operations occurred, addition of night lighting (phases I and II and ongoing).	None required.	Insignificant.
	Reduction in aesthetic quality of San Pedro, San Jose, Tecolotito, and Carneros creeks (phases I and II and ongoing).	None required.	Insignificant.
RECREATIONAL RESOURCES	Short-term restriction of access by recreationists (Atascadero, San Pedro, Carneros, and Tecolotito creeks and Goleta Beach) (phases I and II and ongoing).	Use a flagperson to facilitate ingress and egress to the project site.	Insignificant.
	Loss of parking spaces at Goleta Beach during peak season (phases I and II).	None required.	Insignificant.
	Short-term degradation of swimming areas due to turbidity (phases I and II).	None required.	Insignificant.
	Short-term alteration of bird-watching opportunities.	None required.	Insignificant.

Table 1.2-1

## SUMMARY OF IMPACTS -- PROPOSED PROJECT

(page 7 of 7)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class III (continued)</u>			
TRAFFIC AND CIRCULATION	Potential short-term traffic impediments (Tecolotito, Carneros, and San Jose creeks) (phases I and II).	Use flagperson to facilitate entrance and egress to the project site.	Insignificant.
<u>Class IV</u>			
WATER RESOURCES/ FLOODING	Reduced flooding in the lower Goleta Valley (phases I and II and ongoing).	Not applicable.	Not applicable.
	Beach nourishment (phases I and II and ongoing).	Not applicable.	Not applicable.
	Increased tidal prism (phases I and II and ongoing).	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Removal of sediment would restore open water and tidally influenced aquatic habitat. Maintenance of silt basins would minimize deposition of sediments (phases I and II and ongoing).	Not applicable.	Not applicable.
RECREATION	Beach nourishment (phases I and II and ongoing).	Not applicable.	Not applicable.
	Long-term increase in opportunities to view wildlife (phases I and II and ongoing).	Not applicable.	Not applicable.

Notes:

1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
4. Class IV impacts are beneficial impacts.

Table 1.2-2

## SUMMARY OF IMPACTS -- TRADITIONAL MAINTENANCE ALTERNATIVE

(page 1 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
NOISE	Exceedance of noise thresholds at residences near Atascadero Creek (Phase II).	Same as proposed project.	Short term but significant.
BIOLOGICAL RESOURCES	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
AESTHETICS	Same as proposed project plus deterioration of views of Atascadero Creek, San Pedro Creek, and Goleta Beach from the spoils piles (phases I and II and ongoing).	No feasible measures have been identified.	Significant until spoils piles are removed.
<u>Class II Impacts</u> <sup>2</sup>			
BIOLOGICAL RESOURCES	Same as proposed project plus disturbance of 29 acres of upland habitat for spoils storage, part of which would be native salt marsh vegetation, with disturbance to Belding's savannah sparrow; turbidity effects on aquatic organisms.	Restore and enhance nearby areas to compensate for habitat loss; desilt from upstream to downstream and between 1 July and 1 November.	Insignificant.
RISK OF UPSET/HAZARDOUS MATERIALS	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		

Table 1.2-2

## SUMMARY OF IMPACTS -- TRADITIONAL MAINTENANCE

(page 2 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class III Impacts</u> <sup>3</sup>			
WATER RESOURCES/ FLOODING	Stockpiling spoils would increase encroachment in the stream floodways - Atascadero, San Jose, and San Pedro creeks (phases I and II and ongoing).	None required.	Insignificant.
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Loss of aquatic vegetation and benthos from desilting (phases I and II and ongoing).	None required.	Insignificant.
	Effects of turbidity on marine biota in nearshore waters (phases I and II and ongoing).	None required.	Insignificant.
NOISE	Same as proposed project.		
AESTHETICS	Same as proposed project.		
RECREATIONAL RESOURCES	Short-term restriction of access by recreationists (Atascadero, San Pedro, Carneros, and Tecolotito creeks and Goleta Beach) (phases I and II and ongoing).	Use a flagperson to facilitate ingress and egress to the project site.	Insignificant.
	Short-term alteration of bird-watching opportunities (phases I and II and ongoing).	None required.	Insignificant.
TRAFFIC AND CIRCULATION	Potential short-term traffic impediments (Tecolotito, Carneros, and San Jose creeks) (phases I and II).	Use flagperson to facilitate entrance and egress to the project site.	Insignificant.



Table 1.2-2

## SUMMARY OF IMPACTS -- TRADITIONAL MAINTENANCE

(page 3 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class IV</u> <sup>4</sup>			
WATER RESOURCES/ FLOODING	Reduced flooding in the lower Goleta Valley (phases I and II and ongoing).	Not applicable.	Not applicable.
	Increased tidal prism.	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.
RECREATIONAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.

Table 1.2-3

## SUMMARY OF IMPACTS -- BEACH DEPOSITION ALTERNATIVE

(page 1 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
AESTHETICS	Same as proposed project plus degradation of Goleta Beach due to spoils deposition (phases I and II and ongoing).	No feasible measures have been identified.	Significant until spoils pile removed by wave action.
RECREATIONAL RESOURCES	Degradation or loss of access to Goleta Beach due to spoils deposition (phases I and II and ongoing).	No feasible mitigation has been identified.	Significant until pile is removed by wave action.
<u>Class II Impacts</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project with increased potential for impacts on heron roosting.	Same as proposed project.	Insignificant.
RISK OF UPSET/ HAZARDOUS MATERIALS	Same as proposed project.		

Table 1.2-3

**SUMMARY OF IMPACTS -- BEACH DEPOSITION ALTERNATIVE**

(page 2 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<b><u>Class II Impacts (cont.)</u></b>			
NOISE	Same as proposed project, plus noise from secondary booster pump would be significant, depending on its placement.	Place booster pump at least 400 feet from the ranger's residence, or create a noise barrier.	Insignificant.
CULTURAL RESOURCES	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		
<b><u>Class III Impacts</u></b>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
AESTHETICS	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		

Table 1.2-3

## SUMMARY OF IMPACTS -- BEACH DEPOSITION ALTERNATIVE

(page 3 of 3)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class IV</u>			
WATER RESOURCES/ FLOODING	Additionally, some reduction in bacteria due to sunlight.	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.
RECREATIONAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.

**Table 1.2-4**  
**SUMMARY OF IMPACTS -- REDUCED BASIN SIZE ALTERNATIVE**  
 (page 1 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<b><u>Class I Impacts</u></b> <sup>1</sup>			
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
AESTHETICS	Same as proposed project.		
<b><u>Class II Impacts</u></b>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
RISK OF UPSET/ HAZARDOUS MATERIALS	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		



**Table 1.2-4**  
**SUMMARY OF IMPACTS -- REDUCED BASIN SIZE ALTERNATIVE**  
(page 2 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class III Impacts</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project, with slightly less streambed disturbance		
NOISE	Same as proposed project.		
AESTHETICS	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		
<u>Class IV</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.
RECREATION	Same as proposed project.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.

Table 1.2-5

## SUMMARY OF IMPACTS -- INCREASED BASIN SIZE ALTERNATIVE

(page 1 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
AIR QUALITY	Same as proposed project, although impact applies to Phase I as well as Phase II.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
AESTHETICS	Same as proposed project.		
<u>Class II Impacts</u> <sup>2</sup>			
AIR QUALITY	Same as proposed project (ongoing only).		
WATER RESOURCES/ FLOODING	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
RISK OF UPSET/ HAZARDOUS MATERIALS	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		

Table 1.2-5

## SUMMARY OF IMPACTS -- INCREASED BASIN SIZE ALTERNATIVE

(page 2 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class III Impacts</u> <sup>3</sup>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project with slightly more streambed habitat disturbance.		
NOISE	Same as proposed project.		
AESTHETICS	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		
<u>Class IV</u> <sup>4</sup>			
WATER RESOURCES/ FLOODING	Same as proposed project.	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.

Notes:

1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
4. Class IV impacts are beneficial impacts.

Table 1.2-6

## SUMMARY OF IMPACTS -- DISCHARGE PIPELINES ON THE GROUND ALTERNATIVE

(page 1 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
AESTHETICS	Same as proposed project.		
<u>Class II Impacts</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Disturbance of native salt marsh vegetation on Belding's savannah sparrow.	Place pipeline in disturbed areas only or in creek channel.	Insignificant.
RISK OF UPSET/ HAZARDOUS MATERIALS	Same as proposed project.		
NOISE	Same as proposed project.		
CULTURAL RESOURCES	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		

Table 1.2-6

## SUMMARY OF IMPACTS -- DISCHARGE PIPELINES ON THE GROUND ALTERNATIVE

(page 2 of 2)

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class III Impacts</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.		
AIR QUALITY	Same as proposed project.		
BIOLOGICAL RESOURCES	Same as proposed project.		
NOISE	Same as proposed project.		
AESTHETICS	Same as proposed project.		
RECREATIONAL RESOURCES	Same as proposed project.		
TRAFFIC AND CIRCULATION	Same as proposed project.		
<u>Class IV</u>			
WATER RESOURCES/ FLOODING	Same as proposed project.	Not applicable.	Not applicable.
BIOLOGICAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.
RECREATIONAL RESOURCES	Same as proposed project.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.



Table 1.2-7

## SUMMARY OF IMPACTS -- NO PROJECT ALTERNATIVE

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
WATER RESOURCES/ FLOODING	Increased flooding in the lower Goleta Valley.	None identified.	Significant.
<u>Class III Impacts</u> <sup>3</sup>			
BIOLOGICAL RESOURCES	Increased algal bloom potentially causing fish kills.	None required.	Insignificant.
<u>Class IV Impacts</u> <sup>4</sup>			
BIOLOGICAL RESOURCES	Floods could convey freshwater to portions of the slough currently isolated from flooding.	Not applicable.	Not applicable.
CULTURAL RESOURCES	Infilling of basins would preserve cultural resources.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.

Table 1.2-8

## SUMMARY OF IMPACTS -- CUMULATIVE IMPACTS

<i>Resource</i>	<i>Description of Impact</i>	<i>Mitigation Measure</i>	<i>Residual Impacts</i>
<u>Class I Impacts</u> <sup>1</sup>			
NOISE	Potential exceedance of County noise thresholds.	No feasible measures have been identified.	Short term but significant.
CULTURAL RESOURCES	If unavoidable, disturbance to archaeological site deposits would contribute to impacts on Native American values in Goleta Slough vicinity caused by regional development.	Avoidance of impacts by redesign.	If not feasible, long term and significant.
AESTHETICS	Degradation of aesthetic resources of Goleta Beach.	No feasible measures have been identified.	Short term but significant.
RECREATIONAL RESOURCES	Potential degradation of recreational experience at Goleta Beach.	No feasible measures have been identified.	Short term but significant.
TRAFFIC AND CIRCULATION	Same as proposed project.		
<u>Class IV</u> <sup>4</sup>			
WATER RESOURCES/ FLOODING	Beneficial flooding impacts if Atascadero Creek project is carried forward.	Not applicable.	Not applicable.

- Notes:
1. Class I impacts are unavoidable significant impacts (the decisionmaker must issue a "Statement of Overriding Considerations" under Section 15092[b] of the California EIR Guidelines if the project is approved).
  2. Class II impacts are significant environmental impacts that can be mitigated (the decisionmaker must make "findings" under Section 15091[a] of the California EIR Guidelines if the project is approved).
  3. Class III impacts are other environmental impacts that are potentially adverse but not significant. Mitigation measures are recommended to minimize adverse impacts.
  4. Class IV impacts are beneficial impacts.

Table 1.2-9

**PREFERRED MAINTENANCE SEASON BY RESOURCE <sup>1</sup>**  
**(All Alternatives except No Project)**

Resource	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Water Resources- Hydraulic Dredging	M	M	M	M	M	M	M	M	M	M	M	M
Water Resources- Dragline Desilting	L	L	L	L	L	L	L	L	L	L	L	L
Biology-Onshore	M	M	M	H	H	H	L	L	L	L	L	M
Biology-Offshore	L	L	L	M	M	M	M	M	M	M	L	L
Noise <sup>2</sup>	M	M	M	H	H	H	H	H	H	H	M	M
Aesthetics <sup>2</sup>	M	M	M	H	H	H	H	H	H	H	M	M
Recreation	M	M	M	H	H	H	H	H	H	H	M	M

**Notes:** H = High constraint  
M = Moderate constraint  
L = Low constraint

1. No substantial difference between season was identified for air quality, geology and soils, risk of upset, cultural resources, or traffic; therefore, these resources were excluded from the table.
2. There would be no preferred dredging season for the Tecololito and Carneros basins or in the vicinity of residences. Recommended dredging periods apply only to the Goleta Beach vicinity.

dredging to ensure that fecal coliform levels do not exceed established thresholds for water quality. The project would have beneficial impacts on flooding. The most substantial flood control benefit would be derived from Phase I, although an incremental benefit would result from Phase II. Additionally, the project would increase the tidal prism and prevent the slough from being converted to dry coastal borderland.

Air Quality. Phases I and II and ongoing maintenance would exceed of the RMD 3-month NO<sub>x</sub> emission threshold. For Phase I and ongoing maintenance, this impact could be mitigated to insignificance by applying standard Air Pollution Control District measures and most specifically by retarding fuel injection timing on diesel equipment by two degrees and by electrifying the booster pump. In addition, for ongoing maintenance, it is recommended that dredging be limited to the volume that would not cause an exceedance of this threshold. Phase II impacts cannot be mitigated to insignificance.

Biological Resources. Dragline desilting would disturb approximately 1.4 acres of streambed habitat in Tecolotito Creek and 0.9 acre in Carneros Creek. Hydraulic dredging would disturb about 9.6 acres in Atascadero Creek, 3.3 acres in San Jose Creek, 3.5 acres in San Pedro Creek, and 6.5 acres in Goleta Slough. Direct and indirect impacts on aquatic plants, invertebrates, fish, and birds would be local, short term, and not significant, except for removal of riparian and wetland vegetation in the basin area of San Jose Creek, which would be significant but mitigable. Spoil storage (at Tecolotito and Carneros creeks) and noise generally would have no significant impacts on upland vegetation and wildlife. However, impacts on heron roosting at Goleta Beach and swallow nesting under bridges over the creeks could potentially be significant. Accidents involving a large spill of fuel or hydraulic fluid could have significant impacts on aquatic biota, vegetation, and water-associated birds.

Discharge of sediments into the surf zone from hydraulic dredging would have adverse but not significant impacts on nearshore marine biota. Overall, removal of accumulated sediments would have beneficial impacts on aquatic biota and water-associated birds by restoring habitat lost due to recent sediment deposition. Continued maintenance of the basins, and possibly the creek channels, at intervals would have impacts similar to, but of smaller magnitude, than the initial sediment removal.

These impacts could be mitigated through habitat restoration/enhancement on Goleta Slough creek banks, monitoring responses of birds and developing appropriate measures to minimize impacts, and avoiding dredging during breeding and nesting season.

Risk of Upset. The Southern California Gas Company has expressed concerns that the project could undermine pilings supporting a gas pipeline in Atascadero Creek. Impacts could be mitigated through coordination with the Gas Company to ensure that the pilings are adequately supported prior to dredging.

Noise. Noise from dredging equipment would exceed recommended thresholds at the Goleta Beach County Park ranger's residence while equipment operated in the vicinity. This impact would be short-term but unmitigable to insignificance. The project would temporarily introduce excessive levels at residential areas if operations were conducted at night. This could be avoided by limiting dredging to 10-hour days.

Cultural Resources. Phase I activities could result in potentially significant impacts on Locus 2 deposits on San Pedro Creek and SBA-45 deposits on Atascadero Creek. Direct impacts from disturbing deposits and indirect impacts from exposing SBA-45 to increased illicit artifact collection could occur. Avoidance of impacts by providing a buffer around the sites would reduce impacts on archaeological research values and Native American heritage values to insignificance. If dredging within the sites is unavoidable, archaeological investigations would

reduce impacts on research values to insignificance (Class II) but impacts on Native American heritage values would remain significant (Class I). Impacts on offshore cultural resources are considered insignificant due to the low potential of disturbing remains within the proposed disposal site.

Phase II activities would result in potentially significant impacts on Locus 2 and SBA-45 archaeological deposits similar to impacts defined for Phase I actions. Mitigation for these impacts would be similar to those necessary for Phase I impacts but may be more extensive depending on the degree to which dredging activities could be avoided within the sensitive cultural resource areas. Levels of impact are the same as defined for Phase I maintenance activities.

Aesthetics. The aesthetic qualities of Atascadero Creek and Goleta Beach would be degraded due to the presence of construction equipment and the staging areas and increased turbidity of the water. This impact would be significant and unmitigable, but short-term.

Recreational Resources. The surface of the Goleta Beach parking lot could be damaged through repeated trips by construction equipment. This could be mitigated by the District repairing the parking lot once maintenance activities are completed. Additionally, the project would be incompatible with recreational use of Goleta Beach due to the introduction of construction equipment and a staging area, and the creation of dust, noise, and a dredge plume. This impact could be minimized by restricting dredging to mid-November to early April, when the beach is not heavily used. The project would also have the beneficial impact of beach nourishment.

Transportation/Circulation. Potential traffic safety impacts to bicyclists and other vehicles would be mitigated through the use of flagpersons to facilitate safe ingress and egress to the project sites.

### **Traditional Maintenance**

Impacts associated with water resources would be comparable to the proposed project, except there would be no discharge plume and no introduction of fecal coliform into the ocean.

Air quality emissions would be less than for the proposed project, and no significant impacts would occur.

The impacts to biological resources identified for the proposed project apply to traditional maintenance, as well. Additionally, this alternative would have slightly greater impacts on aquatic habitats and biota compared to hydraulic dredging, particularly with regard to turbidity. Upland impacts would be substantially greater and could be locally significant. Twenty-nine acres of upland habitat would be disturbed for spoils storage, part of which would be native salt marsh vegetation. This could disturb Belding's savannah sparrow.

Impacts for risk of upset would be as described for the proposed project.

Noise impacts would be significant for the residences near Atascadero Creek, but would be short-term. Noise impacts near Goleta Beach would be less than for the proposed project.

Impacts to cultural resources would be essentially comparable to the proposed project. This alternative would result in potentially significant impacts on Locus 2, SBA-45, and SBA-1696 cultural resources. Dragline desilting could accidentally encroach within these boundaries during creek channel clearing, while creekbanks containing these resources could be disturbed by equipment. Mechanical removal of spoils placed on top of creekbanks capping



archaeological sites could disturb significant deposits if excavation encroaches below the protective, non-cultural soil cap. Impacts on offshore cultural resources would be insignificant.

Aesthetic impacts would be greater than for the proposed project, since the stockpiled spoils would significantly affect Atascadero and San Pedro creeks and Goleta Beach. Impacts would last until the spoils piles were removed.

No significant impacts to recreational resources were identified, since less equipment and general disturbance would be required. However, no beach nourishment would result from this alternative.

Transportation impacts would be comparable to the proposed project.

#### **Beach Deposition**

Impacts would be comparable to the proposed project with the following exceptions: (1) the spoils pile on the beach would degrade the aesthetic qualities and recreational use of Goleta Beach; (2) noise from the second booster pump could adversely impact the ranger's residence, depending on its placement and would increase the potential for impacts on heron roosting; and (3) placing the spoils on the beach would incrementally reduce their bacterial content due to exposure to sunlight. Impacts to aesthetic and recreational resources would last until the spoils were washed away. Biological impacts are mitigable through measures identified for the proposed project. Noise impacts could be mitigated through placing the booster pump more than 400 feet from the residence or constructing a noise barrier.

#### **Discharge Pipelines on the Ground**

This alternative would have impacts comparable to the proposed project, although there is increased potential for disturbance of native salt marsh vegetation or Belding's savannah sparrow depending on pipeline placement. This impact could be mitigated through placing the pipeline only in disturbed areas.

#### **Reduced Basin Size**

Impacts would have impacts comparable to the proposed project. No basins have been proposed within recorded archaeological deposits; therefore, reduced basin sizes would have no effect on cultural resources; pilot channel and Phase II activity excavation would still be potentially significant.

#### **Increased Basin Size**

Impacts would be comparable to the proposed project, except Class I air quality impacts from NO<sub>x</sub> emissions would result from Phase I as well as Phase II.

#### **No Project**

The No-Project alternative would result in significant unmitigable impacts due to increased potential for flooding in the lower Goleta Valley. A potential benefit to biological resources would result from floodwaters conveying freshwater to portions of the slough that are currently isolated from flooding. An additional benefit would occur, because avoiding excavation within or adjacent to archaeological sites would eliminate direct impacts on cultural resources. Stream basin infilling would preserve presently exposed archaeological site profiles.

### 1.3

### COMPARISON OF ALTERNATIVES

The Traditional Maintenance alternative would have less impact to air quality than the proposed project or other alternatives, but would have the greatest impacts to biological resources. Short-term recreational impacts would be less than for dredging alternatives, but no long-term benefit from beach nourishment would occur. Aesthetic impacts would be the greatest under this alternative due to the long-term presence of the spoils piles. No water quality impacts associated with fecal coliform would occur, although this impact is considered mitigable.

The Beach Deposition alternative would have greater aesthetic and recreational impacts than the proposed project or other alternatives due to the presence of the discharge on the beach. It would cause the greatest noise impact in the vicinity of Goleta Beach due to the additional booster pump, although this impact is readily mitigable. Impacts to herons would also be increased over the other alternatives, but this impact is mitigable, as well. This alternative would have a small beneficial impact, since sunlight would kill fecal coliform on the surface of the sediments.

Placing discharge pipelines on the ground would have impacts essentially comparable to the other dredge alternatives, although there is an increased potential for disturbance to biological habitat. This is a mitigable impact, however.

The Reduced Basin Size alternative would have impacts comparable to the other dredge alternatives except that a smaller area would be affected, and impacts would occur more frequently.

The Increased Basin Size alternative would have impacts comparable to the other dredge alternatives except that it would have the greatest air quality emissions (impacts from Phase I and Phase II are considered significant and unmitigable), and a larger area would be affected. Impacts would, however, occur less frequently.

The No-Project alternative would have certain benefits, limited primarily to allowing flooding to reach otherwise isolated areas of the slough and preserving cultural resources through infilling. Flooding impacts would be substantial, however, and could cause considerable damage to public property and public safety. Additionally, infilling of the slough would continue and it would in time be converted to an upland area.

### 1.4

### ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The following discussion presents the factors that were considered in determining which alternative is environmentally superior.

The No-Project alternative is not considered environmentally superior due to the serious risks from flooding that would occur if the project were not implemented. Additionally, infilling of one of the few remaining salt marshes in the area would continue.

The Traditional Maintenance alternative is eliminated from consideration as environmentally superior, as well. Although it would have fewer short-term air quality impacts than the other alternatives, it would have greater impacts to biological resources and long-term aesthetic impacts. Additionally, no beach nourishment would result from this alternative.

The Increased Basin size alternative would have Class I impacts to air quality during both Phase I and Phase II. Maintenance would be required less frequently than under the proposed project, which would have advantages to such resources as recreation, aesthetics, noise, and transportation, but the level of impact would not change for those resources.

Placing discharge pipelines on the ground would have a slight reduction in air quality and traffic impacts compared to the other dredge alternatives, but the level of impact would not differ. The potential for impacts to biological resources would be greater under this alternative, but they could be mitigated through careful siting of the pipeline. Given the fact that other impacts are comparable to the proposed project, there appears to be no particular value in placing pipelines on the ground and risking disturbance to biological resources. Therefore, this alternative is not considered environmentally superior.

The Reduced Basin Size alternative would require ongoing maintenance more frequently than the other dredge alternatives (including the proposed project), thus creating disturbances more frequently; but smaller volumes would be dredged each time. This would be consistent with recommendations in the Air Quality analysis (see section 4.2.4) to minimize NO<sub>x</sub> emissions. Reducing the basin size would decrease the flood benefit of the proposed project, but only slightly. This alternative is considered essentially comparable to the proposed project; due to the lack of substantial differences between the two, the "Environmentally Superior" classification may be applied to either the proposed project or the Reduced Basin Size alternative.



## **2.0 PROJECT DESCRIPTION**

### **2.1 GENERAL BACKGROUND**

<b>Project Title</b>	Flood Control Maintenance Activities in the Goleta Slough
<b>Case Number</b>	92-CP-28
<b>Assessor's Parcel Numbers</b>	71-190-17, 28, 30; 71-200-8, 11, 12, 13, 22, 23, 24, 25; 73-080-37
<b>Landowner</b>	City of Santa Barbara; County of Santa Barbara; Southern California Gas Company; Goleta Sanitary District
<b>Applicant</b>	Santa Barbara County Flood Control District 123 E. Anapamu St. Santa Barbara, CA 93101 (805) 568-3440
<b>Supervisory District</b>	Third; Willy Chamberlin, Supervisor

### **2.2 PROJECT LOCATION**

The project area is located within the Goleta Slough (see Figure 2.2-1). The five creeks feeding into the slough that would be subject to maintenance activities are Atascadero, San Jose, San Pedro, Carneros, and Tecolotito (see Figure 2.2-2). Carneros and Tecolotito creeks are within the Santa Barbara city limits; the remaining creeks are under the jurisdiction of Santa Barbara County.

### **2.3 PROJECT OBJECTIVES**

Due to many factors, sediments are continually deposited in each of the five creeks that feed the slough. Specific objectives associated with the proposed maintenance project include:

1. Removing sediments that would otherwise fill in the slough and eliminate the marsh.
2. Increasing the creeks' capacity to convey flood flows, thereby decreasing the potential for frequent inundation of large areas adjacent to the slough, including commercial areas, the airport, and residences.
3. Increasing the tidal prism, thereby helping to keep the mouth of the slough open naturally and permitting a healthy exchange of water in the slough.
4. Replenishing a local beach that receives heavy public use.



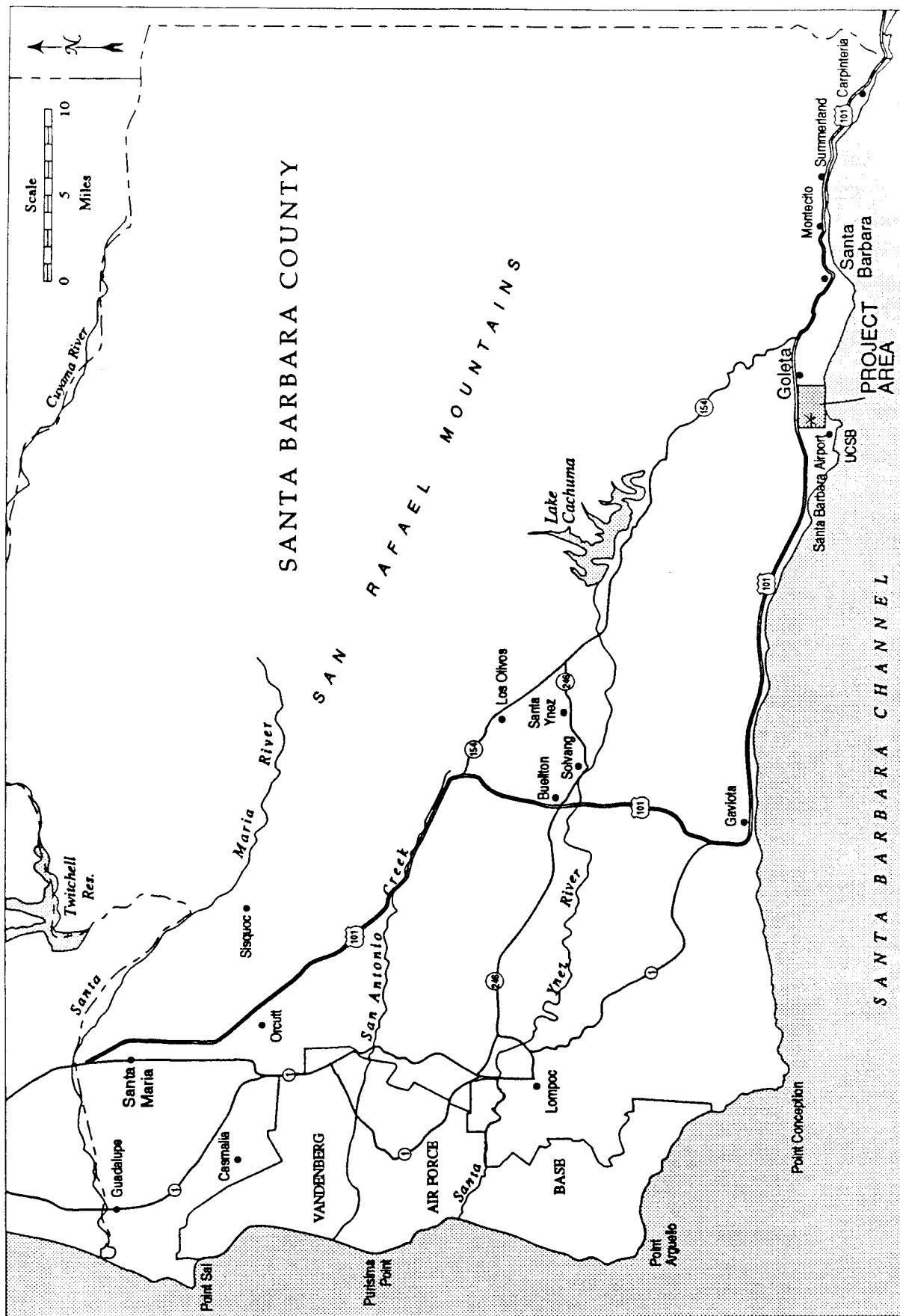
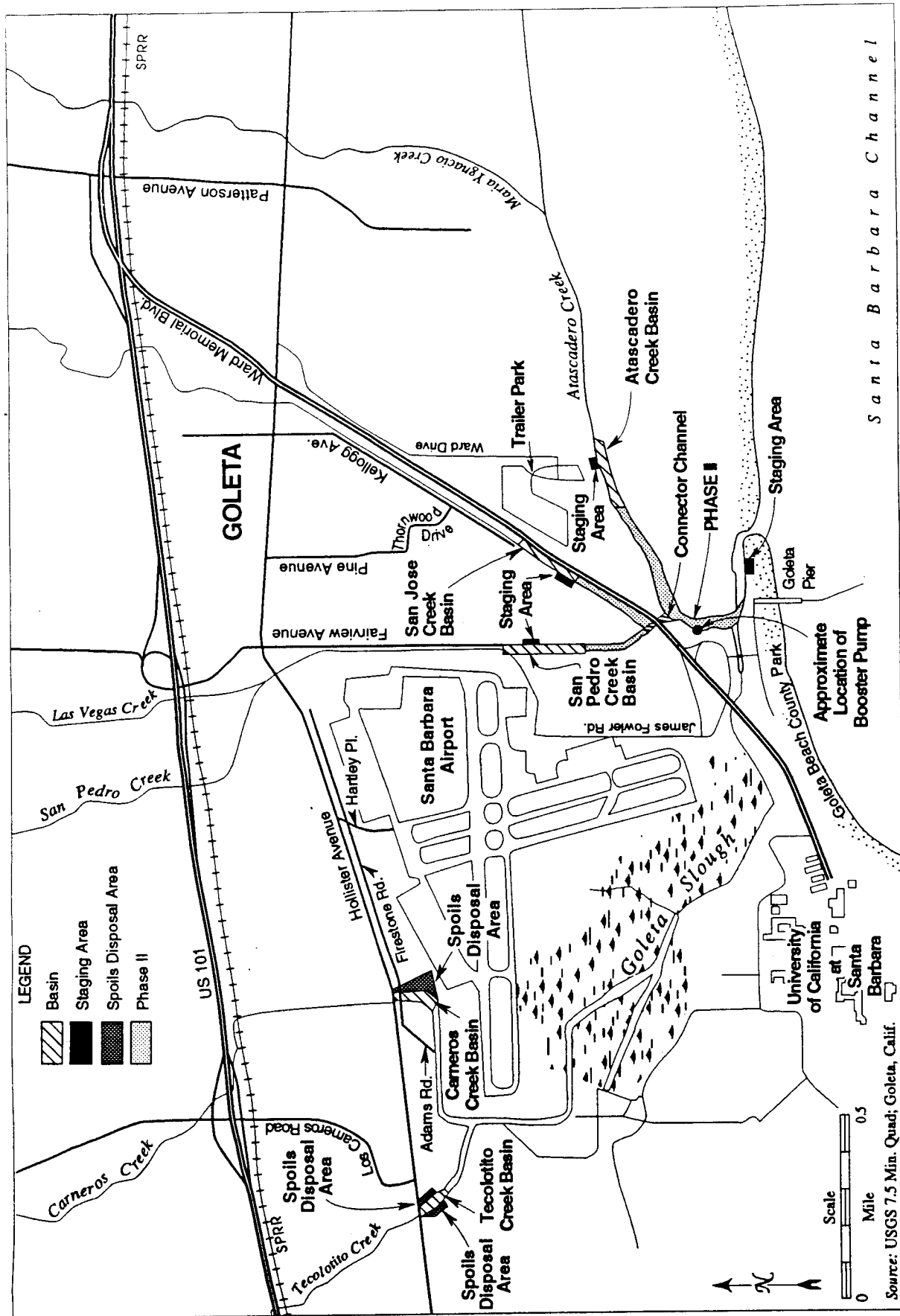


Figure 2.2-1  
LOCATION OF THE PROJECT AREA



**Figure 2.2-2**  
**LOCATION OF KEY PROJECT COMPONENTS**

## 2.4 PROJECT CHARACTERISTICS

The District has routinely maintained the creeks that flow into the Goleta Slough for over 20 years. The following sections describe the proposed project, including traditional maintenance activities (i.e., dragline desilting), proposed for Tecolotito and Carneros creeks, and the hydraulic dredging activities proposed for Atascadero, San Pedro, and San Jose creeks. Detailed plans showing the proposed dimensions of the areas to be maintained are on file with the District and have been reduced and included in Appendix B. The Standard Maintenance Practices from the *Program EIR for Santa Barbara County Flood Control Routine Maintenance Activities* (90-EIR-7) would be applied to the proposed project as appropriate.

### 2.4.1 Dragline Desilting

Traditionally, sediments have been removed from all the creeks and basins in the slough with a dragline. The dragline method will remain the preferred practice for the Tecolotito and Carneros silt basins, since they were designed to be maintained in this manner, and since it would not be economically or technically feasible to extend a pipeline from a hydraulic dredge placed in the basins to the coast. Additionally, grain size tests for Tecolotito Creek show that the sediment would not meet U.S. Army Corps of Engineers (Corps) guidelines for beach disposal (K-C Geotechnical Associates 1993).

The basin in Tecolotito Creek would be approximately 8 feet deep x 80 feet wide x 560 feet long and would contain approximately 10,000 cubic yards (average widths are used). The Carneros basin would be smaller, with a storage volume of approximately 8,100 cubic yards. It would be approximately 6 feet deep, 60 feet wide, and 600 feet long. Approximately 5 feet would be left along the west bank of Carneros Creek to prevent erosion. About 10,000 cubic yards of sediment would be removed from Tecolotito Creek, and about 5,800 cubic yards would be removed from Carneros Creek.

A crane (preferably a 100-ton crane or larger) rigged as a dragline would work from the sides of the creeks or basins, depositing the spoils behind the crane, approximately 30 to 100 feet from the top of the bank. The spoils deposited along Carneros Creek would be graded to direct water runoff away from the Santa Barbara Municipal Airport (SBMA) building to the east. The affected area for both creeks would be 150 feet wide and would extend the length of the basins (see Figure 2.2-2).

The spoils would be made available to the public; historically, they have been removed within one year. The spoils would be readily accessible and typically have been removed by contractors, who are required to obtain an encroachment permit before bringing in their own loader and truck. Access to Tecolotito Creek would be from Hollister Avenue, and Carneros Creek would be accessed from Firestone Road. No more than five trucks would be allowed to haul away spoils during any given hour. A Flood Control District representative would be present when spoils are being removed.

Desilting would take place 10 hours per day, five days a week. It is estimated that 100 cubic yards per hour can be removed by dragline desilting; the work therefore would take 16 work days, or just over 3 weeks. Allowing time for mobilization and demobilization of equipment, it is assumed that maintenance activities at these creeks would last approximately 4 weeks.

Dragline desilting is dictated by need, with each basin requiring maintenance approximately every 3 to 5 years. The basins are designed to trap sediments and minimize the amount of maintenance that would be required downstream; however, in the event of severe storms or other conditions resulting in the deposition of unusually large amounts of sediments, some maintenance of the creeks themselves could be required. In the unlikely event that this would

occur, spoils would be deposited along the creekbanks and removed by the public. It is estimated that one or two workers would be required for dragline desilting operations. Additionally, a District staff member would be present during desilting operations.

Desilting the basins and removing the spoils would be coordinated with the Santa Barbara Airport. Airport authorities would be notified approximately two weeks prior to the onset of maintenance activities under normal circumstances.

#### **2.4.2 Hydraulic Dredging**

Use of a floating hydraulic dredge is proposed to desilt the tidally influenced portions of Atascadero, San Jose, and San Pedro creeks. Initial dredging would occur in two phases. Phase I would include dredging sediment basins and pilot channels (narrow channels in the creeks intended to allow access by the dredge as well as the exchange of water). (The locations of the creeks and proposed sediment basins are shown in Figure 2.2-2.) Phase II would fully excavate the creeks up to the basins. If feasible, it would take place the year after Phase I to avoid prolonged periods of dredging. The District's highest priority, however, is maintaining the basins, and if they required dredging the following year as a result of unusually heavy storms or other factors, this would be accomplished before Phase II were implemented. If needed, Phase II dredging could be conducted over a period of years to minimize the amount of dredging required in any one year.

As described in section 2.4.1, maintenance activities would typically be required every 3 to 5 years, but under severe conditions (e.g., storms or fires) dredging could occur every year. Under such conditions, some maintenance of the creeks downstream of the basins could be necessary, although the basins are intended to minimize this need.

Historic desilting records were used to determine basin volumes. The dimensions are controlled by (1) natural channel width and (2) compatibility of dredged material with beach material. Sediments from ten borings were tested to determine beach disposal suitability, and results indicated that the depth of the basins should be limited to 8 feet (K-C Geotechnical Associates 1993). Basin length was determined by the depth, width, and desired volume. (Plans, calculations, and the geotechnical report used in determining basin dimensions are on file with the District.) Approximate dimensions of the in-stream basins would be as follows:

- Atascadero Creek -- 87 feet wide x 8 feet deep x 1,172 feet long, starting at the check structure at the end of Ward Drive. (Basin width is averaged.) This would provide approximately 30,000 cubic yards of storage and would have a pump length of 4,900 feet to 3,728 feet to the mouth of the slough. (Pump length between the mouth of the slough and the discharge point is variable and will be several hundred feet longer.)
- San Jose Creek -- 43 feet wide x 8 feet deep x 785 feet long, starting at the southern end of the lined channel by the Santa Barbara Twin-Screen Drive-In Theater. This would provide approximately 10,000 cubic yards of storage and would have a pump length of 4,500 feet to 3,715 feet to the mouth of the slough.
- San Pedro Creek -- 45 feet wide x 8 feet deep x 750 feet long, starting just downstream of the bridge on James Fowler Road. This would provide approximately 10,000 cubic yards of storage and would have a pump length of 4,500 feet to 3,750 feet to the mouth of the slough.

Dredging the pilot channel to Atascadero Creek would require removal of 12,000 cubic yards of sediment, while dredging the pilot channels to San Jose and San Pedro creeks would remove 7,400 and 5,800 cubic yards of sediments, respectively. Additionally, a connector channel would

be dredged at the confluence of the three creeks, requiring the removal of 981 cubic yards of sediments. As indicated in Table 2.2-1, approximately 76,181 cubic yards of sediments would be dredged to create the basins and channels.

**Table 2.2-1**  
**Volume of Dredged Sediments (Phase I)**  
**(cubic yards)**

<u>Site</u>	<u>Basin</u>	<u>Pilot Channel</u>	<u>Total</u>
Atascadero Creek	30,000	12,000	42,000
San Jose Creek	10,000	7,400	17,400
San Pedro Creek	10,000	5,800	15,800
Connector Channel			981
TOTAL			76,181

The dredge would probably be placed in the slough by a crane and work upstream, although it could potentially be launched down a ramp into the slough. A 10- or 12-inch polyurethane pipe attached to the dredge would be floated towards the mouth of the slough, with the discharge point approximately 500 feet east of the mouth. Discharge would be into the surf zone. In all likelihood, it would be necessary to move the discharge point up or down the coast several hundred feet every few days. The discharge point would remain at least 300 feet east of the parking lot at Goleta Beach. A loader would be required to move the discharge pipeline. The pipeline would be trucked from one creek to another.

Although a specific dredge has not yet been chosen, the type of hydraulic dredge that could adequately desilt Goleta Slough would be similar to the Ellicott 270/370 Dragon series or the dredge constructed and operated by the San Diego Gas and Electric Company (SDG&E) (see Figure 2.2-3). The latter dredge is 21 feet wide and 35 feet long. These types of dredges run on diesel and are capable of moving approximately 100 to 300 cubic yards of silt per hour. For purposes of this analysis, use of the SDG&E dredge is assumed as a "worst-case scenario," since it uses a higher horsepower engine that could create greater environmental impacts. An average discharge rate of 200 cubic yards per hour is assumed.

Dredging would occur a minimum of 10 hours a day, but could take place up to 24 hours a day, five days a week. Dredging would take a total of approximately 38 days (excluding holidays and weekends) if 10 hour days are assumed, and 16 days if dredging took place 24 hours a day. It is assumed that mobilization and demobilization would take a total of 40 days (two weeks at each of the four staging areas).

Table 2.4-1 shows the number of days dredging and associated activities would last at each of the three creeks assuming both 10 and 24 hour days. Dredging would take a total of approximately 14 weeks if 10-hour days are assumed and 9 weeks if 24-hour days are assumed (including weekends). The SDG&E operator has indicated that dredging could occur during storms (personal communication, B. Dyson 1993); therefore, the project would not necessarily be delayed if dredging occurred during the winter storm season.

Hydraulic dredges contain onboard pumping equipment. The suction pipe would be fitted with a rotating cutterhead (see Figure 2.2-4) that loosens the material to be excavated for easier entrainment. The dredge would pivot on swing spuds, pulled in an arc by cables, thus enabling it to dredge the width of the channel. In order for the dredge to move forward, the cables would



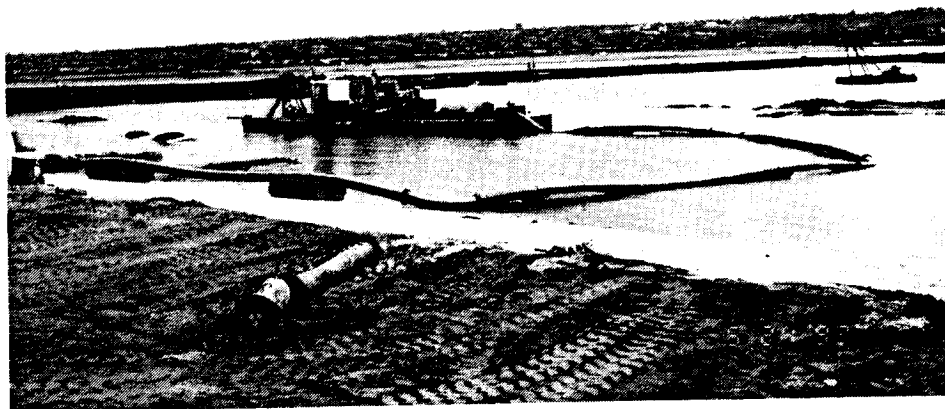


Figure 2.2-3. SDG&E dredge with pipeline and floats.



Figure 2.2-4. SDG&E Cutterhead.

Table 2.4-1

## DURATION OF MAINTENANCE AT EACH SITE TO BE HYDRAULICALLY DREDGED

	----- PHASE I -----		----- PHASE II -----	
	<i>No. of 10-hour Days</i>	<i>No. of 24-hour Days</i>	<i>No. of 10-hour Days</i>	<i>No. of 24-hour Days</i>
<b>Atascadero Creek</b>				
Basin	15	6.25	NA	NA
Pilot channel	6	2.5	40.3	16.8
Mobilization/demobilization	10	10	10	10
Total days <sup>1</sup>	31	18.8	50.3	26.8
Total weeks <sup>2</sup>	6.2	3.8	10	5.4
<b>San Jose Creek</b>				
Basin	5	2	NA	NA
Pilot channel	3.7	1.5	6.4	2.7
Mobilization/demobilization	10	10	10	10
Total days <sup>1</sup>	18.7	13.5	17.4	12.7
Total weeks <sup>2</sup>	3.7	2.7	3.5	2.5
<b>San Pedro Creek</b>				
Basin	5	2	NA	NA
Pilot channel	2.9	1.2	6.8	2.9
Mobilization/demobilization	10	10	10	10
Total days <sup>1</sup>	17.9	13.2	16.8	13.9
Total weeks <sup>2</sup>	3.6	2.6	3.4	2.8
<b>Connector Channel</b>				
Total days	0.5	0.2	1.8	0.7
Total weeks	0.1	0.04	0.4	0.1

**Notes:** 1. Excludes weekends.  
2. Includes weekends.

be moved by a truck driving along the creekbanks and then secured to deadman rings. Truck access currently exists along the affected creeks.

Due to the distance from the in-stream basins to the mouth of the slough, a booster pump would be required to maintain 200 cubic yards of discharge. There are several booster pumps available that could be floated like the dredge or stationed on the bank of the slough approximately 3,000 feet from the in-stream basins (see Figure 2.2-2). Either 10-inch or 12-inch pipe would be used, depending on the size of the dredge. The pipe would be placed in the channels where it would either float when there was sufficient water or rest on the bottom.

One staging area would be established at each creek and near Goleta Beach. An area estimated at 200 feet long x 100 feet wide would be secured for pipeline and float storage near each creek. A comparably sized staging area near Goleta Beach would be necessary for placing the downstream sections of the pipeline and for launching the dredge. Each area would be fenced off for the duration of the dredging in that area in addition to a 1 to 2-week mobilization and demobilization period. The staging area at Goleta Beach could be occupied during the entire construction period, although it would be reduced in size when operations occurred further upstream.

During Phase II, 80,500 cubic yards would be removed from Atascadero Creek, 13,680 cubic yards would be removed from San Pedro Creek, 12,770 cubic yards would be removed from San Jose Creek, and 3,575 cubic yards would be removed from the connector channel, for a total of 110,525 cubic yards. Creek widths would vary from place to place, but average widths at the surface would be as follows: Atascadero Creek would be approximately 173 feet wide, San Pedro Creek would be 77 feet wide, and San Jose Creek would be 59 feet wide. No Phase II activities would be required at Tecolotito and Carneros creeks.

The procedures described for Phase I apply to Phase II, as well. If 10-hour days are assumed, dredging would last approximately 56 working days. If 24-hour days are assumed, dredging would last approximately 23 working days. Table 2.4-1 shows the duration of dredging for each creek. The mobilization and demobilization periods would be as described for Phase I. Dredging would take a total of approximately 17 weeks if 10-hour days are assumed and 11 weeks if 24-hour days are assumed (including weekends). The staging area at Goleta Beach would be occupied during this entire period.

It is estimated that a minimum of four workers would be required for dredging activities.

### **2.4.3 Project Timing**

Timing of the project would be contingent upon conditions imposed by permits. The period between late spring and summer would have the advantage of relatively calm seas and lack of storms, but environmental constraints may be associated with this season. This EIR/EA will evaluate implications of performing maintenance activities during various times of the year.

## **2.5 PROJECT ALTERNATIVES**

CEQA and NEPA require that EIRs and EAs describe a range of reasonable alternatives to the project or to the location of the project that could feasibly attain the basic objectives of the project. The EIR/EA must evaluate the comparative merits of the alternatives. CEQA mandates that the discussion of alternatives shall focus on alternatives capable of eliminating any significant adverse environmental effects or reducing their level to insignificance. CEQA and NEPA also require that the "No Project" alternative be evaluated.

### 2.5.1 Alternatives Considered but Not Carried Forward

A number of alternatives were considered but eliminated from consideration because they would create environmental impacts greater than the proposed project or were otherwise infeasible.

Alternative Locations. The possibility of using other sediment basin locations were considered; however, the proposed locations were considered the most suitable and were selected according to the following considerations:

- It is preferable to locate the basin as close to the saltwater/freshwater interface as possible, because that is where material settles out first. Basins in freshwater sections of the creeks are infeasible, because San Jose and San Pedro creeks, have been lined in concrete, and because there is insufficient water in the creeks to float a hydraulic dredge. In-stream basins have been located at the proposed sites for a number of years and have proved effective in greatly reducing the amount of sediment deposited downstream. Locating the basins further downstream would result in increased sedimentation in the slough, which contradicts a key project objective.

No other locations were considered as effective in meeting the project objectives.

Constructing Levees. Constructing levees along the banks of the creeks instead of dredging or dragline desilting was also considered but rejected as infeasible for the following reasons:

- The County has a Floodplain Management Ordinance, which is required by the Federal Emergency Management Agency (FEMA). As a part of that ordinance, no improvements, including levees, can be made within the floodway of a creek. Encroachments into this floodway would result in raising flood levels and would adversely impact other properties.
- Because of increased water levels, described above, existing stormdrain outlets would be adversely affected. In the past several years, high tailwater caused some stormdrains along Atascadero Creek to back up. Adding levees would exacerbate an already adverse condition and have raised concerns over the County's liability.
- Technical and economic factors make the project unbuildable. Because the limits of the floodplain are relatively wide and extend upstream, the limits of the levees would have to extend at least up to and perhaps beyond Hollister Avenue for all the creeks. Drainage behind the levees would then be difficult, if not impossible, due to the large areas and flat slopes involved. Costs associated with construction, rights-of-way, and ongoing maintenance would be very high and would not solve the siltation problem. The levees could also be silted in, thus requiring desilting.
- Levees would not prevent excessive sedimentation in the slough, and upland areas would be created where wetlands now exist.

In summary, given the legal, technical, and economic constraints, as well as impacts to wetlands, use of levees is not considered a viable option.

Trucking Spoils to the Beach for Disposal. Trucking spoils from Tecolotito Creek for deposition on the beach was eliminated from consideration due to sediment incompatibility (the

creek contains too many fines for beach deposition). The high cost of trucking spoils from the basins was another factor used to eliminate this alternative. The District trucked 5,000 cubic yards from Ward Drive at Atascadero Creek to Goleta Beach at a cost of \$12 per cubic yard following the 1991 storms. The proposed dredging and desilting project would cost \$2 to \$4 per cubic yard for dragline desilting. Trucking the spoils to the beach would therefore at least triple the costs.

## **2.5.2 Alternatives Carried Forward for Analysis**

The following alternatives to the proposed project are being carried forward for coequal analysis. Table 2.5-1 summarizes the sediment removal and disposal methods for each project alternative, including the proposed project.

**Traditional Maintenance.** This would continue dragline desilting in the proposed basins of all five creeks on an as-needed basis, as described in section 2.4.1 above. Spoils would be deposited along the creekbanks for removal by the public, although the speed with which they would be removed cannot be estimated given the large volume involved. In recent years, the number of construction projects requiring fill material has declined, and there may be a limited need for salt-laden sediments. The District would continue to open the mouth of the slough one to three times a year with a dozer and an excavator. At the lowest tide after the mouth closed, a trench would be dug from the ocean toward the slough. The trench would be completed as close to the low tide as possible, thereby helping the channel to scour deeper and keeping the mouth of the slough open longer. The trench would be dug just east of the parking lot with as much of the excess sand as possible piled to the east of the opening. Mobilization and demobilization periods would be as described for the proposed project. Actual maintenance would take approximately twice as long, because only 100 cubic yards of sediments per hour would be removed.

**Beach Deposition.** Rather than being disposed of in the surf zone, spoils from the dredging of Atascadero, San Pedro, and San Jose creeks would be discharged directly on the beach just east of the mouth of the slough. The beach is approximately 150 feet wide in this area, and spoils would fill this area for a length of approximately 1,500 feet and a depth of 3 feet. A berm would likely be constructed out of beach sand to contain the dredged material. A loader would be used to compact the dredged material. A second booster pump would be needed, because approximately 1,000 feet of additional pipeline would be required. The second booster pump would probably be located in the immediate vicinity of Goleta Beach County Park.

**Reduced Basin Size.** Reduced basin dimensions were considered for Atascadero, San Pedro, and San Jose creeks; dimensions of the pilot channels (Phase I) and creeks (Phase II) would remain unchanged. Alternative dimensions were not considered for Tecolotito and Carneros basins, because they currently exist and function effectively. The reduced basin sizes were designed to contain the average annual sediment load deposited over a 20 year period. Thus, maintenance would be required each year during typical weather conditions. Other aspects of the project would be essentially comparable to those described for the proposed action, although dredging would occur over a shorter period of time.

The Atascadero Creek basin would be 500 feet long x 8 feet deep x 87 feet wide, for a total capacity of 12,600 cubic yards. (Basin widths are averaged.) The San Pedro basin would be 300 feet long x 8 feet deep x 45 feet wide, for a total capacity of 4,000 cubic yards. The San Jose basin would be 315 feet long x 8 feet deep x 43 feet wide, for a total capacity of 4,000 cubic yards.

**Increased Basin Size.** An increased basin size was proposed for Atascadero, San Pedro, and San Jose creeks; as described above, no change in basin dimensions for Tecolotito and Carneros creeks is recommended, nor are any changes to the pilot channel and creek dimensions



Table 2.5-1

## SUMMARY OF SEDIMENT REMOVAL AND DISPOSAL METHODS BY ALTERNATIVE

Proposed Project and Alternatives	Sediment Removal Method	Disposal Method
<u>Proposed Project</u> Atascadero, San Jose, and San Pedro creeks Tecolotito and Carneros creeks	Hydraulic dredging Dragline desilting	Discharge to surf zone Stockpile on creek banks
<u>Traditional Maintenance</u> All creeks	Dragline desilting	Stockpile on creek banks
<u>Beach Disposal</u> Atascadero, San Jose, and San Pedro creeks Tecolotito and Carneros creeks	Hydraulic dredging Dragline desilting	Discharge on beach Stockpile on creek banks
<u>Reduced Basin Size</u> Atascadero, San Jose, and San Pedro creeks Tecolotito and Carneros creeks	Hydraulic dredging Dragline desilting	Discharge to surf zone Stockpile on creek banks
<u>Increased Basin Size</u> Atascadero, San Jose, and San Pedro creeks Tecolotito and Carneros creeks	Hydraulic dredging Dragline desilting	Discharge to surf zone Stockpile on creek banks
<u>Discharge Pipelines on the Ground</u> Atascadero, San Jose, and San Pedro creeks Tecolotito and Carneros creeks	Hydraulic dredging Dragline desilting	Discharge to surf zone Stockpile on creek banks

associated with phases I and II, with the exception of Atascadero Creek. The length of the basin would extend further downstream from the proposed project, and the pilot channel would be reduced by 872 feet. Basin volumes were calculated based on historic records to contain approximately the heaviest sediment load that would be expected in a year of unusually severe storms. Maintenance would be required less frequently than for the proposed action, but a larger area would be impacted. Dredging would take longer than for the proposed project.

The Atascadero Creek basin would be 2,000 feet long x 8 feet deep x 87 feet wide, for a total capacity of 50,370 cubic yards. (Basin widths are averaged.)

The San Pedro basin would be 1,123 feet long x 8 feet deep x 45 feet wide, for a total capacity of 15,000 cubic yards.

The San Jose basin would be 1,190 feet long x 8 feet deep x 43 feet wide, for a total capacity of 15,000 cubic yards.

Placing Discharge Pipelines on the Ground. Discharge pipelines would be placed on the ground adjacent to the channels rather than in the water. No floats would be required; therefore, half of the truck trips required to haul floats and the pipeline would be eliminated. Other aspects of this alternative are comparable to the proposed project.

### **2.5.3 No-Project Alternative**

Under this alternative, no sediments would be removed from the creeks, and the mouth of the slough would not be opened once it closed.

## **2.6 COST COMPARISON OF THE PROPOSED PROJECT AND ALTERNATIVES**

Table 2.6-1 summarizes costs for phases I and II of the major project alternatives (the proposed project, which includes both hydraulic dredging and dragline desilting and traditional maintenance, which includes dragline desilting only).

A number of options are available for hydraulic dredging, including using a dredge contractor, purchasing a dredge and operating it with District personnel, and leasing a dredge and operating it with District personnel. Initially at least, leasing a dredge and operating it with District personnel would be the most cost effective means of hydraulically dredging the creeks. Purchasing a dredge would require a major expenditure of funds but these would be amortized over approximately 15 years. Use of a dredge contractor would be somewhat more costly than leasing a dredge, but this method would have the advantage of allowing the District to learn dredging procedures from an experienced operator. Traditional maintenance would be less costly than the proposed project.

Disposal of hydraulically dredged materials on the beach would cost more than disposing of dredged materials in the surf zone, because an additional booster pump would be needed, at a cost of approximately \$25,000, as would approximately 1,000 feet of additional pipe.

The reduced and increased basin size alternatives would cost roughly the same as the proposed project, since comparable volumes would be removed over time. Costs could be somewhat higher for the reduced project alternative because mobilization would be required more frequently and somewhat lower for the increased basin size alternative because of the less frequent maintenance that would be required.

Placing discharge pipelines on the ground would be slightly less costly than the proposed project, because no floats would be required.

Table 2.6-1

## COMPARATIVE COST OF MAJOR PROJECT ALTERNATIVES

	PROPOSED PROJECT	
	<i>Phase I</i>	<i>Phase II</i>
Contract Dredging <sup>1</sup>	\$340,601	\$457,552
Purchase Dredge/ <sup>2</sup>	510,000	---
Use District Personnel <sup>3</sup>	<u>184,360</u>	<u>267,470</u>
TOTAL	694,360	267,470
Lease Dredge/Use District Personnel	308,000	399,377
Dragline Desilting <sup>4</sup>		
Tecolotito and Carneros	28,500	---
Atascadero, San Jose, San Pedro (Stockpile on-site and leave)	117,320	170,478
Haul spoils to beach <sup>5</sup>	955,320	1,388,178

- Notes:
1. District would prefer to "contract dredge" for first time to learn how it is done.
  2. Price of dredge would be averaged over approximately 15 years.
  3. Estimates of District personnel are probably low; therefore, purchase or lease of dredge using District personnel estimates are probably low.
  4. This is traditional maintenance.
  5. This has been dismissed as economically infeasible.

### 3.0 ENVIRONMENTAL SETTING

#### 3.1 EXISTING SITE CHARACTERISTICS

##### 3.1.1 Goleta Slough

The Goleta Slough is the drainage basin for five creeks that originate on the southern slope of the Santa Ynez Mountains: Atascadero Creek, San Jose Creek, San Pedro Creek, Carneros Creek, and Tecolotito Creek. Each of these is discussed in more detail in section 3.1.2 below.

Prior to 1860, the Goleta Slough was a large harbor. In 1861, a large flood, with resulting sedimentation, filled much of the harbor and created a shallow lagoon. Progressive sedimentation gradually transformed the lagoon into a coastal salt marsh, which has since been greatly reduced in size by further sedimentation, airport and road landfills, and construction of drainage works. The current slough area occupies less than 40 percent of its pre-World War II range.

Despite its declining size, the 360-acre Goleta Slough is an important resource, since it is one of the few remaining publicly owned coastal salt marshes in southern California. The main body of the slough (about 300 acres) is owned by the City of Santa Barbara, with the remaining acreage belonging to the University of California and the California Department of Fish and Game.

The land and water of the Goleta Slough are important sources of food and shelter for wildlife. A primary value of the slough is its use as a wintering ground by migrating shorebirds, such as plovers, sandpipers, willets, and curlews. Also using the slough as a wintering ground are a host of waterfowl species, including the pintail, widgeon, green-winged teal, mallard, and cinnamon teal. In addition to its use by migrating birds, the slough is a year-round residence for at least 26 other bird species, including the killdeer, heron, egret, the endangered Belding's savannah sparrow, and at least previously, the light-footed clapper rail. It is also a vital foraging ground for important raptors, such as the peregrine falcon, white-tailed kite, and red-shouldered hawk. Mammals known to inhabit the slough include the black-tailed jackrabbit, brush rabbit, striped skunk, spotted skunk, long-tailed weasel, Virginia opossum, raccoon, and several species of mice and shrews.

Vegetation in the undisturbed portion of Goleta Slough is dominated by salt tolerant species, such as perennial pickleweed, which comprises about 90 percent of the slough's vegetative cover. In addition to salt tolerant species, several small areas of the slough support freshwater marsh vegetation.

##### 3.1.2 Affected Creeks

###### Atascadero Creek

This creek receives drainage from Cieneguitas Creek, Hospital Creek, San Antonio Creek, and Maria Ygnacio Creek for a total watershed of 13,231 acres, capable of generating a 13,000 cubic feet per second (cfs) flood flow during a 100-year return period event. Hospital Creek has a silt basin with a capacity of 45,000 cubic yards. San Antonio Creek and Maria Ygnacio Creek have debris basins that impound some sediments, but that primarily impound large debris thus keeping them from being transported to the slough by flood flows. The tidally influenced portion of Atascadero Creek begins near the check structure at the end of Ward Drive and continues to the mouth of the slough for a length of approximately 4,900 feet. The District has routinely overexcavated the channel just downstream of the check structure for a length of approximately 1,000 feet to serve as an in-stream sediment basin. When maintained on a regular

basis, dragline desilting is typically only necessary in the overexcavated in-stream sediment basin, since all the sediment gets trapped there. Occasionally, large storms will not only fill the in-stream basin but also the channel further downstream, thus requiring desilting of a much larger area.

#### San Jose Creek

San Jose Creek and its main tributary, Fremont Creek, drain a 5,503-acre watershed capable of generating 5,300 cubic feet per second of flood flow during a 100-year return period event. There are no basins located in this watershed. The tidally influenced portion of San Jose Creek begins at the end of the lined section near the drive-in theater and continues downstream to the mouth of the slough for a length of approximately 4,500 feet. The District has routinely overexcavated the channel just downstream of the lined section for a length of approximately 800 feet to serve as an in-stream sediment basin. If maintained on a regular basis, dragline desilting has only been necessary in the overexcavated in-stream sediment basin, although large storms will fill the in-stream basin as well as the channel further downstream, requiring desilting of a much larger area, as described for Atascadero Creek.

#### San Pedro Creek

San Pedro Creek has two main tributaries, Encina Creek and Las Vegas Creek, for a total watershed of 4,555 acres capable of generating 6,000 cubic feet per second of flood flow during a 100-year return period event. No basins are located in this watershed. The tidally influenced portion of San Pedro Creek begins at Matthews Street and continues downstream to the mouth of the slough for a length of approximately 5,900 feet. The District has routinely overexcavated the channel just downstream of James Fowler Road for a length of approximately 1,000 feet to serve as an in-stream sediment basin. When maintained on a regular basis, dragline desilting has only been necessary in the overexcavated in-stream sediment basin, although large storms will fill the in-stream basin as well as the channel farther downstream, requiring dragline desilting of a much larger area.

#### Carneros Creek

The Carneros Creek watershed drains approximately 2,641 acres capable of generating 3,500 cubic feet per second of flood flow during a 100-year return period event. Lake Los Carneros is located within the watershed, but traps very little sediment in relation to the total watershed (approximately 1/10 of the total). The existing sediment basin located on Carneros Creek downstream of Hollister Avenue traps most of the sediment before it enters the slough. District activities typically have been restricted to desilting this basin, although the creek has been desilted to its confluence after large storms.

#### Tecolotito Creek

Tecolotito Creek drains the 3,858-acre Glen Annie Canyon watershed, which is capable of generating 4,600 cubic feet of flood flow per second during a 100-year return period event. The existing sediment basin just downstream of Hollister Avenue traps most of the sediment before entering the slough. District activities typically have been restricted to desilting this basin, although the creek has been desilted to its confluence after large storms.

### **3.2 SURROUNDING LAND USES**

Land uses surrounding the Goleta Slough include the Santa Barbara Airport to the north and east, the University of California at Santa Barbara to the southwest, Goleta Beach County Park to the south, residential areas to the east, and open space to the west (see Figure 3.2-1).



Figure 3.2-1. EXISTING LAND USES



### 3.3 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

A number of federal and state laws and regulations apply to dredging and disposal projects on the California coastline. Brief summaries of major requirements are given below.

#### 3.3.1 Federal Laws and Regulations

##### National Environmental Policy Act (42 USC 4341 et seq.)

The goal of NEPA is to establish a national environmental policy to ensure that federal actions do not contribute to undesirable and unintended environmental impacts. NEPA directs all federal agencies to prepare an Environmental Assessment or EIS for federal activities and federally permitted activities that may significantly affect the quality of the environment.

##### Rivers and Harbors Act of 1899

Section 10 of the Rivers and Harbors Act prohibits the unauthorized obstruction or alteration of any navigable waters of the United States. Navigable waters are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (U.S. Army Corps of Engineers, 1986, Rules and Regulations, Sec. 329.4).

##### Clean Water Act of 1977 (33 United States Code [USC] 1251 et seq.)

The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Section 404(b) of the Clean Water Act, as amended in 1977, requires that the Corps evaluate the impacts of the discharge of dredged or fill material into the waters of the United States. These waters include the navigable waters defined above and "all other waters such as . . . rivers . . . wetlands, sloughs . . ." (U.S. Army Corps of Engineers 1986, Authorities to Issue Permits, Sec. 320.2).

The Corps must make a determination that potential impacts have been avoided to the maximum extent practicable. Permits may be issued for only the least environmentally damaging practicable alternative. No discharge shall be permitted if there is a practicable alternative to the proposed discharge, which would have less adverse impact to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. Compensatory mitigation, which may include such measures as restoration of existing degraded wetlands or creation of man-made wetlands in areas contiguous to the discharge site or within the same watershed, may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging alternatives.

Once the Corps has determined that impacts have been avoided to the maximum extent practicable, remaining unavoidable impacts must be mitigated to the extent appropriate and practicable. Compensatory mitigation is required for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required.

Section 401 of the Clean Water Act requires federal agencies to obtain state water quality certification for any federal project, or federally permitted project, potentially affecting water quality. For the proposed project, the relevant state agency is the Regional Water Quality Control Board (RWQCB). In order to issue a certification, the RWQCB must find that the proposed activity will not violate existing water quality objectives.

For discharge of dredged material into non-navigable waters of the state, RWQCBs also issue National Pollutant Discharge Elimination System (NPDES) permits under Section 402 of the Clean Water Act.

Clean Air Act, as amended (42 USC. 1451 et seq.)

The objective of the Clean Air Act is to protect and enhance the quality of the nation's air resources, thus helping to promote public health and welfare and the productive capacity of the population. Under the statute, the Environmental Protection Agency (EPA) established standards for ambient air quality. State and local agencies are responsible for the prevention and control of air pollution. In areas where the ambient air quality standards are not expected to be met by a certain date, the governing state or local agency is required to develop an air quality maintenance plan or a nonattainment plan outlining control measures to be implemented to achieve or maintain air quality in a specific air region or basin.

Coastal Zone Management Act of 1972 (16 USC 1456 et seq.)

The Coastal Zone Management Act (CZMA) regulates development and use of the nation's coastal zone by encouraging states to develop and implement coastal zone management programs. California's Coastal Zone Management Program has been certified by the U.S. Department of Commerce, and the California Coastal Commission reviews coastal development actions for consistency with the California Coastal Zone Management Plan.

Endangered Species Act (16 USC 1531 et seq.)

The Endangered Species Act protects species designated as threatened or endangered by prohibiting such actions which jeopardize the continued existence of such species. Section 7 of the Act requires consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) be conducted for the protection of such species prior to project implementation.

**3.3.2 Federal Permits and Review**

U.S. Army Corps of Engineers

The proposed project would require federal permits or licenses to impact the nation's waters, particularly the Corps permits pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The project would also require a consistency determination because of its possible effects on resources in the coastal zone. Under the Coastal Zone Management Act of 1972, a Coastal Consistency Determination must be prepared for the proposed dredging and discharge activities and their consistency with the California Coastal Act of 1976.

U.S. Fish and Wildlife Service

The USFWS will not require a permit for the proposed project. As noted above, however, consultation under Section 7 of the Endangered Species Act will be necessary since listed species occur in the area. In addition, when the Corps sends out the notice of application for the Section 404 and Section 10 permits for the proposed project, as discussed above, USFWS will comment on the action.

### National Historic Preservation Act (16 USC 470 et seq.)

The National Historic Preservation Act establishes the National Register of Historic Places (National Register), which is a catalog of properties including sites, districts, buildings, structures, and objects considered significant for their historic, architectural, engineering, archaeological, or cultural value. Properties of local, state, or national significance may be eligible for inclusion in the National Register. Under the statute, federal agencies are required to consider the effects of a proposed project on properties listed or determined eligible for listing in the National Register. This is accomplished through coordination between the federal agency and the state historic preservation officer, leading to a plan that either avoids damaging any National Register property or satisfactorily mitigates adverse effects caused by a project.

### **3.3.3 State of California Laws and Regulations**

#### California Environmental Quality Act (California Public Resources Code 21000 et seq.)

CEQA requires that all agencies of the California state government, including local, regional, and state agencies, consider the environmental impacts of their actions. Under CEQA, project proponents may prepare an initial study to determine what effects, if any, a project will have upon the environment. Based on the outcome of the initial study, either a negative declaration or an EIR will be required. A negative declaration may be prepared for projects that will not result in significant environmental effects. An EIR must be prepared whenever a proposed project may have significant adverse effects or impacts on the environment.

#### California Coastal Act of 1976, Public Resources Code Section 3000 et seq.

This act establishes the California Coastal Zone Management Plan, which has been approved by the U.S. Department of Commerce. All developments that affect the coastal zone must be determined to be consistent with this plan. Local jurisdictions that have a state-approved Local Coastal Plan conduct consistency reviews of permit applications for dredging projects within their jurisdictions.

#### California Fish and Game Code, Section 1601

Section 1601 of the California Fish and Game Code requires the District to notify the California Department of Fish and Game (CDFG) when maintenance will "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse." Following notification, a CDFG representative makes an inspection to determine if the proposed maintenance will substantially adversely affect existing fish and wildlife resources. The CDFG has established a policy that projects should result in no net loss of either wetland acreage or habitat value. Recommendations are made to avoid or mitigate potentially harmful effects through a 1601 Agreement between the CDFG and the District.

#### California Clean Air Act

The California Clean Air Act develops and implements a program to attain the CAAQS for O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, lead, sulfates, hydrogen sulfide, and visibility reducing particulates. Areas in nonattainment of the CAAQS for O<sub>3</sub> and CO are required to implement new emission control measures. The extent of new emission controls is dependent upon how far above the CAAQS an area is rated.

### **3.3.4 State Permits and Review**

#### **State Lands Commission**

The project will need permits for any disposal of dredged materials in areas under the jurisdiction of the state. The State Lands Commission (SLC) has jurisdiction from the high tide level out to 3 miles.

#### **California Coastal Commission**

As per the California Coastal Act of 1976, the discharge or disposal of any dredged material within the coastal zone requires a coastal development permit from the California Coastal Commission. The coastal zone includes waters under state jurisdiction, extending seaward 3 miles. If the sponsor of the project is a government agency, the Commission concurs with or denies a Coastal Zone Management Act consistency determination. Under a Memorandum of Understanding with the Corps, a coastal development permit serves as a consistency certification for non-federal projects requiring Corps approval.

#### **California Department of Fish and Game**

The Goleta Slough was established as part of the State Ecological Reserve System in 1987. This system is managed by the DFG. A Section 1601 Agreement would be required for all maintenance conducted in County and City watercourses. Consistency with CDFG regulations is determined on a case-by-case basis, culminating in either project-specific agreements or 1-year blanket agreements when impacts are minimal. Upon issuance of the notice of application for a Section 404 and Section 10 permit by the Corps for the proposed project, CDFG may also provide comments.

#### **Regional Water Quality Control Board**

Regional Water Quality Control Boards (RWQCBs) have jurisdiction over discharges into "waters of the State." The San Luis Obispo RWQCB office has jurisdiction over the project area. The proposed project may require Section 401 and 402 permits for the discharge of dredged materials.

### **3.3.5 Local Government Laws and Regulations**

The plans and policies of the Santa Barbara County Comprehensive Plan and Zoning Ordinance apply to the project site. Goals and policies contained in the following documents pertain to site development and are evaluated in Chapter 5 of this report.

- Santa Barbara County Comprehensive Plan
  - Land Use Element
  - Environmental Resource Management Element
  - Conservation Element
  - Seismic Safety/Safety Element
  - Open Space Element
  - Noise Element
- Santa Barbara County Zoning Ordinance (Article III, Chapter 35)

- Air Pollution Control District Air Quality Attainment Plan

Also applicable are the goals and policies of the Santa Barbara County Local Coastal Plan and City of Santa Barbara Coastal Plan for the Airport and the Goleta Slough (Component area nine of the City), as well as the coastal policies contained in the City's Land Use Plan for the other component areas of the Coastal Zone. The regulations contained in Title 29 of the City Municipal Code and the goals and policies of the Conservation and Seismic Safety/Safety Elements also apply to the project.

### **3.3.6 Local Permits and Review**

#### **Santa Barbara County Air Pollution Control District**

The Air Pollution Control District (APCD) may issue a permit to operate diesel equipment. The permit includes provisions for compliance with local and state air pollution standards, as well as the Federal Clean Air Act.

#### **County of Santa Barbara**

A Coastal Development Permit would be required from the Resource Management Department, as would a Conditional Use Permit for the three basins to be hydraulically dredged. The Planning Commission would review and approve the project.

#### **City of Santa Barbara**

Maintenance activities in the Tecolotito basin would require a Coastal Development Permit and a Goleta Slough Coastal Development Permit. Activities in the Carneros basin would require a Coastal Development Permit only. The City Planning Commission will review and take action on the portion of the project within the City's jurisdiction.

### **3.5 PROJECTS CONSIDERED FOR CUMULATIVE ANALYSIS**

CEQA requires that the cumulative analysis discuss the incremental change in the environment resulting from impacts of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

#### **Routine Flood Control Maintenance in Lower Atascadero Creek**

Lower Atascadero Creek has a very flat grade and is subject to excessive sedimentation, which reduces the creek's ability to convey high flows. Vegetation in the channel bottom aggravates this situation. The District has routinely removed vegetation and silt on an as-needed basis in an area extending from the confluence of Hospital Creek to the check structure at the end of Ward Drive (approximately 11,200 linear feet). The proposed basin in Atascadero Creek would receive sediments from these upstream maintenance activities.

Under normal circumstances, a D-4 bulldozer is used to break up the root mass, loosening the silt so that it can be flushed out with normal runoff. The work typically takes 3 to 5 days. An application of Roundup herbicide is occasionally applied to inhibit regeneration of the channel bottom vegetation.

During high runoff years, there is typically more silt deposited in the channel than can be flushed out as a result of normal maintenance. Under these conditions, it is necessary to desilt the channel using a combination of a dozer, crane, and a gradall. Desilting can generate between

5,000 and 10,000 cubic yards of sediment, which is stockpiled along the creek on the north and south banks and made available to the public. Desilting takes approximately 5 to 10 days, depending on the amount of sediment.

The District currently does not have permits to conduct this maintenance, although efforts are underway to perform the environmental analyses that would be required to obtain these permits.

#### **Flood Control Improvements in Carneros Creek**

Flood control improvements in Carneros Creek have been recommended by the Corps that will utilize off-stream storage facilities north of U.S. Highway 101 to control flooding south of the highway. The recommended plan consists of a debris basin and a detention basin. Floodflows will be diverted from the creek into a debris basin, located to the east of the creek approximately 1/4 mile north of Highway 101. When the storage capacity of the debris basin is exceeded, excess floodflows will be conveyed to the second basin, an existing detention area located just north of the highway, where they will be stored and released at a controlled rate back into the existing flood channel downstream of the highway. The diversion structures will be grouted stone, and the channels will be lined with gabions or rock. This system will provide flood protection to the commercial and industrial areas located in the existing Carneros Creek overflow south of Highway 101.

#### **Beach Nourishment Demonstration Project**

The Beach Erosion Authority for Control of Operations and Nourishment (BEACON) was formed in 1986 with the intent of developing a unified means of protecting and preserving beaches within Santa Barbara and Ventura counties. In 1989, a detailed study was performed for BEACON that formulated a comprehensive sand management plan for the shoreline of these counties (Noble 1989). The study recommended a program that would use beach renourishment as the principal mechanism to fulfill most of BEACON's goals. Large deposits of beach quality sand exist just offshore of Goleta, among other areas, that may be suitable for use in renourishing beaches. The study found that dredging technology exists that is capable of recovering the offshore sand, transporting it to an eroded beach site, and using it to create an artificial sandbar that would migrate onto the beach by natural wave action. However, the ability of the sand to naturally migrate onshore is uncertain, and the method proposed is still considered experimental. Therefore, it was recommended that a pilot project be conducted.

The Beach Nourishment Demonstration Project would involve the use of a hopper dredge to remove sand from an offshore borrow site and place it in shallow water just outside the surf zone. The imported sand would then be monitored to determine its direction and rate of transport under natural wave conditions. Four sites have been identified as potentially suitable receiver sites, including Goleta Beach. This project is currently approved but unfunded.

#### **Goleta Beach County Park**

A 4,672 square foot expansion to the existing Beachside Bar-Cafe and four new parking spaces immediately north of the restaurant are planned. This project has been funded and is currently in the permitting process. Construction is expected to begin in November 1993; in any event, construction will be limited to the period from September to December to avoid impacts to great blue herons during nesting season.

Installation of a fire water line is also planned, but not yet funded. This line would extend from a point approximately 500 feet north of the intersection of Ward Memorial Boulevard and Moffett Place, following Moffett Place to Sandspit Road, then along the eastern side of the Goleta Beach Park entrance bridge to the Beachside Bar-Cafe. The construction right-of-way



would be approximately 25 feet wide and would utilize one lane. If funding becomes available, construction could start as early as November 1993 and is expected to last for approximately 6 weeks.

#### **Santa Barbara Municipal Airport (SBMA)**

Certain of the following airport improvements are scheduled to occur in three phases from 1990 to 2005. Numbers 1 through 6, 11 through 13, and 15 are alternative improvements and will be evaluated in the EIS/EIR prepared for the Santa Barbara Master Plan to determine which would be environmentally superior:

1. Extend runway 7/25 400 feet westerly (approximately 200 feet in width).
2. Extend taxiway "A" 400 feet westerly (approximately 125 feet in width) and construct Tecolotito Creek Bridge (approximately 200 feet long and 70 feet wide).
3. Construct Runway Safety Area for runway 25 (approximately 500 feet in width); construct Tecolotito Creek bridge (approximately 500 feet long and 70 feet wide).
4. Construct Runway Safety Area for runway 7; construct San Pedro Creek bridge (approximately 500 feet long and 70 feet wide).
5. Construct Runway Safety Area for runway 7; construct San Jose Creek bridge (approximately 500 feet long and 70 feet wide).
6. Construct Runway Safety Area for runway 7; construct Fairview Avenue Tunnel or reroute Fairview Avenue and airport service road to the east.
7. Approximately 39,000 gross square foot addition to existing Airline Terminal; demolition of Building 120.
8. Expand Terminal Auto Parking (Phase I); demolish buildings 121 and 122.
9. Construct Terminal Area Road Improvements.
10. Construct T-Hangars (Phase I).
11. Extend Runway 15R/33L 817 feet (600 feet north, 217 feet south).
12. Extend Connecting Taxiway for Runway 33R/33L (#11 above).
13. Widen Runway 15R/33L 50 feet westerly.
14. Widen General Aviation Apron.
15. Construct Runway Safety Area for Runway 15R/33L extension; construct Tecolotito Creek bridge (approximately 800 feet long and 500 feet wide);
16. Expand Terminal Auto Parking (Phase II).
17. Construct Terminal Area Road Improvements (Phase II).

18. Construct T-Hangars (Phase II).
19. Construct Terminal Auto Parking (Phase III).
20. Construct Terminal Area Road Improvements (Phase III).

#### **Goleta Sanitary District**

A reclamation plant is currently under construction on Goleta Sanitary District property and expected to go on-line in October 1993. New impervious surfaces will be added as a result of this project. The existing plant drains into a vernal pool on Sanitary District property. The new plant will reduce drainage into the pool.

Construction is complete on a reclaimed water line running from the Goleta Sanitary District down Fowler Road to Moffett Road to the bikepath. It runs underneath the slough just west of the entrance to Goleta Beach Park. The depth of the line varies from 3 to 10 feet below grade.

#### **University of California at Santa Barbara**

An additional 1.21 million square feet of assignable space (excluding stairwells, mezzanines etc.) and 1,200 additional parking spaces are planned over the next 15 years.

#### **Other Projects**

In both east and west Goleta, a variety of projects exceeding 3 million square feet (including residential, commercial, and industrial developments) have been approved or are proposed. These projects would increase impervious surfaces and would alter the amount of runoff into the affected creeks. A list of specific projects is on file with the County.



## 4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 4.1 WATER RESOURCES/FLOODING

This section addresses the effects of the proposed project and alternatives upon the hydrology and coastal oceanography of the project area. Elements of the hydrologic regime of the system include stream channel flooding, runoff of precipitation, and groundwater infiltration. Oceanographic elements include water quality, tidal circulation, plume dispersion, and shoreline processes.

The areas likely to be affected by the proposed dredging projects and project alternatives include most of the lower part of the Goleta Slough area (see Figure 2.2-2). The area includes most the area south of Hollister Road and can be defined by the combined flood plains of the streams feeding the slough. The total acreage involved is about 200 acres. The beach sector from some point west of Santa Barbara Point and approximately to Goleta Point are also included in the potentially affected area. Part of the littoral zone and nearshore of Goleta Bay would be affected by the beach disposal alternative of the proposed project.

#### 4.1.1 Affected Environment

The subject area is a coastal wetland formed by the sediment deposition of five major streams that drain the southern flank of the Santa Ynez mountains. Watersheds that drain to the area are the Glen Annie (5,858 acres), the Carneros (2,667 acres), the San Pedro (4,555 acres), the San Jose (5,503 acres) and the Atascadero (10,353 acres). The proposed project alternatives would affect the hydrologic cycle within the Goleta Slough area and the littoral regime of the beach and nearshore (to a depth of about 40 feet) in the vicinity of the beach discharge point and extending to the limits of Goleta Bay.

Natural erosion and erosion accelerated by forest fires in the mountain watersheds, agriculture, and community development have contributed sediment to the stream channels. Siltation and the growth of vegetation have led to flooding during intervals of heavy runoff. The flooding history and hydrologic baseline of the area are detailed in the *Goleta Watershed Report* (Santa Barbara County 1968). A severe flood in January 1967 inundated much of the Santa Barbara Airport, and in fact, the entire slough area was formed by the filling of an estuary by a series of floods that occurred near the turn of the century.

It is known that floods are exacerbated by the accumulation of sediment and debris in natural stream channels, among other things. To reduce the incidence and severity of future floods, maintenance, dredging of several of the streams in the Goleta Slough area began in 1967. The history of routine dredging in the proposed project area is shown on Figure 4.1-1 and the data for the three major streams are summarized in Table 4.1-1.

The proposed project is a continuation of this program with the major difference that the dredged materials from Atascadero, San Jose, and San Pedro Creeks would be discharged nearby in the littoral zone.

The discharge of dredge spoil directly into the ocean has not been practiced consistently in the past (except for 5,000 cubic yards from lower Atascadero Creek in 1991), so the baseline conditions in the beach disposal area are those caused by natural stream discharges and tidal exchanges from Goleta Slough.

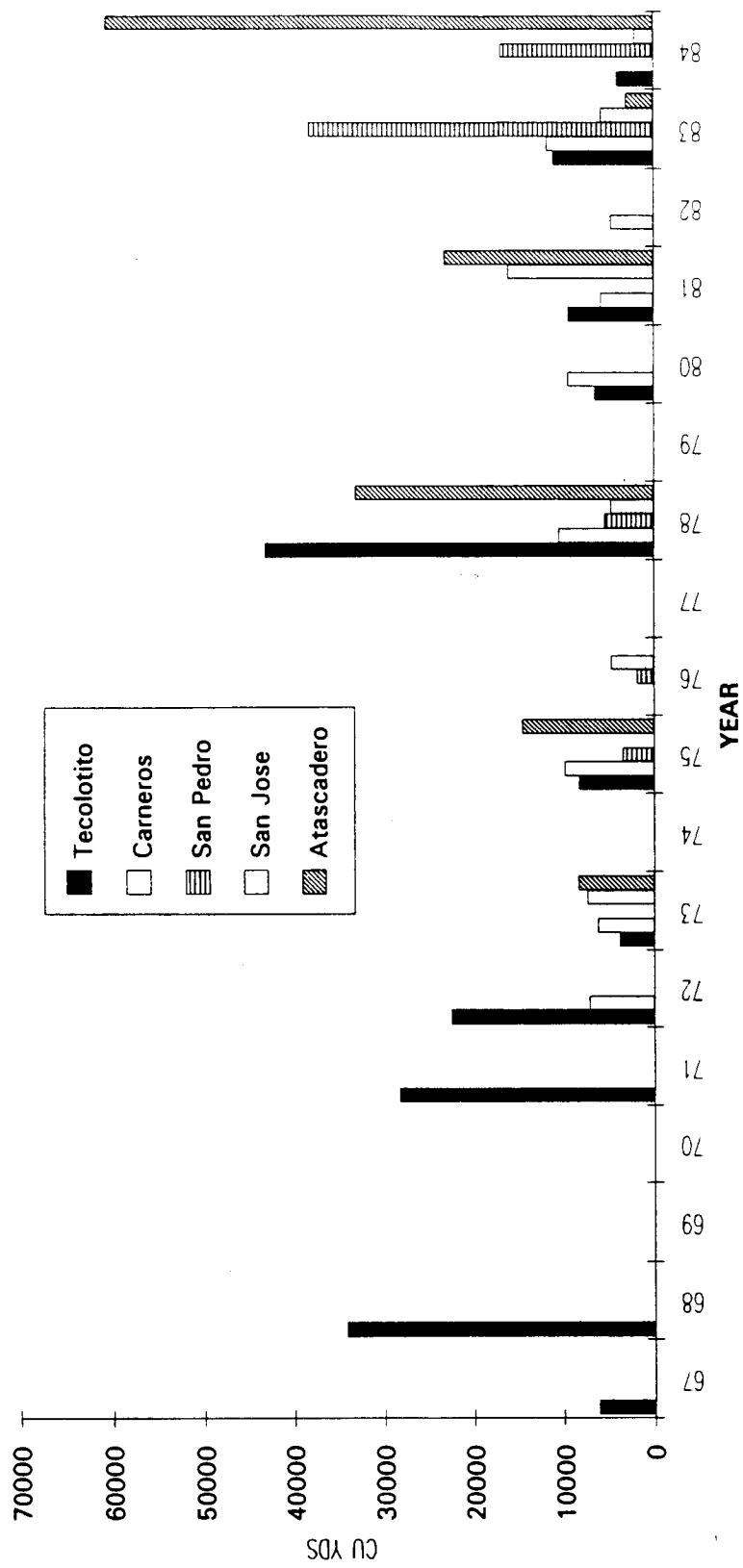


Figure 4-1-1  
DREDGING HISTORIES

Table 4.1-1  
Dredging History

<u>Stream</u>	<u>Watershed Acres</u>	<u>Maximum Cubic Yards Dredged</u>	<u>20-Year Average Cubic Yards Dredged</u>
Atascadero	10,353	60,300	12,610
San Jose	5,503	16,000	3,630
San Pedro	4,555	14,250	3,670

K-C Geotechnical Associates (1993) analyzed samples from ten soil borings in the area to be dredged during the proposed project. Borings 1 and 2 were in the basin in Atascadero Creek. Boring 3 was in the pilot channel in Atascadero Creek. Borings 4 and 5 were in the basin of San Jose Creek. Borings 6 and 7 were in the basin of San Pedro Creek. Boring 8 was near the confluence of Atascadero creek and the connector channel from San Jose and San Pedro Creeks. Borings 9 and 10 were made in the lagoon behind the sand spit across the mouth of the slough. The locations of the borings are shown on Figure 4.1-2. The granulometric analysis data for subsamples from the borings are shown in Appendix B.

The percentages of fines in sediments sampled from the proposed dredging areas by K-C Geotechnical Associates are given in Table 4.1-2.

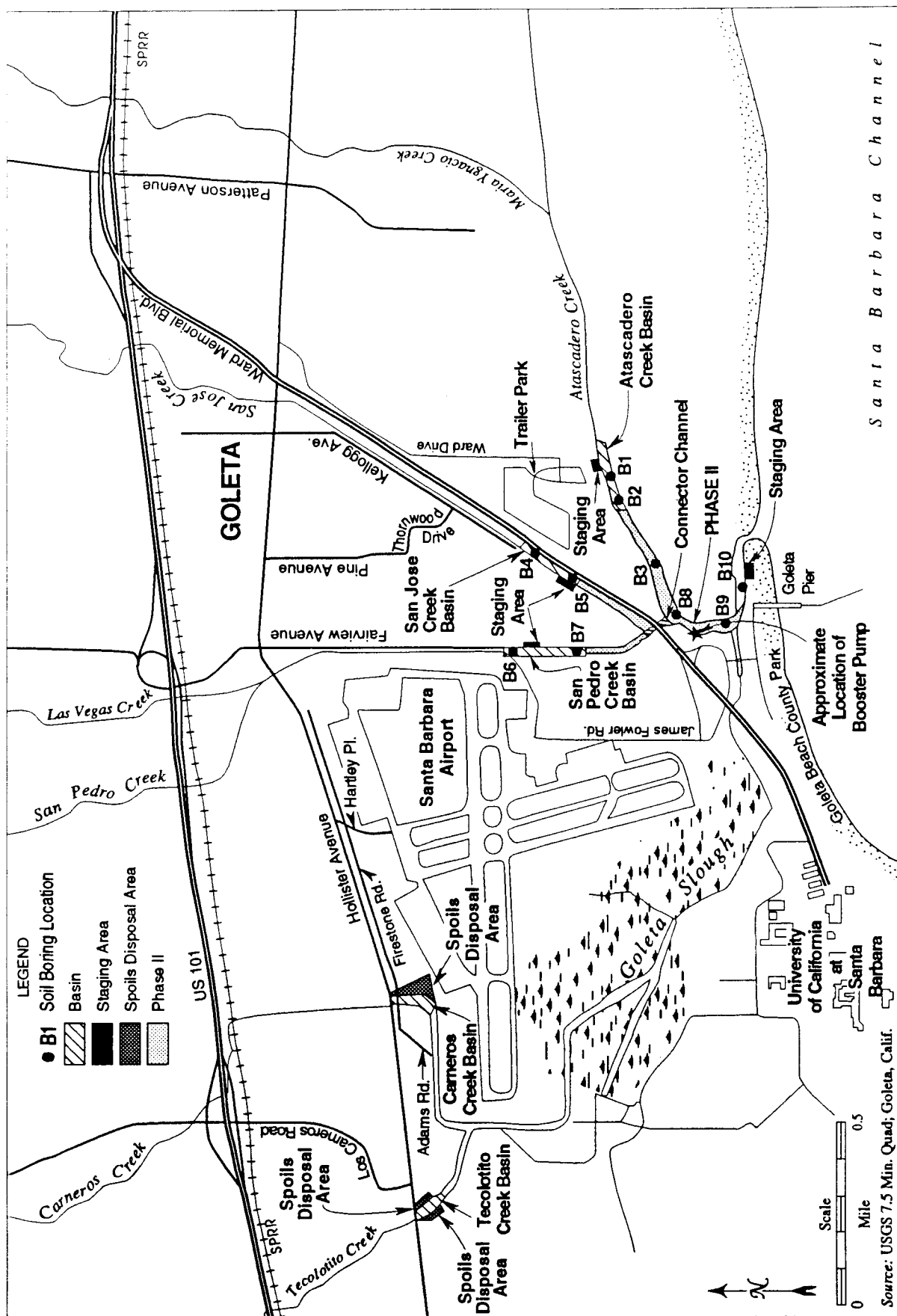
The K-C Geotechnical Associates report concluded that the sediments above 8 feet depth generally meets the compatibility requirements of the U.S. Army Corps of Engineers, Los Angeles District, for dredged material discharged in the littoral zone.

The beach, littoral, and nearshore part of Goleta Bay are formed of a well-sorted, medium fine sand derived from the sediments introduced to the ocean by coastal streams. The mean grain diameter of the composite of three sand samples from the beach is 0.2 mm. A littoral drift of about 250,000 cubic yards per year keeps the beaches in Goleta Bay supplied with sand, except during severe winter storms when sand is removed offshore temporarily.

A description of the oceanographic environment of the Goleta Bay area is presented in a recent EIR/EA for the BEACON Beach Nourishment Demonstration Project (Chambers 1992). A summary of the salient oceanographic features of the subject area is as follows. The *mean tidal range*\* in the bay is 3.7 feet and the diurnal tidal range is 5.4 feet. Waves in the area are usually westerly and are less energetic than deep ocean waves because of the sheltering of the Channel Islands and the east-west orientation of the coastline. Littoral drift in the area is usually eastward but reversals occur during the incidence of waves from the southeast. Bottom sediments in the nearshore part of the bay are sands that grade to silts and clays in deeper water. Currents in the bay are a combination of tidal reversals, west-flowing coastal currents related to regional circulation in the Southern California Bight, and local circulation of semi-permanent gyres in the Santa Barbara Channel. Meso-scale turbulence can add episodic current components that can affect the entire bay. The combined currents are commonly 0.5 knot but can exceed 1 knot during spring tides. The lateral currents and intermittent upwelling at the headlands of the bay cause the water of the bay to be well-mixed. A seasonal thermocline forms

\* Terms in italics are defined in the glossary in Appendix B.





**Table 4.1-2**  
**PERCENT OF SILT AND CLAY AND BEACH NOURISHMENT OVERFILL RATIOS**  
**OF SEDIMENTS TO BE DREDGED**

<i>Boring</i>	<i>Sample Depth (ft)</i>	<i>Weight Percent ( &lt;200 Mesh)</i>	<i>Overfill Ratio</i>
B 1	3	6.9	1.104
B 1	6	13.2	1.897
B 2	1	7.9	1.302
B 2	4	5.8	1.278
B 2	7	22.3	2.211
B 3	0	3.6	1.318
B 3	2.5	11.1	1.981
B 3	5.5	13.6	3.424
B 4	1	3.1	1.108
B 4	4	5.5	1.202
B 4	7	8.5	1.180
B 5	1	3.6	1.011
B 5	5.5	15.9	1.409
B 5	7	10.8	1.539
B 6	1	3.2	1.089
B 6	4	5.6	1.108
B 7	2.5	2.9	2.295
B 7	1	8.9	1.537
B 7	7	20.5	1.928
B 7	7	12.7	1.632
B 8	2	35.5	---
B 8	6	3.9	1.428
B 9	2	5.7	1.156
B 9	3.5	14.2	2.290
B 9	9	7.0	1.254
B 10	2	3.9	1.121
B 10	4	6.8	1.438
B 10	8	8.4	1.122

**Notes:** 200 mesh = 0.074 mm

$$\frac{1}{R} = 1 - F\left(\frac{a - \delta}{\delta}\right) + F\left(\frac{b - \delta}{\delta}\right) + \left[\frac{F(a) - F(b)}{\delta}\right] \exp\left\{\frac{1}{2}\left[b^2 - \left(\frac{a - \delta}{\delta}\right)^2\right]\right\}$$

where:

a and b are parameters of a standard normal distribution.

F = the integral of the standard normal distribution.

δ = the difference between the mean grain sizes of the beach sand and the dredge spoil.

in late summer but is destroyed during the winter. The temperature, salinity, oxygen, and nutrient content of the water in the bay are typical of the Southern California region.

Goleta Bay is used for recreation, mariculture industry, marine research, and research of the wild environment of the slough. Water contact sports consist of bathing at the nearby Goleta County Beach, scuba diving in the kelp beds offshore, and surfing in addition to boating and fishing both offshore and from Goleta Pier. Of concern in this regard are certain enteric pathogens that accumulate in the sediments via feces from animals, birds, and possibly humans. These organisms are usually associated with a group of coliform bacteria called fecal coliforms. Fecal coliforms are thought to be indicators of the presence of dangerous pathogens that might present a health hazard to persons coming in contact with contaminated water. Water contact activities and the ingestion of shellfish that have filtered fecal contaminants from the receiving water are two contact mechanisms.

Fecal contamination is a health concern administered by state and county agencies. The California Regional Water Quality Control Board (RWQCB) has established fecal bacterial standards for recreational waters and for shellfish harvesting areas. The REC-1 fresh water contact standard is a fecal coliform level of 200 most probable number (MPN)/100 ml as the log mean of five samples in a 30-day period, with the condition that not more than 10 percent of the samples during any 10-day period exceed 400 MPN/100 ml. The California State Ocean Water Standard for water contact is a level of fecal coliforms less than 200 MPN/100 ml as the geometric mean of at least five samples in a 30-day period, with the condition that no more than 10 percent of the samples in a 60 day period can exceed 400 MPN/100 ml.

The shellfish harvesting standard is a total coliform 30-day median density throughout the water column not exceeding 70 MPN/100 ml, with the condition that no more than 10 percent of the samples in a 30-day period can exceed 230 MPN/100 ml (5-tube dilution test) or 330 MPN/100 ml (3-tube dilution test). No standards for bacterial levels in sediments to be discharged in fresh water or in the ocean have been elucidated. Baseline values for characterizing fecal coliform levels generally prevailing in the receiving waters of Goleta Bay prior to the proposed dredging activity (June 1990 to June 1991) are presented in RWQCB (1992) and are summarized in Table 4.1-3.

**Table 4.1-3**  
**Bacterial Levels in Water and Sediments in the Goleta Slough**

	WATER SAMPLES *		SEDIMENT SAMPLES **	
	<u>Total Coliform</u>	<u>Fecal Coliform</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Range	8 - 800	2 - 80	40 - 790	20 - 790
Arithmetic mean	98	30	284	189
Standard deviation	189	24	267	211
Geometric mean	32	20	189	69

**Notes:**     • All levels as Colony Forming Units/100 ml.

              •• All levels in units of MPN/100 ml.

The groundwater in the Goleta Slough area lies at a shallow depth. Soil borings in the area where stream dredging is proposed encountered water within a depth of about 2½ feet. That part of the slough is in the intertidal zone. Most of the area affected by the subject project is within the intertidal zone, so shallow ground water can be expected there as well. Freshwater pools contained by low berms develop in the southwest part of the slough during heavy winter rains. The pools represent the outcrop of the water table in those areas and they indicate that groundwater recharge exceeds the storage capacity of the substrate in at least part, if not most of the area.

K-C Geotechnical Associates (1993) reported the results of the chemical analyses of soil samples from the proposed dredging area. The samples were surface grab samples in the vicinity of the mouth of the slough and sub-samples of Borings 2, 5, 7, and 9. These were tested for volatile organics and for chlorinated pesticides. Analyses were made also for a suite of heavy metals listed in Title 22, California Administrative Code, Article II, Section 66699.

No organic compounds were detected. The levels of California Assessment Method (CAM) metals in the subsamples were below detection limits or were orders of magnitude lower than the Total Threshold Limit Concentrations listed in the Title 22 document as persistent and bioaccumulative toxic substances.

#### **4.1.2 Environmental Consequences**

The flood control maintenance of the streams in the Goleta Slough area could have potential significant environmental impacts in several areas of concern. The issues are defined and the impacts associated with each issue are evaluated and presented for the proposed project and its alternatives in the following discussion.

Impacts would be significant if the project:

- increased flooding, erosion, or siltation;
- substantially degraded water quality;
- created a public health hazard; or
- substantially impeded groundwater recharge.

##### **4.1.2.1 Proposed Project**

###### *Phase I*

**EFFECTS OF CHANGES IN THE CHANNELS ON FLOODING.** The deepening of the stream channels would change the flow cross-sections in the channels. This would change the distribution of local flow velocities (hence the amount and distribution of erosion and deposition during floods) and the flow transport through the channel system. These changes would affect the stage (water surface elevation) and extent of floods in the slough area. The Corps HEC-2 hydraulic model was used to investigate these effects.

The HEC-2 model is based upon solutions of Manning's equation for open channel flow in a river reach subject to the conservation of energy as stated in Bernoulli's equation. These equations are given below.

#### Manning's Equation

$$Q = \frac{1.486 R^{2/3} S^{1/2} A}{n}$$

#### Bernoulli's Equation

$$E = \frac{V^2}{2} + g z + \frac{P}{\rho}$$

where V = velocity

R = hydraulic radius (cross-sectional area of channel/length of wetted perimeter)

S = Hydraulic energy gradient

n = Manning's coefficient of friction

E = Total energy per unit mass

g = acceleration due to gravity

P = pressure

$\rho$  = density

The model determines the stream surface profile under boundary conditions that represent the geometry and flow regime of the stream under study. The input to the model consists of a description of the boundary conditions and empirical coefficients that stipulate the nature of frictional losses (of energy) in the river system.

The hydraulic modeling of the dredged channel system was performed using existing peak flood discharge data (see Table 4.1-4), measured channel cross-sections and 1 in = 200 feet topographic maps.\* Values for coefficients for Manning's roughness and for contraction and expansion of flow because of varying stream cross-section were those used in previous runs of the HEC-2 model conducted for the District in 1991 by Engineering Science, Inc. A value of 0.02 was chosen for the Manning's coefficient for newly dredged channels. Values of 0.1 and 0.3 were chosen for the expansion and contraction coefficients, respectively.

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**Table 4.1-4**  
**Peak Discharges at Dredging Areas**

	<u>100-Year Flood (cfs)</u>	<u>500-Year Flood (cfs)</u>
Goleta Slough (estuary mouth)	23,400	37,500
Atascadero Creek	12,900	20,700
San Pedro Creek	6,300	10,100
San Jose Creek	5,400	8,700
Carneros Creek	3,600	5,700
Tecolotito Creek	4,600	7,600

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\* Measured channel cross-sections were prepared by the District. Plots of the cross-sections are presented in Appendix B. The topographic maps were prepared for the District from 1991 aerial photographs.

The results of dredging the basins and pilot channels on San Jose, San Pedro, and Atascadero Creeks were studied by examining HEC-2 stream surface profiles modeled using a 100-year flood with and without the proposed dredging alternatives. The HEC-2 model was also used to estimate the magnitude of the flood that would be contained in the dredged reaches of the streams under both existing conditions and conditions after the proposed dredging.

The surface profile calculations were performed using a tide stage of mean higher high water. This represents the worst case for potential flooding. The resulting profiles are shown in figures 4.1-3 through 4.1-5. The distances and elevations on those figures are in feet. The analysis of the hydraulic model results are as follows:

San Jose Creek. The natural and dredged channel invert profiles and the predicted 100-year flood profiles for San Jose Creek are presented in Figure 4.1-3. The dredging of San Jose Creek is to be between 1,363 feet and 2,365 feet.\* The stream surface profiles indicates a reduction in flood level of about 4 feet just upstream of the basin after Phase I dredging. The flood stage within the siltation basin will be decreased by 2 feet after Phase I dredging.

San Pedro Creek. The natural and dredged channel invert profiles and the predicted 100-year flood profiles for San Pedro Creek are presented in Figure 4.1-4. The dredging of San Pedro Creek is to be between 854 feet and 1,878 feet. The stream surface profiles indicate a reduction in flood stage of 2 to 3 feet just upstream of the siltation basin after Phase I dredging. The flood stage within the siltation basin will decrease about 2 feet after Phase I dredging.

Atascadero Creek. The natural and dredged channel invert profiles and the predicted 100-year flood profiles for Atascadero Creek are presented in Figure 4.1-5. The dredging of Atascadero Creek is to be between 3122 feet and 4269 feet. The profiles indicates a reduction in flood level of about 2 feet upstream of the siltation basin. The stream surface profiles indicate a reduction of about 2 feet in the flood stage at the siltation basin and at the pilot channel after Phase I dredging.

Tecolotito Creek. The dredging of the basin in Tecolotito Creek is to be between 1025 feet and 1509 feet. This basin was not modeled using HEC-2 inasmuch as it is an existing siltation basin that is to be re-dredged. Some small benefit is expected to be derived however. The silt trapped in the dredged basin will retard the siltation of the downstream reaches of Tecolotito Creek and thus reduce the tendency for flooding of the Goleta Slough on the south and west sides of the Santa Barbara airport runways.

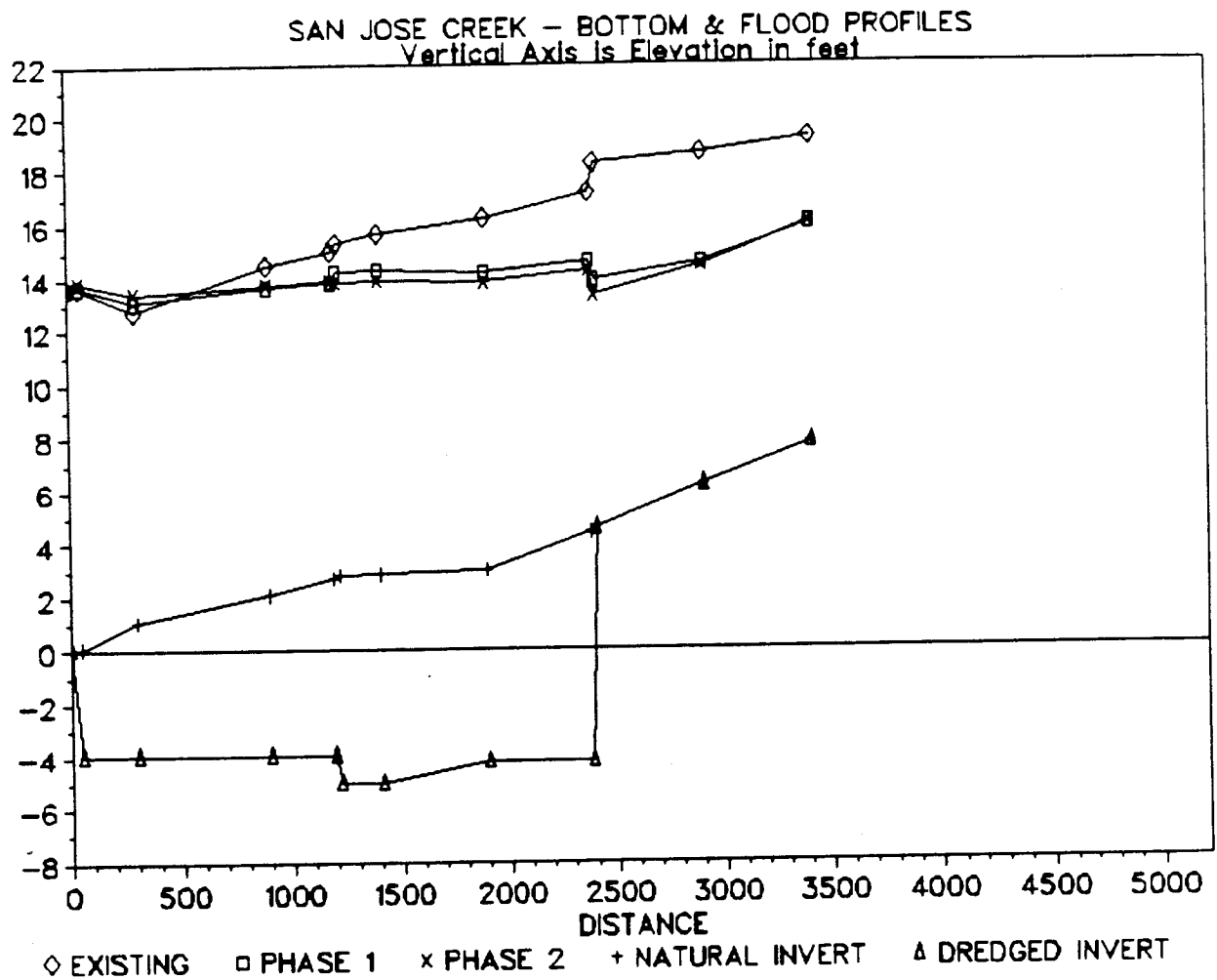
Carneros Creek. The dredging of the basin in Carneros Creek is to be between 2095 feet and 2617 feet. This stream was not modeled using HEC-2 either. It is an existing siltation basin that will serve to minimize the sediment load to the lower reaches of Tecolotito Creek. The effect upon flood stages in the upstream reaches of Carneros Creek is expected to be no different than during past maintenance dredging.

The tendency for lateral cutting and migration of channels were considered using the results of the hydraulic modeling. The cross-sectional area of each of the streams would be increased by dredging so that for a given flow, local water velocities would be lessened causing less lateral erosion of stream channels. Impacts associated with channel migrations were considered to be negligible.

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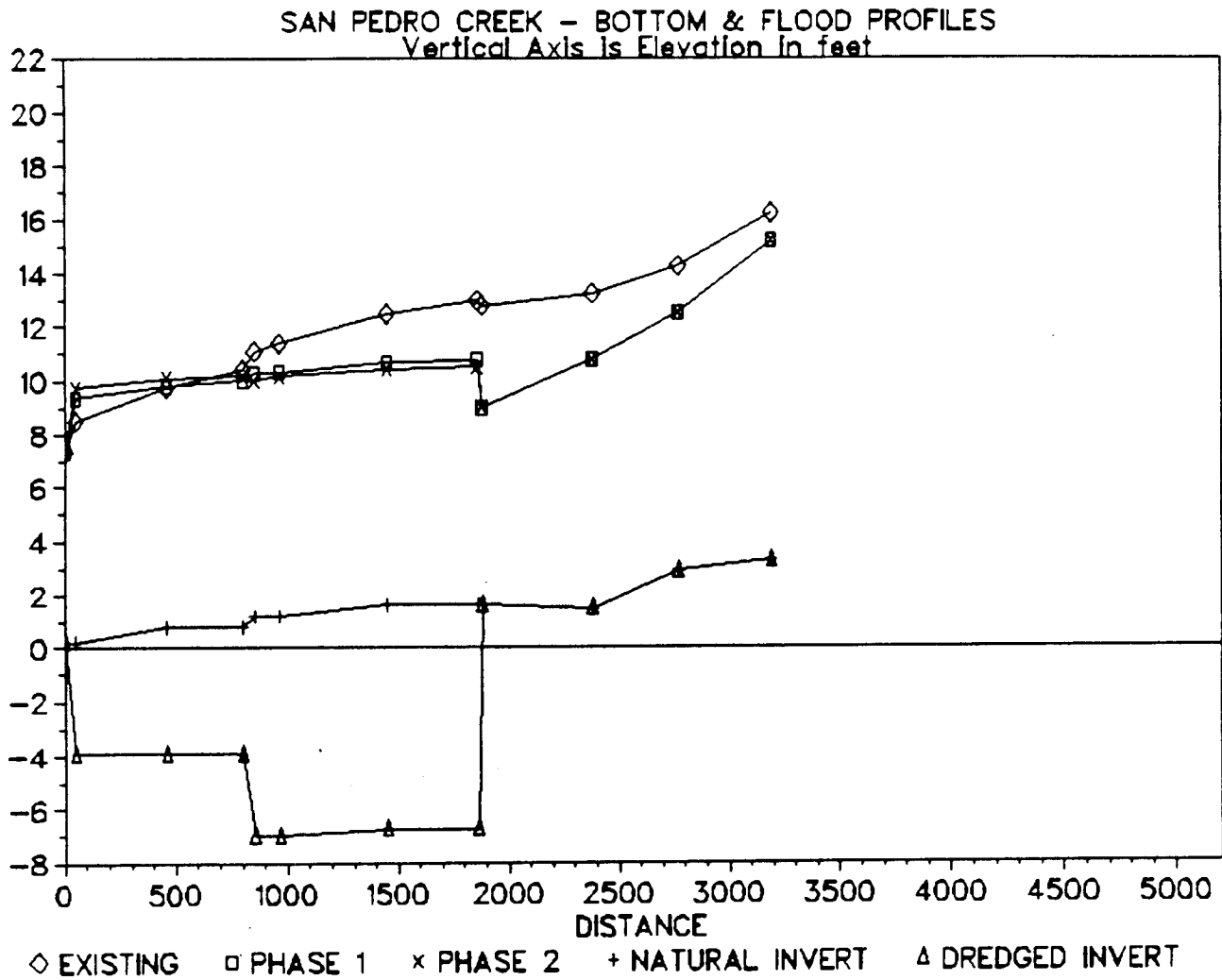
\* The distances specifying the location of proposed dredging are measured from an origin near the confluence of Atascadero Creek and the confluence with the connector channel from San Jose and San Pedro creeks.





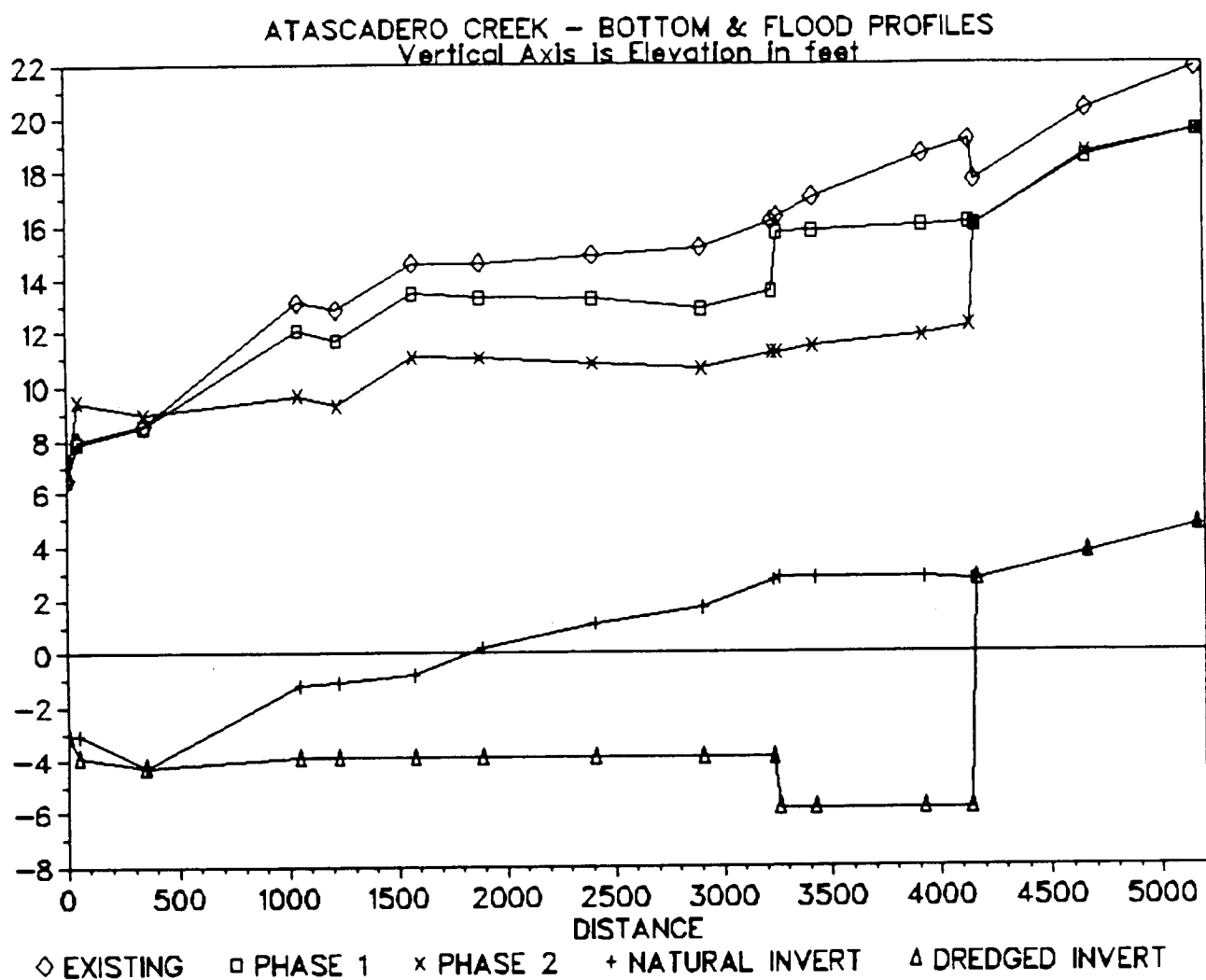
Note: The existing channel invert, the dredged channel and the flood profiles are shown. Measured cross-sections locations are indicated with triangular marks.

**Figure 4.1-3**  
**STREAM SURFACE PROFILES DURING A 100-YEAR FLOOD**



Note: The existing channel invert, the dredged channel invert and the flood profiles are shown. Measured cross-sections are indicated with triangular marks.

**Figure 4.1-4**  
**STREAM SURFACE PROFILES DURING A 100-YEAR FLOOD**



Note: The existing channel invert, the dredged channel invert and the flood profiles are shown. Measured cross-sections are indicated with triangular marks.

**Figure 4.1-5**  
**STREAM SURFACE PROFILES DURING A 100-YEAR FLOOD**

CONTAINED FLOWS. The HEC-2 model was used to explore the maximum flow that could be contained with only minimal overbank spillage at the lowest banks in the combined reaches of Atascadero Creek, San Jose Creek and San Pedro Creek. The present state of the streams in the tributary system limits containment to a flow of only 900 cubic feet per second (cfs) (approximately a 1-year flood) at the mouth of the tributary system. After Phase I dredging, the maximum contained flow in the proposed, increased, and reduced basins would be about 3000 cfs (a 2.5-year flood). The magnitude of the flood contained after Phase II dredging would be a 3-year flood flow of 3500 cfs. The stream profiles during 3-year (3500 cfs) and 5-year (6500 cfs) floods are presented in figures 4.1-6 to 4.1-8.

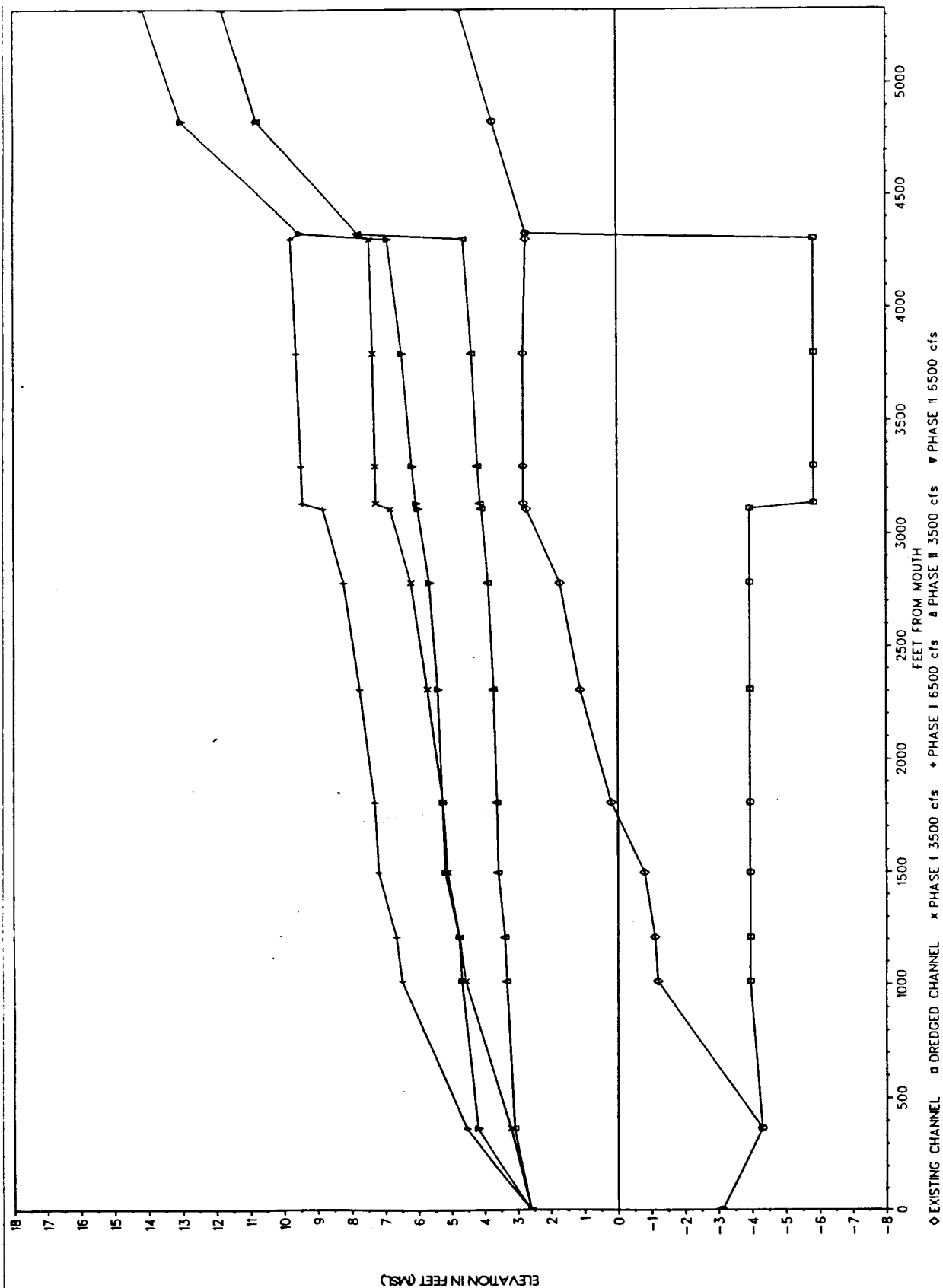
The beneficial impact of the Phase I dredging is evident. Phase II dredging would add to the benefit, but not to the extent that the initial dredging would. It appears that the depth of the dredging has more affect on containment than does the width of the dredging. The length of dredging determines the linear extent of the benefits of dredging.

CHANGES IN CHANNEL STORAGE. Storage in the channel of a stream is a measure of the capacity of the stream to conduct flows under various conditions of stage and channel geometry. Dredging would increase the channel storage to the extent shown in Table 4.1-5.

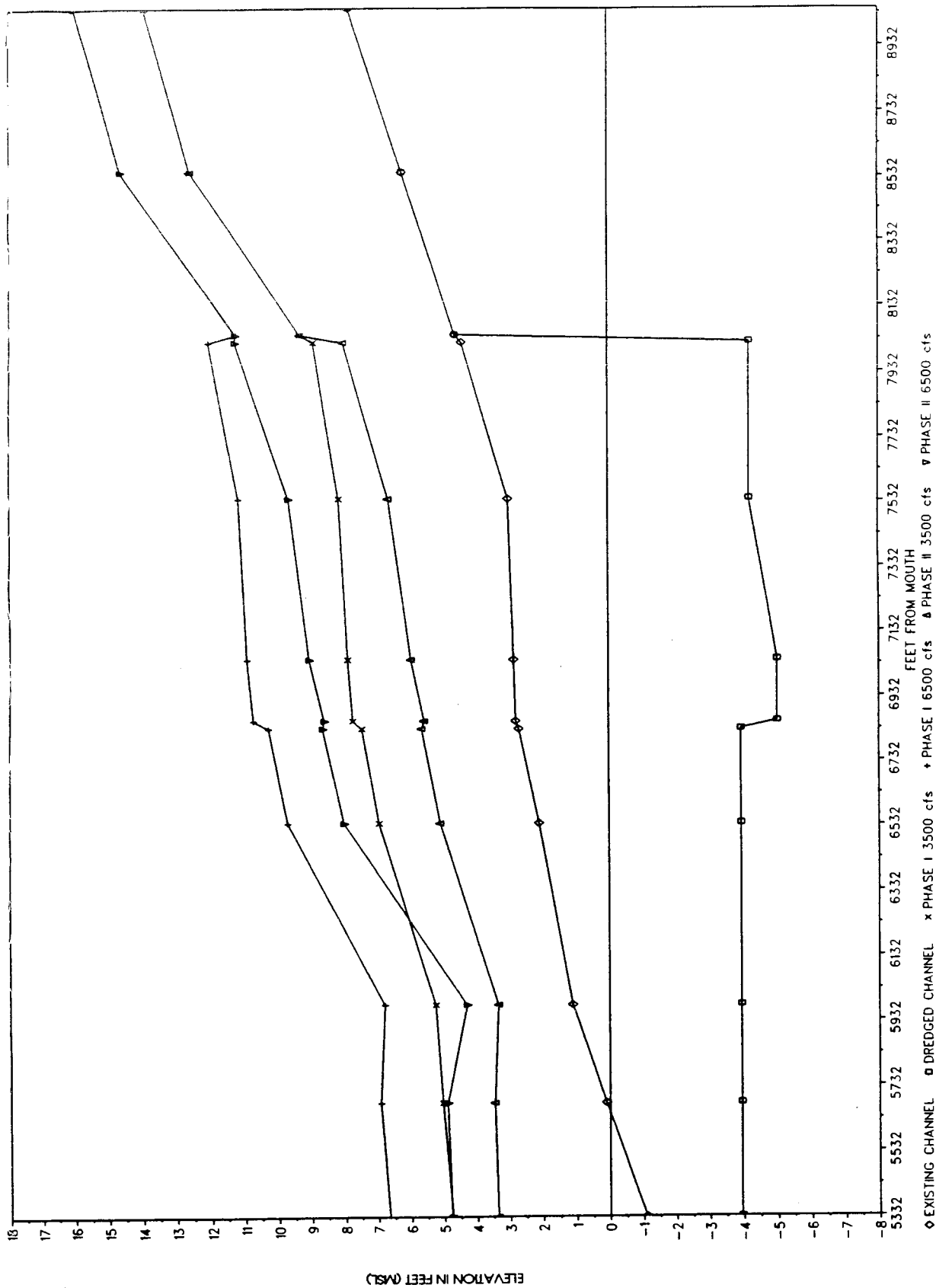
Table 4.1-5  
Storage in Stream Channels

<u>Stream</u>	<u>Alternative</u>	<u>Storage in Acre-Feet</u>	<u>Increase in Percent</u>
Atascadero Creek	Existing	245	
	Proposed	18.3	7.5
	Reduced basin	7.8	3.2
	Increased basin	31.2	12.7
San Jose Creek	Existing	84	
	Proposed	6.2	7.4
	Reduced basin	2.48	3.0
	Increased basin	9.3	11.1
San Pedro Creek	Existing	55	
	Proposed	6.2	11.3
	Reduced basin	2.48	4.5
	Increased basin	9.3	16.9

These increases in stream channel storage from the proposed dredging will allow greater conveyance and reduce the hazard of flooding. The changes in the channel cross sections will change the volume of water that can be contained in the stream system. This will influence the incidence of overbank flows and flooding of adjacent terrain. It will also influence the duration and depth of standing water in the channels after storm-induced flow events. The results are indicated in the last column of the table. The storage of the reaches to be dredged will increase about 7 percent on Atascadero Creek and on San Jose Creek. The increase will be about 11 percent on San Pedro Creek. The change in storage of Tecolotito and Carneros Creeks will be negligible.

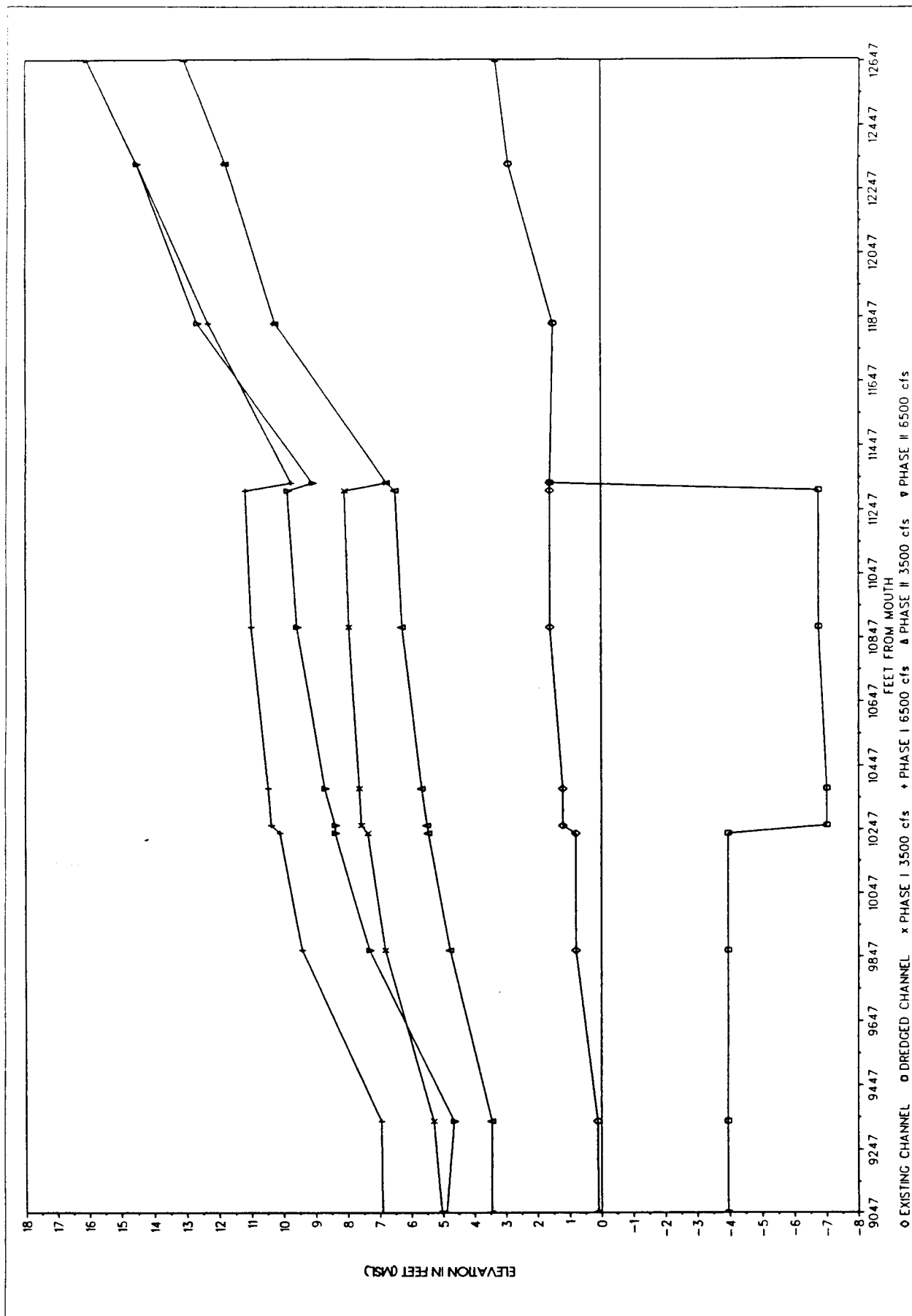


**Figure 4.1-6**  
**ATASCADERO CREEK - BOTTOM AND STREAM PROFILES**  
**(3 Year and 5 Year Floods)**



**Figure 4.1-7**  
**SAN JOSE CREEK - BOTTOM AND STREAM PROFILES**  
**(3 Year and 5 Year Floods)**





**Figure 4.1-8**  
**SAN PEDRO CREEK - BOTTOM AND STREAM PROFILES**  
**(3 Year and 5 Year Floods)**

RATES OF FILLING OF DREDGED REACHES. Records of actual dredged volumes were examined to derive average and maximum rates of sediment accumulation at the proposed project sites. The quotient of the proposed dredged volumes and the sediment accumulation rates is the expected average and minimum lifetimes of the dredged sedimentation basins. The results are given in Table 4.1-6. It is apparent that the basins of the proposed project and the increased basin alternative will last several years under conditions of average sedimentation but all alternative basins will be filled by one year or less of maximum sedimentation such as that caused by the denudation of the watersheds by the Painted Cave fire.

Table 4.1-6

Time Required to Refill Dredged Reaches

<u>Stream</u>	<u>Alternative</u>	<u>Dredged Volume (cubic yards)</u>	<u>REFILLING RATE (cu yds per yr)</u>		<u>TIME TO REFILL (days)</u>	
			<u>Average</u>	<u>Maximum</u>	<u>Average</u>	<u>Minimum</u>
Atascadero Creek	Proposed	29,517			784	179
	Reduced	12,600	13,750	60,300	334	76
	Increased	50,370			1,337	305
San Jose Creek	Proposed	10,000			912	228
	Reduced	4,000	4,000	16,000	365	91
	Increased	15,161			1,383	346
San Pedro Creek	Proposed	10,000			995	256
	Reduced	4,000	3,670	14,250	398	102
	Increased	14,973			1,489	384

CHANGES IN OVERLAND FLOW OR THROUGHFLOW IN THE SLOUGH AREA. Precipitation reaching the ground surface will be conducted toward the nearest channels by either or both of two methods. In the subject area the substrate is nearly saturated with soil moisture at a shallow depth (about 2 feet). The surface horizons in the soil profile saturate rapidly during winter rain events so that excess rainwater moves over the surface as overland flow. Throughflow persists after the precipitation and provides a base flow to the local stream channels.

Changes in overbank flow and flooding will influence the occurrence and rates of overland flow and of throughflow in the soils of the slough. The impact of these changes are expected to be minimal because the lateral extent of severe flooding will be essentially the same as in the past when the subject streams were dredged.

CHANGES IN RATES OF INFILTRATION OF GROUNDWATER. Infiltration of precipitation consists of the part of the precipitation that percolates into the subsurface and is held in storage in the vadose zone (between the surface and the water table) and groundwater reservoirs. In the subject area the water table is so shallow that the vadose zone is thin and near saturation. Infiltration in the subject area is expected to be quite small.

Infiltration of surface water will depend upon the frequency and amount of precipitation and of the frequency and depth of flooding of the slough area. The impact of changes in the rates of infiltration in the slough depends upon the depth of the piezometric surface (water table) because of flooding of overbank areas. The infiltration under channel areas depends upon the

amount of base flow in the channels upstream during the intervals between floods. This is not expected to change as a result of the proposed dredging program. The reduction of the *head* of water over the channels and overbank areas by 2 or 3 feet would have negligible effect particularly because of the relatively short duration of flood events.

The dredging of sedimentation basins on the five subject streams and the pilot channels in Atascadero, San Jose, and San Pedro Creeks should have only Class III impacts to the hydrology and groundwater resources on the area. The hydrologic cycle in the area should not suffer any significant or permanent changes as a result of the alteration of the channel geometries by dredging.

**THE EFFECTS ON TIDAL CHANNELS DUE TO CHANGES IN THE TIDAL PRISM.** Deepening of the upper reaches of the tidal channels in the slough by dredging will change the rates of tidal exchange in the part of the slough affected by tides. The change in exchange volumes caused by dredging was estimated by determining the volume of material above mean lower low water removed by dredging from each stream. The volumes are shown in Table 4.1-7. The volumes given in the table were added to the volume currently being exchanged through the mouth of the Goleta Slough (the current exchange volume is estimated to be 238,620 cubic yards = 148 acre feet) in the 6 hours of the flood or of the ebb of the semidiurnal tidal cycle.

A potential impact to the slough area would be caused by channel erosion caused by flow velocities being increased above the threshold for erosion. The peak tidal velocities occur twice during each tidal cycle, once at maximum flood between low slack water and high slack water and again at ebb. When the streams are flowing, the peak velocities occur only at near-ebb tide.

The relationship between channel width and flow is usually a power function (width is flow raised to some power) in natural streams, but a direct proportionality probably exists between the flow through the channel at the mouth of the slough and the channel width because of the conditions prevailing there. The conditions are that the hydraulic energy gradient (or water surface slope) is virtually constant, the bed friction does not change appreciably, the depth of the water tends to remain fixed and the width of the channel is great compared to the depth of the flow.

The increase in the volume of the tidal prism for the proposed project would be 23 percent. There might be a beneficial impact to the biota of Goleta Slough by the larger exchange flow, but although a 20 percent wider channel mouth might develop, the proportionally larger tidal deltas that would form both inside and outside the mouth would provide ready sediment for sealing the opening during increased littoral drift accompanying winter storms. It is likely that the entrance to the slough would have to be dredged open as often as in the past. The net impact associated with this effect is judged to be Class IV.

The increase in the tidal prism would have no direct effect upon the capability of the subject streams to transport sediment or to erode the channel at the mouth of the slough. Maximum flow velocities will occur during flood stages in the stream of the Goleta Slough. The channel will be eroded and shaped during such events. Manning's equation indicates a channel width of about 200 feet would be stable during a flow of 3500 cfs (3-year flood). Tidal inlet hydraulics equations (U.S. Army Corps of Engineers 1984) indicate that a 200-foot wide channel at the mouth of the slough would contain a tidal flow having a maximum speed of about 17 cm per second.

The threshold speed for erosion of the fine sand in the channel mouth is about 20 cm per second under conditions of either longitudinal or oscillatory flow. This suggests that the tidal flow into and out of the slough cannot enlarge the mouth of the channel. Rather, the channel would be at virtual equilibrium with the tidal flows during spring tides. A tendency for constricting the

Table 4.1-7

**TIDAL PRISM VOLUMES ADDED BY DREDGING**  
(cubic yards)

<i>Stream</i>	<i>Alternative</i>	<i>Pilot</i>	<i>Basin</i>	<i>Percent Change</i>
Atascadero Creek	Proposed	7,620	19,544	8.2
	Reduced basin	7,620	8,500	1.5
	Increased basin	7,620	34,000	14.5
San Jose Creek	Proposed	4,640	7,868	3.3
	Reduced basin	4,640	3,160	1.3
	Increased basin	4,640	11,839	5.0
San Pedro Creek	Proposed	3,510	5,000	2.1
	Reduced basin	3,510	2,000	0.8
	Increased basin	3,510	7,695	3.2
Carneros Creek	Proposed	0	90	0
Tecolotito Creek	Proposed	0	378	0
Totals	Proposed		48,650	20.4
	Reduced basin		29,898	12.5
	Increased basin		69,772	29.2

channel mouth by littoral transport would occur during neap tides and tides of intermediate range.

**IMPACTS OF THE PROPOSED PROJECT TO THE WATER QUALITY IN THE OCEAN.** Dredging operations will create turbid suspensions of sediment grains and colloids and will induce exchange of loosely adsorbed molecules with the aqueous phase. Samples of sediments taken by K-C Geotechnical Associates (1993) from borings in the dredging area were analyzed for hydrocarbons, pesticides, and heavy metals for the purpose of estimating the impact of the introduction of dredge spoil bearing these contaminants into the nearshore marine environment. The lack of detectable hydrocarbons, absent or extremely low levels of inorganic compounds, and metals in samples of sediments from the proposed dredge area indicate that no potentially significant impacts would be caused by using hydraulic dredging methods and discharging the slurry in an aqueous environment. A Class III impact (if any) is assumed on the basis of these results. It appears no adverse effects should be expected from the discharge of dredge spoil on the beach and littoral zone of Goleta Bay.

The dredge spoil can be expected to be inoculated with bacteria that have colonized the abundant mineral surfaces represented by the clay content of the stream and slough sediments. The formation of a slurry from the sediments should dislodge bacteria from the mineral surfaces and into suspension in the make-up water from the dredge site. Upon mixing with seawater at the dredge discharge site, the suspended bacteria should suffer toxic effects of the salinity and oxygen levels of seawater and exhibit a reduction in their number. The rate of reduction is thought to be exponential with virtual disappearance occurring in 3 or 4 days.

Bacteria remaining on mineral surfaces and sequestered in clay flocs would not come into contact with seawater immediately with the result that they might remain viable for much longer than the time predicted by seawater die-off rates used in standard sanitary engineering calculations. In such a case the bacteria could persist in the marine environment and be dispersed by ocean currents that move seaward near the seafloor.

The levels of fecal coliform bacteria in the surface sediments to be dredged were examined to estimate the potential impact to marine fauna, particularly shellfish, in the area affected by the discharge of dredge spoil slurries. The measurement of the baseline levels of fecal coliforms in the dredged sediments consisted of a blend of samples from near each of the proposed discharge sites. The analysis of the combined sample of dredged materials was taken to represent the current state of all parts of the dredged volume.

The results of the fecal coliform analyses of the sediment sample obtained from a 5-tube, 3 dilution test was 200 MPN per 100 ml. The low value is probably the result of flushing of the surface sediments in the creeks during the appreciable rains of the past winter (1992-3). This result suggests that, under comparable conditions, negligible impact would be expected for this effect. Nonetheless, results reported by the RWQCB (1993) suggest that appreciable bacterial levels can occur in the sediments of the slough so the dredge spoil should be monitored for high levels of fecal coliforms during dredging in order to avoid possible discharge of bacterial contaminants into sensitive shellfish-rearing areas in Goleta Bay. Impacts would be potentially significant (Class II).

**EFFECTS OF GRAIN SIZE DISTRIBUTION OF SPOILS IN THE LITTORAL ENVIRONMENT.** The incidence and persistence of turbid plumes of suspended sediments and the magnitude of beach sand loads depends upon the proportion of clay and fine silt, i.e., 4 Phi\* (0.0625 mm) and smaller material,

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\* Grain size in millimeters =  $2^{-\text{Phi}}$ .

in the discharged dredge spoil. The granulometric analysis data in Table 4.1-2 were examined to assess the distribution of fine material in the K-C Geotechnical Associates borings.

The fine fraction percentage values do not completely describe the phenomenon because following discharge, part of the coarser materials are maintained in suspension and some of the fines remain on the beach. These effects were examined by considering the size spectra of the sediment samples.

*Histograms* were prepared for a composite beach sand and for 10 surface sediments retrieved from cores taken from the channels of the creeks in and near the dredging sites. The histograms are shown in figures 4.1-9 and 4.1-10. The granulometric analysis data used for the histograms are given in Appendix B.

The histograms show a marked *bimodality* with peak frequency of occurrence of grains 0.3 mm (1.7 Phi) and 0.18 mm (2.5 Phi) in diameter. These sizes correspond to fine sand and coarse silt, respectively. This is indicative of intermixing of a well-sorted (poorly graded) fine sand with a well-sorted coarse silt. It is probably the result of the interaction of tidal and fluvial effects in the *estuary* of Goleta Slough. This is important because the silt components will tend to form a suspensoid plume.

Dredge spoil slurry discharged into the littoral zone will become modified by wave action and by the flocculation induced by the salinity of the receiving water. Large discrete particles and flocs will settle at rates proportional to the square of their effective particle diameters. These particles will be dispersed by longshore drift and cross-shore transport and will be subject to resuspension by increases in the incident wave energy. Fine sediments and colloids will form a suspension plume that will be mixed with seawater and dispersed by the littoral turbulence. In this manner the dredge spoil deposited in the littoral zone will be partitioned into a coarse settleable fraction and a suspended fraction. The settleable fraction will be partitioned further into a beach sand phase and a fine phase that is moved to deeper water by near-bottom transport processes.

The proportion of the dredge spoil that will be suspended in a plume emanating from the point of discharge was estimated by calculating a beach nourishment overfill ratio. The ratio is a measure of the amount of dredge spoil required to provide a given volume of beach sediment. The overfill ratio (R) is defined as follows:

$$\frac{1}{R} = 1 - F\left(\frac{a - \delta}{\delta}\right) + F\left(\frac{b - \delta}{\delta}\right) + \left[\frac{F(a) - F(b)}{\delta}\right] \exp\left\{\frac{1}{2} \left[b^2 - \left(\frac{a - \delta}{\delta}\right)^2\right]\right\}$$

where:

a and b are parameters of a standard normal distribution.

F = the integral of the standard normal distribution.

$\delta$  = the difference between the mean grain sizes of the beach sand and the dredge spoil.

Most of the values (given in Table 4.1-2) for the ratio ranged between 1.00 and 3.40 for the sediments (surface to 8 feet deep) in the dredged area. This indicates that a considerable plume of suspended material will be derived from the wave attack of the deposited spoil.

The dispersion of the suspended part of the dredge spoil slurry was predicted in two parts. The initial dilution of the discharge suspension was estimated by modeling it as a negatively-buoyant, continuous plume emanating from a single point of discharge. The Environmental Protection Agency (EPA) model UOUTPLM was used for this purpose. The suspended plume was treated separately from the individual larger particles because the processes of slurry formation,



Coarse sizes on left - Fine sizes on right

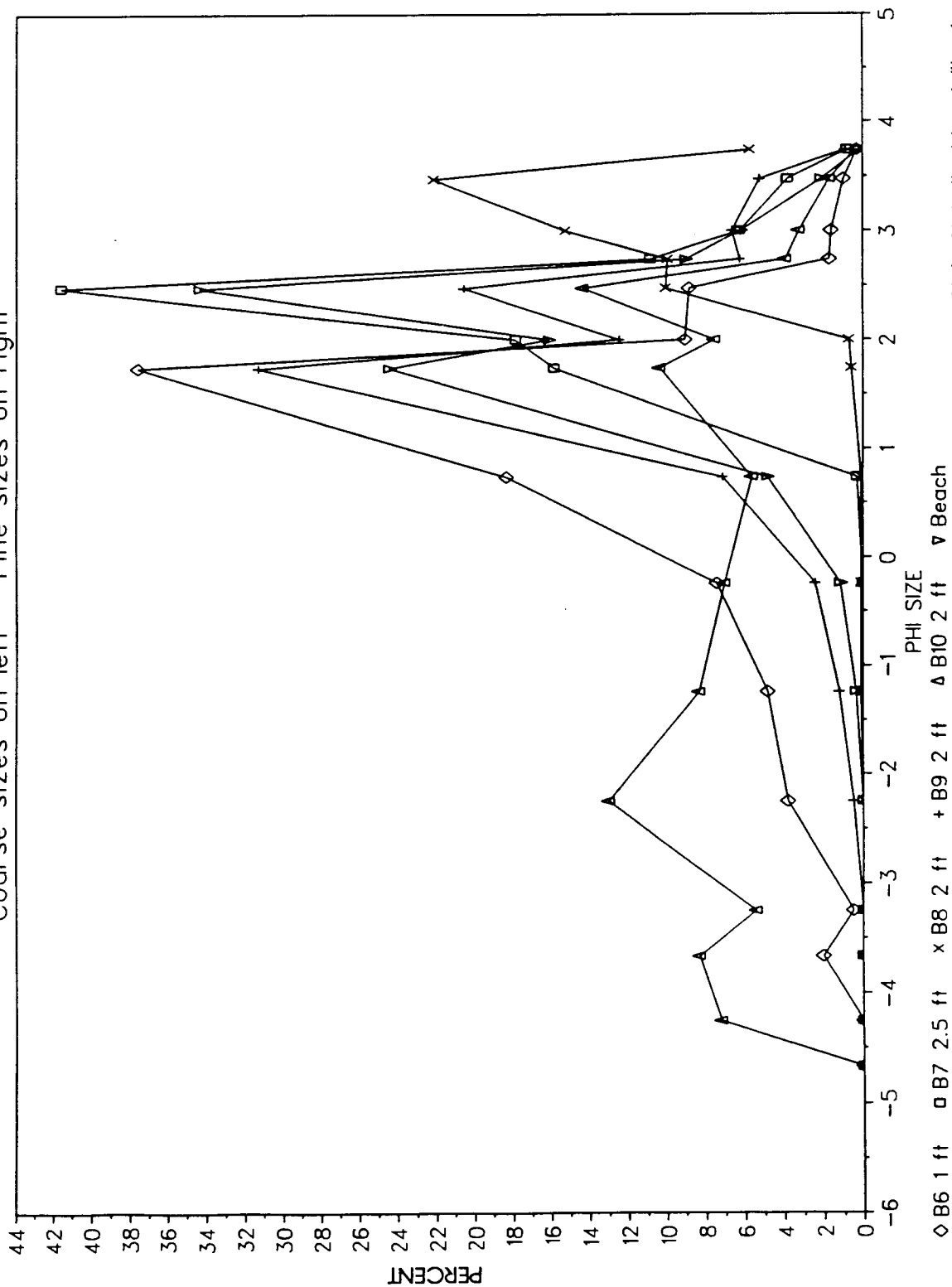


Figure 4.1-10

SEDIMENT GRAIN SIZE SPECTRA FOR SURFACE SEDIMENTS IN THE DREDGE AREA

pumping, pipe transport, and wave mixing are expected to stir the slurry thoroughly and remove most of the cohesive coupling between the suspensoid and granular phases.

Density differences introduced into the model were selected to be 0.01, a value representing that of fresh water versus ambient winter seawater density conditions in the nearshore of Goleta Bay. Current vector inputs were chosen to be 0.5 knot parallel to shore to represent modal tide and background ambient motions.

The UOUTPLM model results indicated that an initial dilution on the order of 15:1 could be expected if the spoil is discharged into the littoral zone directly.

The secondary dispersion of the suspension plume was not modeled using numerical methods because of an examination of the photographs of actual plumes in and near the discharge site showed that the plume will be advected by littoral drift, tidal currents, wind drift, and regional coastwise currents as it disperses and settles. The result is too complex to model using a straightforward model with no calibration or field verification. Instead, predictions of secondary plume dispersion were based upon empirical relationships derived from the aerial photographs of the actual plumes.

The examined photographs were oblique aerial photographs taken off the coast in and near the subject area. The photographs were digitized and rectified to create a plan of the distribution of the sediment plumes associated with flood flow on and prior to March 27 1991, the time of the "March Miracle" rains that started to end a severe drought in the region. The hydrograph of the storm events is presented in Figure 4.1-11.

The plume off the mouth of the Goleta Slough is shown in Figure 4.1-12 and the plume issuing from Arroyo Burro Creek located about 5 miles east of the subject area is shown in Figure 4.1-13. The location of these sites is shown on Figure 4.1-14. Note that the flows that produced the plumes are given in Table 4.1-8. The flows associated with the proposed dredging is expected to be 1.5 cfs (200 cubic yards per hour). This is one tenth to one hundredth that of the flood flows depicted in Figure 4.1-11.

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**Table 4.1-8**  
**Dimensions of Observed Suspended Sediment Plumes**

<u>Stream</u>	<u>Peak Flow (cfs)</u>	<u>Date</u>	<u>Length (feet)</u>	<u>Width (feet)</u>
San Jose, San Pedro, Carneros, Tecolotito, and Atascadero	1,173	3-18-91	14,500	5,000
	180	3-26-91	8,500	4,000
Arroyo Burro	166	3-18-91	7,500	3,000
	25	3-26-91	4,000	80

---

The fringes seen in figures 4.1-12 and 4.1-13 represent plumes formed by a flow peak on March 18 1991, which was about five times greater than the event of March 27. The length and width of the plumes and fringes were measured and the results are presented in Table 4.1-8.

The width of the last plume in the table was constrained to the zone of nearshore littoral drift. The presence of the coast prevents the development of a complete plume. The plume has to be

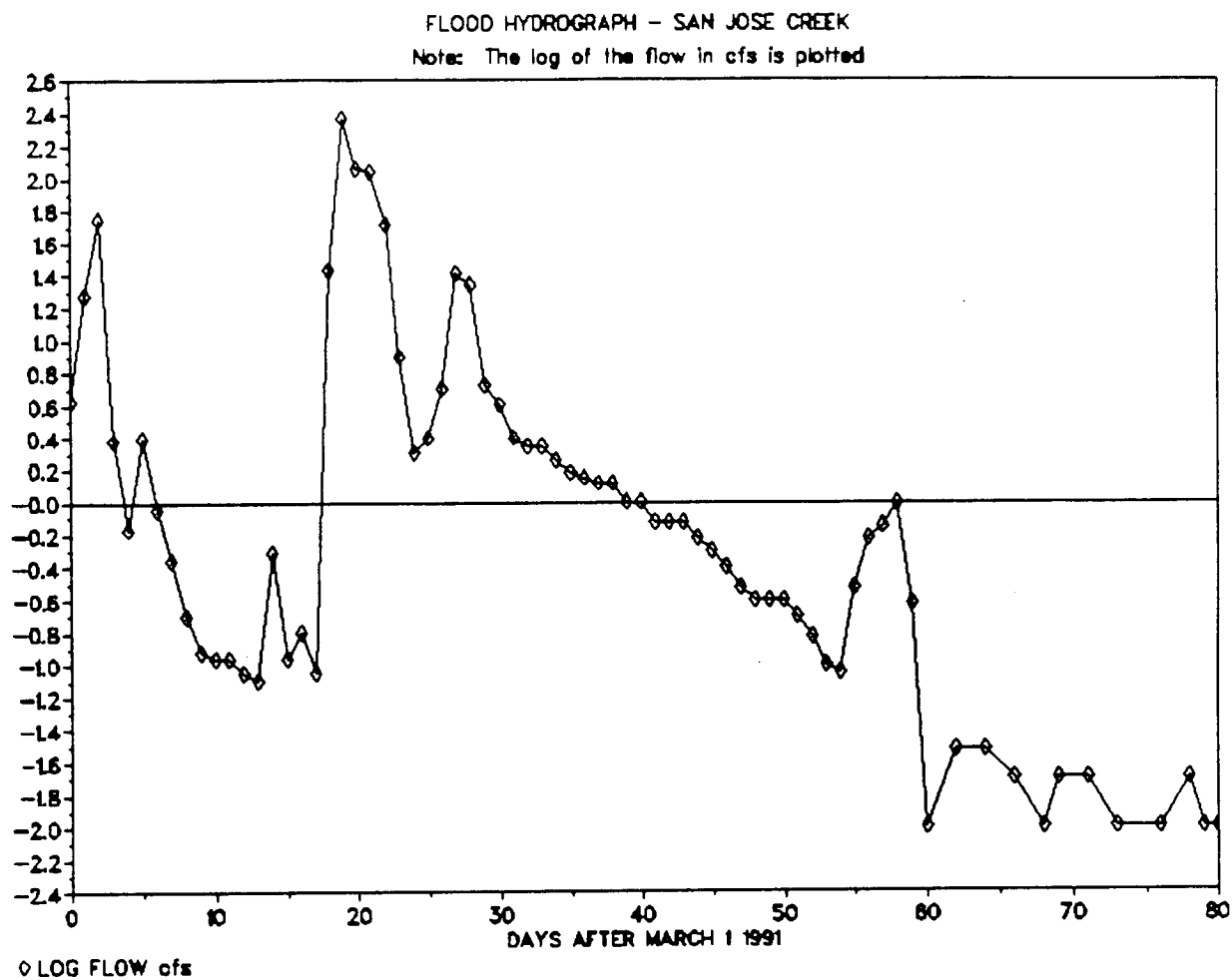
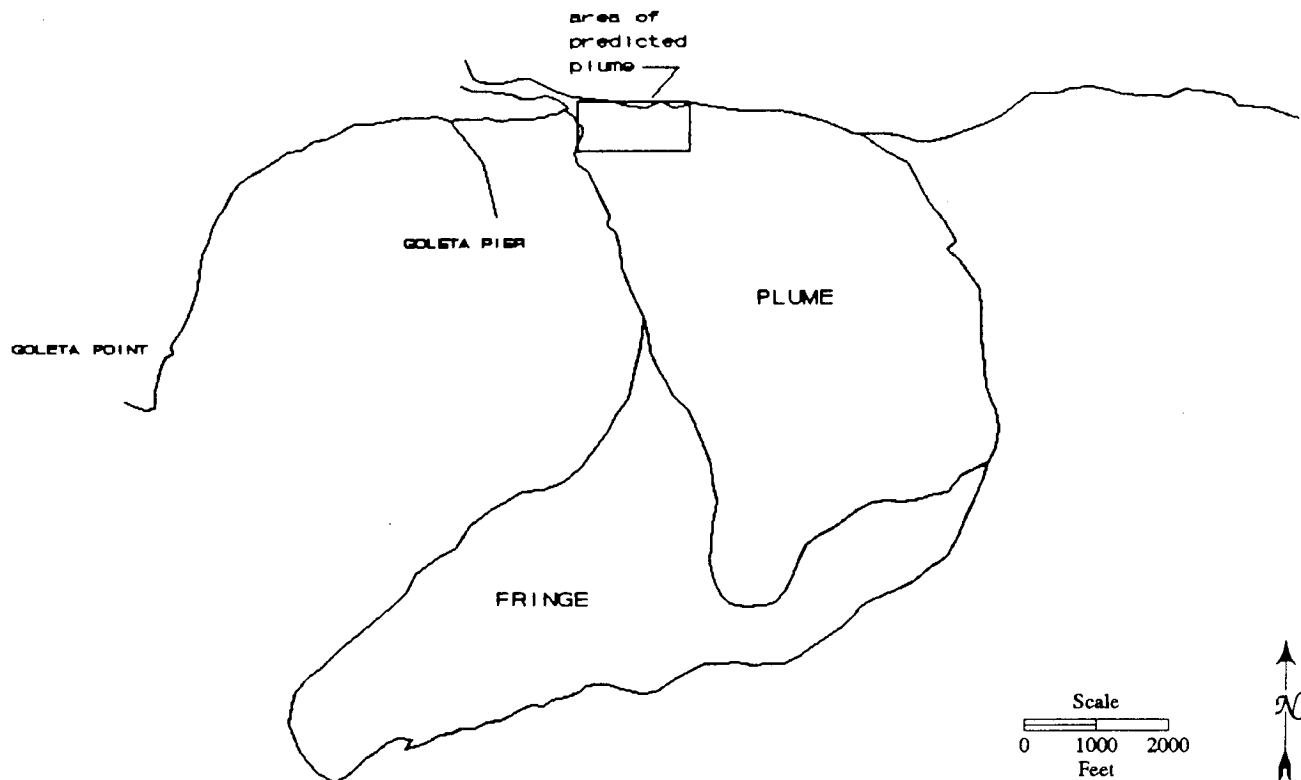


Figure 4.1-11

THE FLOOD HYDROGRAPH FOR SAN JOSE CREEK ON AND BEFORE MARCH 27, 1991

SUSPENDED SEDIMENT PLUME  
GOLETA SLOUGH  
MARCH 27 1991

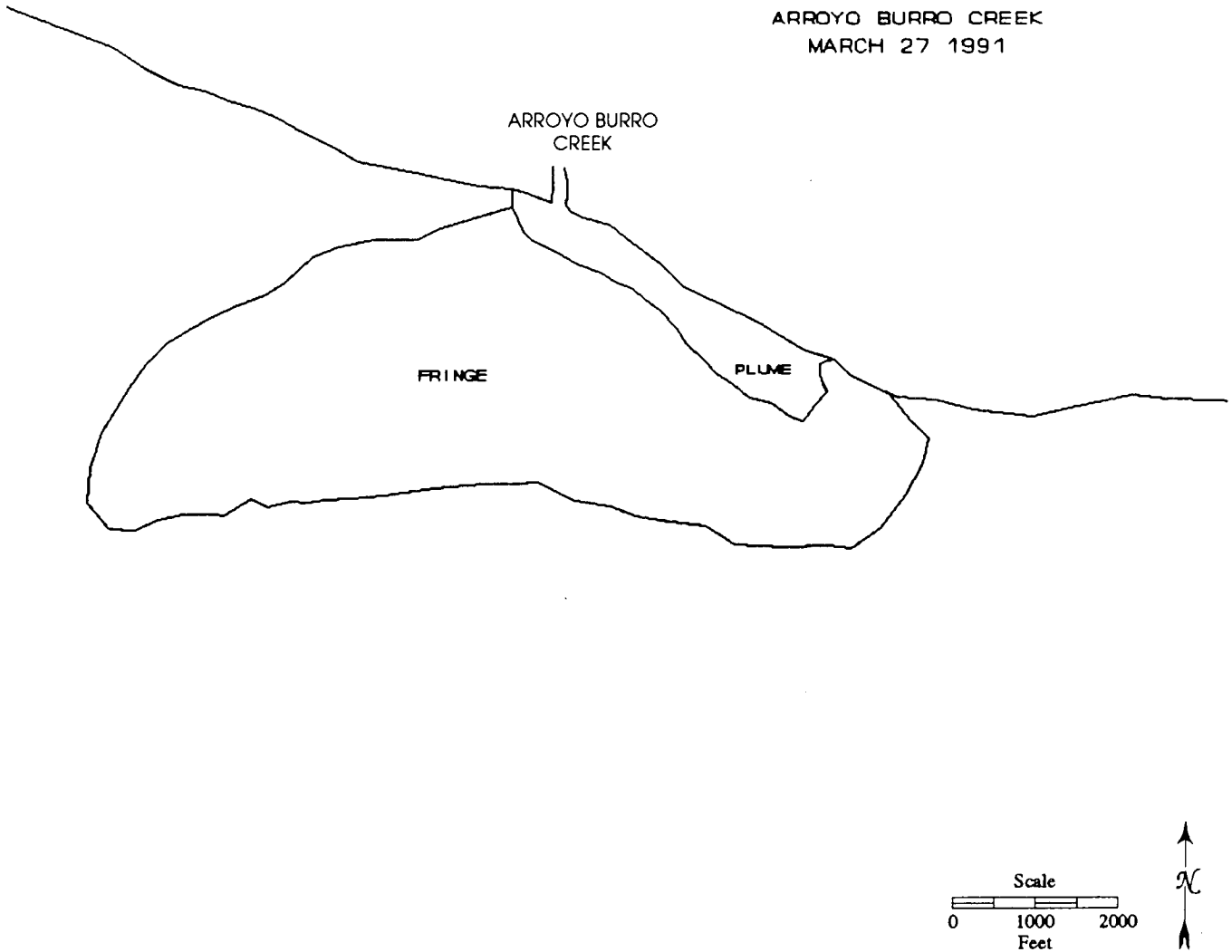


Note: The fringe was caused by tidal modification of the earlier flood discharge. The predicted area (but not the shape) of the plume from the proposed project is shown.

**Figure 4.1-12**

**SEDIMENT PLUMES OFF THE MOUTH OF GOLETA SLOUGH**

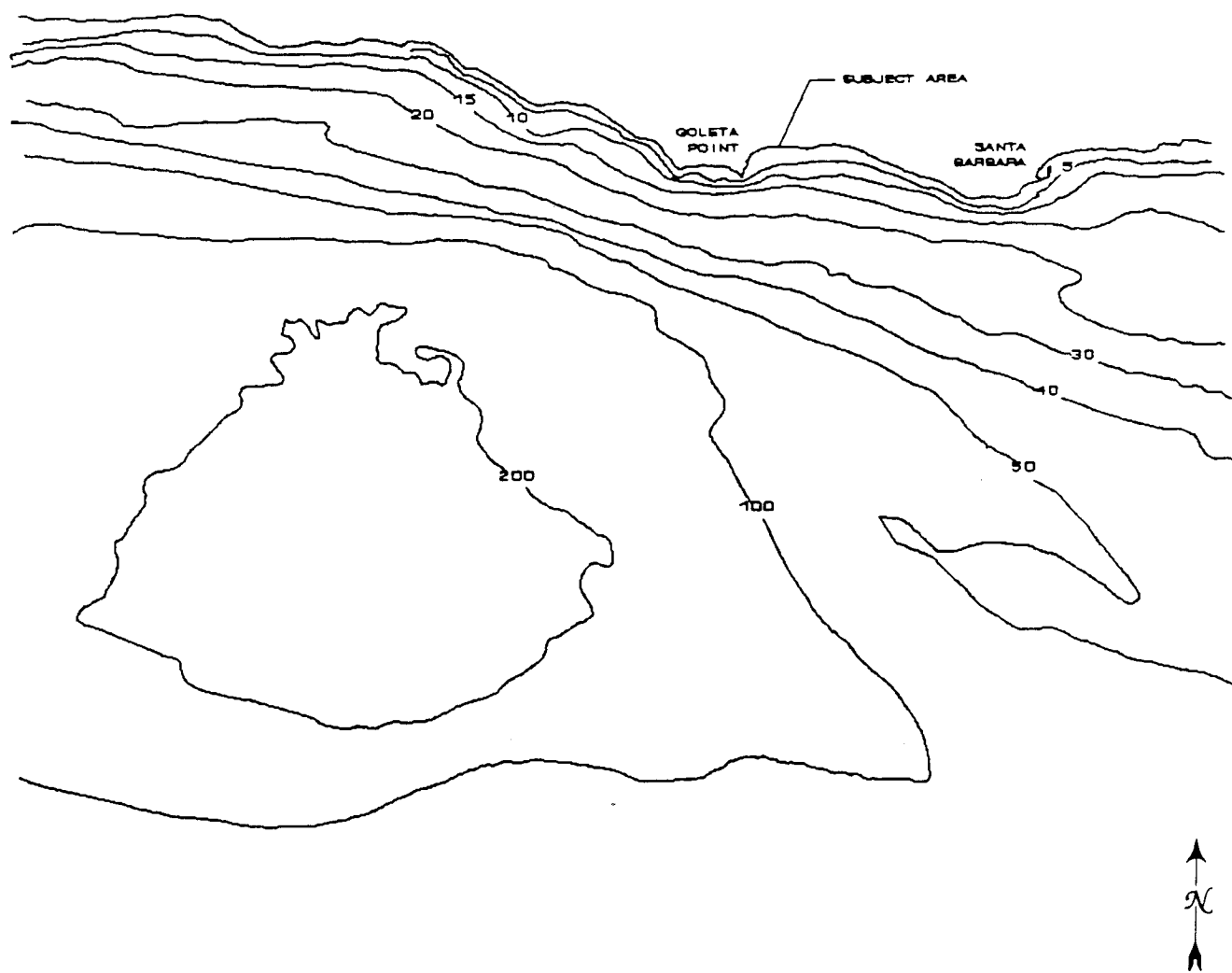
SUSPENDED SEDIMENT PLUME  
ARROYO BURRO CREEK  
MARCH 27 1991



Note: The fringe was caused by tidal modification of the earlier flood discharge.

Figure 4.1-13

OUTLINE OF THE SUSPENDED SEDIMENT PLUME OFF THE MOUTH OF ARROYO BURRO CREEK



Note: Bathymetry is in fathoms.

**Figure 4.1-14**  
**MAP OF THE SANTA BARBARA CHANNEL IN THE VICINITY OF GOLETA**



modeled as a point source on an inclined reflecting plane. Examination of the data suggests that the thickness of the unhindered plume would have been about twice that measured.

The length and width of the plumes and fringes were plotted versus stream flow to derive an empirical equation for predicting the extent of plumes from future flows. The equations are:

$$\text{Plume Length (feet)} = 1,362 \text{ Flow (cfs)}^{0.33}$$

and

$$\text{Plume Width (feet)} = 617 \text{ Flow (cfs)}^{0.30}$$

It is probably more than fortuitous that a nearly cube root relationship exists between the volume of peak discharge and linear measures of the extent of the plumes. Although only four plumes were used to derive the empirical predictor equations they are probably more reliable than the results of theoretical numerical models fitted to the region because of the simplifications necessarily inherent in representing the natural complexity of boundary geometry, current pattern, wave regime and thermal regime in the discharge site. The initial conditions for a numerical model of plume behavior would be difficult to stipulate as well. Finally, one would have to use the observed plumes to verify and calibrate the numerical model anyway, so errors contained in the empirical observational data would be added to errors that would be generated by the numerical model.

The suspended sediment plume anticipated during the proposed dredge discharges is calculated to be about 1560 feet long and about 696 feet wide after a more-or-less steady state balance is established between discharge and precipitation of flocculated silts and clays. The thickness of the plume should extend to the bottom because of the settling induced by mixing the discharge with sea water. The plume can be expected to be largely constrained to the surf zone and extending eastward under the influence of littoral drift caused by modal westerly waves. If southeasterly waves occur during discharge the plume can be expected to reverse direction and extend westward in the surf zone. The westward shearing of the plume by offshore currents evident in figures 4.1-12 and 4.1-13 should hardly affect the plume unless part of the suspended material reaches the point of land about 5500 feet east of the discharge site. If such material reaches the point of land, a westward transport of a dilute dispersion of fine sediments should occur.

The result of the dispersion of the plume of suspended silts and clays from the dredge spoil should be restricted to the nearshore littoral zone and should only affect the water within Goleta Bay. The lateral extent of the plume is estimated to cause an impact on the marine fauna and flora (both pelagic and benthic) in the discharge area that is not as severe as that occurring during modal winter rain runoff from Goleta Slough. The potential effects of smothering of benthic infauna and of the shading and smothering of the sporophytes of *Macrocystis* species appear to negligible. A Class III impact is chosen to represent the effects of suspended plume discharge.

**CHANGES IN LITTORAL FLOW.** The flow of sand as littoral drift and as beach drift is expected to be changed as a result of the discharge of the dredge sediment slurry in the littoral region off the mouth of Goleta Slough. The extent of the changes was assessed by modeling marine conditions characterizing Goleta Bay. The Corps model GENESIS was used for this purpose. This numerical model uses long-term wave records typifying the project site to predict the effects of the distribution and dispersion of the discrete large-particle part (granular phase) of the slurry discharge upon the beach profile and *planiform*.

Values of longshore drift vectors were determined by the model using hindcast wave data in the form of a 20-year, 3-hourly time series of the height, period and direction of sea and swell at a point just offshore of the study area in 82 meters depth. The results of the model (Figure 4.1-15) were used to estimate the changes to the beach caused by depositing dredge sediment in the littoral zone. The net changes are illustrated in Figure 4.1-16. It is evident that no significant permanent change except for accretion of sand westward to Goleta Point can be expected as a result of the proposed dredging activity. The impact of the discharge of the coarse fractions of the dredge spoil on the beach site are evaluated as Class IV in that beach nourishment of a popular county beach will result.

The discharge of dredge spoil on the beach or in the littoral zone will have Class III impacts caused by the induced turbidity and by the added mass of sediment placed in the zone of wave attack.

### *Phase II*

Phase II applies only to the following three creeks:

**SAN JOSE CREEK.** The existing channel and the Phase II dredged channel invert profiles and the predicted 100-year flood profiles for San Jose Creek are presented in Figure 4.1-3. Phase II dredging has no further effect in the flood stage at that reach. The flood stage in the basin and pilot channel reach will be reduced further by only a few inches after widening the pilot channel by Phase II dredging.

The Phase II dredging of San Jose Creek between the ocean and the sedimentation basins should not increase any change to the hydrologic system of the slough to a level of significance above Class III.

**SAN PEDRO CREEK.** The existing and Phase II dredged channel invert profiles and the predicted 100-year flood profiles for San Pedro Creek are presented in Figure 4.1-4. No further change in stage is predicted at the siltation basin after Phase II dredging. The flood stage in the basin and pilot channel reach will be reduced further by only a few inches after widening the pilot channel by Phase II dredging.

The Phase II dredging of San Pedro Creek between the ocean and the sedimentation basins should not increase any change to the hydrologic system of the slough to a level of significance above Class III.

**ATASCADERO CREEK.** The natural and Phase II dredged channel invert profiles and the predicted 100-year flood profiles for Atascadero Creek are presented in Figure 4.1-5. A 4 feet reduction is predicted to occur in the siltation basin and the pilot channel after Phase II dredging. The flood stage predicted upstream after Phase II dredging of the siltation basin appears to be the same as that for Phase I dredging.

The Phase II dredging of Atascadero Creek between the ocean and the sedimentation basins should not increase any change to the hydrologic system of the slough to a level of significance above Class III.

**ONGOING MAINTENANCE.** The need for routine, small-scale maintenance dredging of the subject streams can be foreseen because of the annual variation in precipitation, vegetative growth in channels and erosion. The usual magnitude of maintenance operations should be such that they produce only small impacts of low significance. Those impacts should not change the classification of the individual or cumulative impacts associated with the proposed project and its

- Notes: 1) Except for the net accretion westward to Goleta Point, the indicated difference between the original shoreline and calculated shoreline represents seasonal variation in the position of the shoreline.  
2) Note that the permanent sediment accretion is in the lee of Goleta Point.

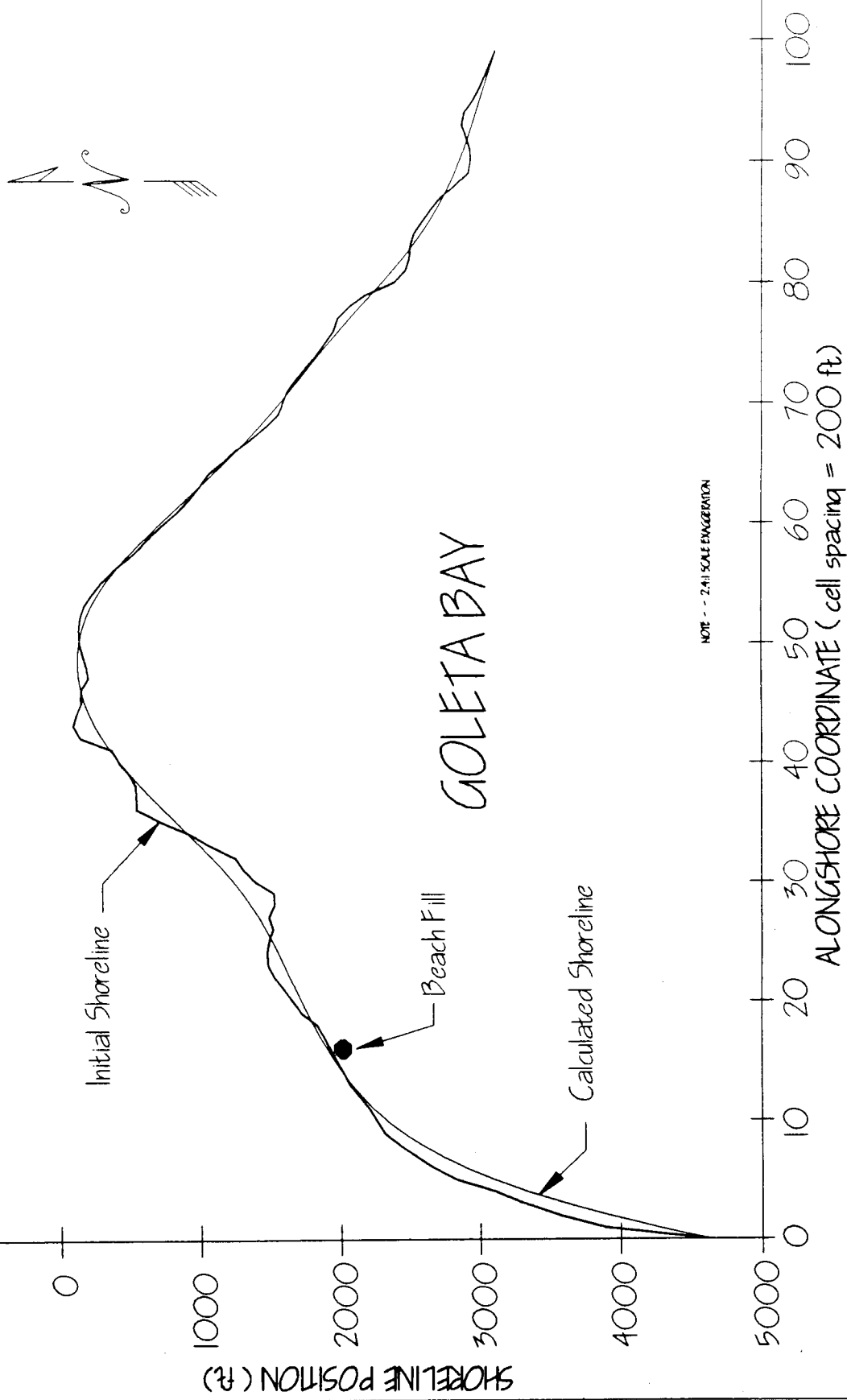


Figure 4.1-15

SHORELINE PLANIFORMS IN GOLETA BAY PREDICTED BY GENESIS MODEL

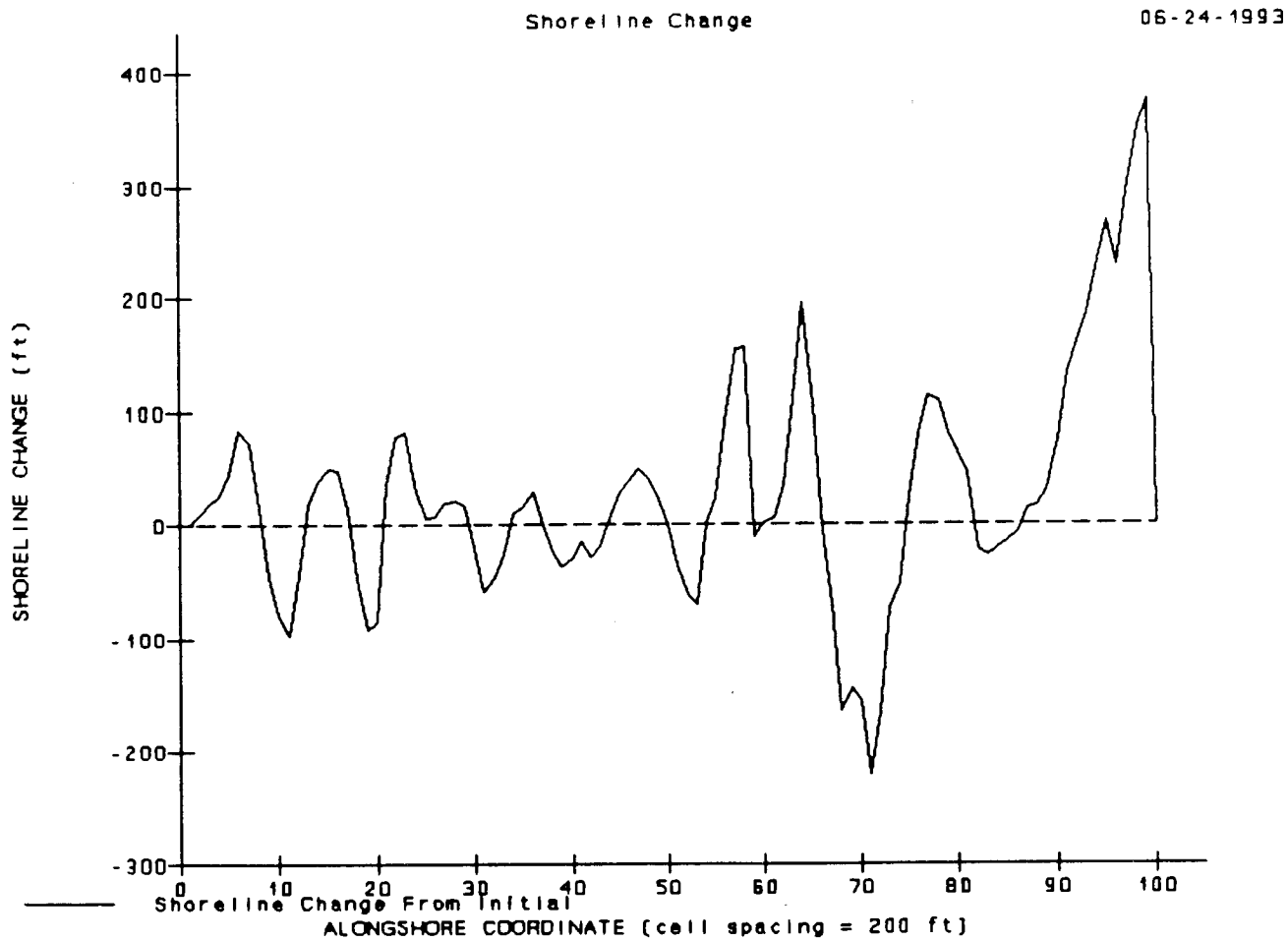


Figure 4.1-16

PROFILE OF NET CHANGE TO THE BEACH CAUSED BY DEPOSITING DREDGED SEDIMENTS  
AT COORDINATE 80

alternatives. The beneficial impacts would be the same as for both phases of the proposed project.

If a future extreme event causes siltation to the levels now existing, then the individual and cumulative impacts would be expected to be as described here for the proposed project. In all probability the most likely event will be an intermediate one. The impacts of such dredging after such events should not exceed Class III.

#### 4.1.2.2 Traditional Maintenance

##### *Phase I*

This alternative to the program of dredging proposed in the project would differ in the dredging method and method of spoils disposal. No impacts to the littoral zone would occur during traditional dredging because this alternative would not include beach or surf discharge. No beneficial impacts of beach sand nourishment would occur because no spoil would be placed on the beach or in the surf zone. Some of the fine sediment thrown into suspension by dragline activity might be moved to the mouth of the slough by tidal action and stream flow but any plume that would form should be negligible.

The effects of this dredging upon the hydrology of the dredging area would be similar to those of Phase I of the proposed project. The 100-year flood stage resulting from this dredging is illustrated by the profiles on figures 4.1-2, 4.1-3 and 4.1-4. The impacts of this alternative would be the same as for Phase I of the proposed project. It is anticipated that any impacts associated with encroachment in the floodway of Atascadero, San Jose, and San Pedro creeks due to the stockpiling of spoils would be small (Class III), particularly in relationship to the Goleta Slough as a whole. No beneficial impacts (Class IV) of beach nourishment would occur.

##### *Phase II*

The effects of this dredging would be comparable to Phase II of the proposed project, although if the dredge spoil from a previous dredging of Atascadero, San Jose, and San Pedro creeks. No impacts to the littoral zone would occur because dredged materials would be placed on the creek banks. No beneficial impacts of beach sand nourishment would occur. The tendency for the formation of a suspended sediment plume would be slight. The impacts of this alternative would be the same as for Phase II of the proposed project except for the lack of beneficial beach impacts and the potential for small, localized impacts associated with floodway encroachment.

**ONGOING MAINTENANCE.** The need for small-scale maintenance dredging of the subject streams can be foreseen because of the annual variation in precipitation, vegetative growth in channels, and erosion. Maintenance dredging in such cases should produce only small impacts of low significance.

If an extreme event causes siltation to the levels now existing, then the individual and cumulative impacts of the extra dredging would be expected to be of the same type and magnitude as for the proposed project. In all probability the most likely event will be an intermediate one. The impacts of such dredging after such events should not exceed Class III unless accumulated spoils encroachment is excessive.

#### 4.1.2.3 Beach Discharge

##### *Phase I*

Impacts to the marine environment associated with the discharge of dredge spoil on the intertidal part of the beach would not be substantially different from those caused by discharge of the spoil into the surf zone. No model study was performed for the case of direct deposition on the beach, but considerably more dilution could be expected because the energy of the waves attacking spoil on the beach is greater than that represented by the momentum of the slurry discharge. Waves will disperse the spoil every 6 hours for an average duration of almost 4 hours if the spoil is placed near mean sea level (MSL). Wave attack would last longer if the spoil is placed lower on the beach face.

The discharge area located east of the entrance to Goleta Slough reaches elevations of 10 feet MSL at the base of the cliff there. The beach is about 150 feet to 60 feet wide at mean tide stage. The discharge area slopes seaward 3 degrees to 9.5 degrees. The runup from waves typical of summer months will reach 5 feet MSL about 40 percent of the time. This means that the spoil placed on the beach as per this alternative will be attacked by waves at least 40 percent of the time during the summer months. The incidence of spring tides during the summer months will attack the spoil higher on the beach and increase the time that wave attack occurs.

The net effect of beach disposal would be to introduce spoil into the littoral zone in small amounts over an extended interval of time. The plume of suspended sediment produced by the wave dispersion would probably last longer than the plume caused by surf discharge, but the plume would be smaller in areal extent. Impacts to the hydrology of the dredge area would be the same as for Phase I of the proposed project. Impacts to the biota in the littoral and offshore zones might be greater than for the proposed project because of the extended length of time that elevated turbidity occurs.

The dredge spoil placed on the beach will receive bacterial disinfection by the ultra-violet flux in sunlight. The extent to which this effect reduces the bacteriological content of the spoil would depend upon the area of the spoil mass exposed to the sunlight and the duration of the exposure. The impact of this effect, if at all appreciable, would be Class IV.

##### *Phase II*

The impacts of this phase of the beach disposal alternative would be the same as those described above except that the impacts to the hydrology of the dredge area would be the same as for Phase II of the proposed project. The impacts of a smaller plume of longer duration would be about 45 percent larger than for Phase I. The impacts would be expected to be Class III.

**ONGOING MAINTENANCE.** The need for small-scale maintenance dredging of the subject streams can be foreseen because of the annual variation in precipitation, vegetative growth in channels, and erosion. The usual magnitude of ongoing maintenance operations should be such that they produce only small impacts of low significance.

The classification of the impacts associated with beach discharge of dredge spoil would not be different from the classification of the individual or cumulative impacts associated with the proposed project and its alternatives.

If an extreme event causes siltation similar to the levels now existing, then the individual and cumulative impacts would be expected to be as described here for the proposed project. In all probability the most likely event will be an intermediate one. The impacts of such dredging after such events should not exceed Class III.



#### 4.1.2.4 Reduced Basin Size

Reducing the length of the siltation basins in San Jose and San Pedro creeks should have no substantial effect upon the flood stage upstream of the siltation basins. Deepening the channels appears to reduce the flood stage much more than widening them. Changing the length of the siltation basins might have a small effect (less than a foot) upon the predicted flood stages within the dredged reaches. Changing the length of the siltation basin in Atascadero Creek is not expected to have any material effect upon the flood stage upstream.

The volume of each reduced-length dredge basin was designed to represent an average yearly siltation. The reduced basin size increases storage in the reaches studied on the order of 3 percent on Atascadero Creek and San Jose Creek and 4.5 percent on San Pedro Creek. The change in channel storage caused by the reduced basin size alternative will probably not be substantially different from that of the proposed project. Any impact to the environment arising from increased channel storage would be Class IV because of the reduced flood hazard.

Other impacts associated with infiltration of precipitation, overland flow, throughflow, and groundwater recharge are not expected to be substantially different from those of the proposed project.

##### *Phase I*

The increase in the tidal prism is 12.5 percent for the reduced-basin alternative. This change does not appear to be enough to cause major impacts to the environment. This alternative will have the same kinds of impacts as the proposed projects but to a lesser extent. No significant differences in Phase I or Phase II are anticipated.

##### *Phase II*

Widening the long pilot channel in Atascadero Creek is predicted to reduce the flood stage in the dredged reach as much as Phase I dredging would. It appears that changing the length of the siltation basin in Atascadero Creek might change the flood stage in the siltation basin area 1 to 2 feet. The increase in volume of the tidal prism of Atascadero Creek after Phase II dredging is expected to be essentially the same as after Phase I dredging because most of the dredging will occur below the intertidal zone. Phase II dredging of San Jose and San Pedro Creeks should not cause substantial changes in the tidal prism. The impact of this effect is Class IV. Dredge basins for this alternative were designed to refill about half as soon as the proposed basins. The additional material dredged and deposited in the littoral zone during this phase should not increase the levels of impact beyond those of Phase I.

**ONGOING MAINTENANCE.** The need for routine, small-scale maintenance dredging of the subject streams can be foreseen because of the annual variation in precipitation, vegetative growth in channels and erosion. The magnitude of maintenance operations with decreased basin volumes should not be materially different from those of the proposed project, i.e., only small impacts of low significance. The classification of the individual or the cumulative impacts associated with the maintenance dredging should be the same as for proposed project.

If an extreme event causes siltation similar to that now existing, then the individual and cumulative impacts would be expected to be as described here for the proposed project. In all probability the most likely event will be an intermediate one. The impacts of such dredging after such events should not exceed Class III.

#### 4.1.2.5 Increased Basin Size

The magnitude of the increases proposed in this alternative are not large enough to change the nature of the impacts of either Phase I or Phase II. Increasing the length of the siltation basins in San Jose and San Pedro creeks should have no substantial effect upon the flood stage upstream of the siltation basins. Deepening the channels appears to reduce the flood stage much more than widening them. Changing the length of the siltation basins might have a small effect (less than a foot) upon the predicted flood stages within the dredged reaches.

Increased-length dredge basins were designed to refill about half as soon as the proposed basins. The increased basin size increases the storage on the order of 10 percent in the reach of Atascadero Creek and San Jose Creek and about 17 percent on San Pedro Creek. These increases in stream channel storage from the proposed dredging and the increased basin size alternative will allow greater conveyance and reduce the hazard of flooding, but probably not substantially. The impact would be Class IV.

Other impacts associated with infiltration of precipitation, overland flow, throughflow and groundwater recharge are not expected to be substantially different from those of the proposed project.

##### *Phase I*

It appears that changing the length of the siltation basin in Atascadero Creek might change the flood stage in the siltation basin area 1 to 2 feet. Changing the length of the siltation basin in Atascadero Creek is not expected to have any material effect upon the flood stage upstream.

The increase in the tidal prism is 29.2 percent for the Increased Basin alternative. This change does not appear to be enough to cause impacts to the environment that are different from those of the proposed project.

##### *Phase II*

Widening the long pilot channel in Atascadero Creek is predicted to reduce the flood stage in the dredged reach three to four feet below the Phase I levels during 3-year and 5-year floods (see figures 4.1-6 to 4.1-8). The increase in volume of the tidal prism of Atascadero Creek after Phase II dredging is expected to be essentially the same as after Phase I dredging because most of the dredging will occur below the intertidal zone. The additional material dredged and deposited in the littoral zone during this phase should not increase the levels of impact beyond those of Phase I.

**ONGOING MAINTENANCE.** The need for routine, small-scale maintenance dredging of the subject streams can be foreseen because of the annual variation in precipitation, vegetative growth in channels and erosion. The magnitude of maintenance operations with increased basin volumes should not be materially different from those of the proposed project, i.e., only small impacts of low significance. The classification of the individual or the cumulative impacts associated with the maintenance dredging should be the same as for proposed project and its alternatives.

If an extreme event causes siltation similar to the levels now existing, then the individual and cumulative impacts would be expected to be as described here for the proposed project. In all probability the most likely event will be an intermediate one. The impacts of such dredging after such events should not exceed Class III.

#### 4.1.2.6 Discharge Pipelines on the Ground

##### *Phase I*

The impacts associated with this alternative would be the same as for Phase I of the proposed project.

##### *Phase II*

The impacts associated with this alternative would be the same as for Phase II of the proposed project.

ONGOING MAINTENANCE. Impacts would be comparable to the proposed project.

#### 4.1.2.7 No Project

This would result in flooding of the lower part of Goleta Valley. Flooding would introduce suspended sediment eroded from the Santa Ynez Mountains. The sediments would deposit in the channels and flood plains of the streams traversing the Goleta Slough resulting in a continued siltation of the slough; the ephemeral wetland of the slough would be converted to dry coastal borderland.

Significant flood damage to residential, agricultural, industrial, and commercial property would be an expected result if the no project alternative is elected (Class I). The disruption of road and air traffic and the interruption of operations at the Goleta Sanitary District facility would also probably occur. Access to the area for emergency purposes as well as for recreational use of the Goleta County Beach Park would be restricted if flooding were to occur.

#### 4.1.3 Cumulative Impacts

The BEACON Beach Nourishment Demonstration Project includes the nourishment of Goleta beach by sediments dredged or pumped from a borrow site offshore in Goleta Bay. The impacts generated by the project alternatives would be cumulative with those of the proposed project only if the seasonal dredging occurred coincidentally with the BEACON activities offshore. This is unlikely because the quality of the BEACON experiment would suffer if other manipulation of littoral sediments were to occur in the demonstration area. Further, BEACON dredging would best be performed during the summer rather than during the winter when the proposed dredging probably would be performed. Such a cumulative impact would last only as long as sand from either project remained in the littoral zone of Goleta Bay.

If the Corps project for Carneros Creek is approved, it will decrease the amount of sediment that reaches the slough. Until that time, the Carneros Basin should be maintained as proposed.

If the District project for Atascadero Creek is approved, it will increase the ability of the freshwater portion of the creek to convey flood flows and will increase the potential for downstream siltation; it will be particularly important that the Atascadero Creek basins be sufficiently excavated to receive sediment from the freshwater section to prevent further infilling of the slough. Cumulative impacts of the Atascadero Creek and Goleta Slough projects would be beneficial (Class IV) with regard to flooding.

The proposed extension of the airport runways would have a negligible impact upon the infiltration of precipitation in the slough area because the amount of the extension is a small percentage of the existing runway surface. Intercepted precipitation would drain to other parts of the slough area where infiltration would occur.

The creation of impervious surfaces by future development at the airport, the Goleta Sanitary District and elsewhere in the Goleta Valley would be a cumulative impact in that drainage from such surfaces would carry bacterial and chemical contaminants into the streams of the slough area as well as increasing the likelihood of flooding. Developments on former agricultural land would have the offsetting impact of reducing the amounts of fertilizers and pesticides carried into the slough area by runoff.

The build-out specified in the Goleta Community Plan is on the order of 3 million square feet (69 acres). This is 1.7 percent of the total developed area (4016 acres in 1961) of Goleta. The existing degree of development in the Goleta Valley is larger than in 1961. This suggests that the effects of future development should be minor.

The reduced infiltration of precipitation in paved areas in the subject area would not be a significant impact in that the lowered water table would increase the total volume for storage of groundwater. The intercepted precipitation would be conducted to drainage channels in a controlled manner rather than infiltrating, saturating the soil and initiating flooding.

#### **4.1.4 Mitigation Measures**

The only recognizable impact requiring mitigation is that of potentially high bacterial levels in the dredge spoil. All phases and alternatives of the proposed project involving ocean disposal would be subject to the same kind of mitigation. Ocean discharge would be subject to the permits described in section 3.3 of this EIR/EA; however, standards for the allowable levels of fecal coliforms in dredge spoil have not been established at present.

The following mitigation measure would reduce water quality impacts to insignificance:

1. The sediments at the dredge sites shall be tested for fecal coliform bacteria before and during project implementation to assess adherence to the established standards for water used for water-contact recreation and shellfish harvesting.

**Timing:** Prior to and during dredging activities.

**Monitoring:** The District biologist shall coordinate all testing of sediments with the appropriate agencies.

## 4.2 AIR QUALITY

Air quality in a given location is described by the concentrations of various pollutants in the atmosphere, which are generally expressed in units of parts per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The significance of a pollutant concentration is determined by comparing it to state and/or federal ambient air quality standards. These standards represent the maximum allowable atmospheric concentrations of various pollutants that may occur and still protect public health and welfare, with a reasonable margin of safety. The state standards are established by the California Air Resources Board (ARB) and termed the California Ambient Air Quality Standards (CAAQS). Depending on the pollutant type, the CAAQS are never to be equaled or exceeded. The federal standards are established by the U.S. Environmental Protection Agency (EPA) and termed the National Ambient Air Quality Standards (NAAQS). The NAAQS may not be exceeded more than once a year, except annual standards, which may never be exceeded. A list of the NAAQS and CAAQS are presented in Table 4.2-1. The main pollutants considered in this environmental impact report are ozone ( $\text{O}_3$ ), carbon monoxide ( $\text{CO}$ ), nitrogen dioxide ( $\text{NO}_2$ ), reactive organic compounds (ROC), and particulate matter less than 10 microns in diameter ( $\text{PM}_{10}$ ).

### 4.2.1 Affected Environment

#### 4.2.1.1 Region of Influence

The area affected by project emission sources would generally include the southwest portion of the Goleta Valley, between Goleta Beach and the foothills of the Santa Ynez Mountains. Specifically identifying the region of influence (ROI) for air quality requires knowledge of the pollutant type, source emission rates and release parameters (e.g., stack height), the proximity of project emission sources to other emission sources, and local and regional meteorology. For inert pollutants (other than  $\text{O}_3$  and sulfates [ $\text{SO}_4$ ]), the ROI is generally limited to a few miles downwind from a source.

Ozone is a secondary pollutant formed in the atmosphere by photochemical reactions of previously emitted pollutants called precursors. Ozone precursors are mainly reactive organic compounds (ROC) in the form of hydrocarbons, and nitrogen oxides ( $\text{NO}_x$ ). ROCs are a subset of the group of volatile organic compounds (VOC) that contain carbon (excluding  $\text{CO}$ ), carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate. ROCs are gaseous forms of VOCs and do not include methane or other nonreactive methane and ethane derivatives.  $\text{NO}_x$  is the designation given to the group of oxygenated nitrogen species, with nitric oxide ( $\text{NO}$ ), nitrogen dioxide ( $\text{NO}_2$ ), and nitrous oxide ( $\text{N}_2\text{O}$ ) being the most commonly occurring compounds in the atmosphere.

The ROI for ozone may extend much farther downwind than for inert pollutants. In the presence of solar radiation, the maximum effect of precursor emissions on ozone levels usually occurs several hours after they are emitted and therefore many miles from the source. Ozone and its precursors transported from other regions can also combine with local emissions to produce high local ozone concentrations. Therefore, depending on the wind conditions, the ROI for  $\text{O}_3$  could include much of Santa Barbara County.

#### 4.2.1.2 Regional Climate and Weather

The climate of the project area is Mediterranean, characterized by cool, dry summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High, a strong

Table 4.2-1

## NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

(page 1 of 2)

<i>Pollutant</i>	<i>Averaging Time</i>	<i>California Standards<sup>a,c</sup></i>	<i>-----National Standards<sup>b</sup>-----</i>	
			<i>Primary<sup>c,d</sup></i>	<i>Secondary<sup>c,e</sup></i>
Oxidant (ozone)	1-hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$ )	0.12 ppm (235 $\mu\text{g}/\text{m}^3$ )	Same as primary
Carbon monoxide	8-hour	9 ppm (10 $\text{mg}/\text{m}^3$ )	9 ppm (10 $\text{mg}/\text{m}^3$ )	Same
	1-hour	20 ppm (23 $\text{mg}/\text{m}^3$ )	35 ppm (40 $\text{mg}/\text{m}^3$ )	Same
Nitrogen dioxide	Annual	---	0.053 ppm (100 $\mu\text{g}/\text{m}^3$ )	Same as primary
	1-hour	0.25 ppm (470 $\mu\text{g}/\text{m}^3$ )	---	---
Sulfur dioxide	Annual	---	80 $\mu\text{g}/\text{m}^3$ (0.03 ppm)	1,300 $\mu\text{g}/\text{m}^3$ (0.5 ppm)
	24-hour	0.04 ppm <sup>f</sup> (105 $\mu\text{g}/\text{m}^3$ )	365 $\mu\text{g}/\text{m}^3$ (0.14 ppm)	
	3-hour	---	---	
	1-hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$ )	---	
PM <sub>10</sub>	Annual	30 $\mu\text{g}/\text{m}^3$ <sup>g</sup>	50 $\mu\text{g}/\text{m}^3$ <sup>h</sup>	Same as primary
	24-hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	Same as primary
Sulfates	24-hour	25 $\mu\text{g}/\text{m}^3$	---	---
Lead	30-day	1.5 $\mu\text{g}/\text{m}^3$	---	---
	Quarterly	---	1.5 $\mu\text{g}/\text{m}^3$	Same as primary
Hydrogen sulfide	1-hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$ )	---	---
Vinyl chloride	24-hour	0.010 ppm (26 $\mu\text{g}/\text{m}^3$ )	---	---
Visibility reducing particles <sup>i</sup>	8-hour (10 A.M. to 6 P.M. PST)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70%.		



Table 4.2-1

NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

(page 2 of 2)

Notes:

- a. California standards for ozone, carbon monoxide, sulfur dioxide (1 hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM<sub>10</sub>, and visibility reducing particles, are values that are not to be exceeded. The sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.
- b. National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
- c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- d. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the Environmental Protection Agency.
- e. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.
- f. At locations where the state standards for ozone and/or suspended particulate matter are violated. National standards apply elsewhere.
- g. Measured as a geometric mean.
- h. Measured as an arithmetic mean.
- i. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range when relative humidity is less than 70 percent.

persistent anticyclone. Seasonal variations in the position and strength of this system are a key factor in producing weather changes in the area.

The Eastern Pacific High attains its greatest strength and intensity during the summer, when it is centered west of northern California. As winter approaches, this system usually weakens and shifts to the south, allowing polar storms to pass through the area. These storms produce periods of cloudiness, strong shifting winds, and precipitation. The number of days with precipitation can vary greatly from year to year, resulting in a wide range of annual precipitation totals. Storm conditions are usually followed by periods of clear skies, cool temperatures, and gusty northwest winds as the storm systems move eastward. Precipitation is generally lowest along the coastline and increases inland toward higher, mountainous terrain.

Due to the large-scale subsidence associated with the Eastern Pacific High, an elevated temperature inversion often occurs along the West Coast. The base of this inversion is usually located from 500 to 2,000 feet above mean sea level, depending on the intensity of subsidence and the prevailing weather condition. The effect of this elevated inversion is to create a lid on the vertical dispersion of pollutants in the lower atmosphere. Localized surface-based inversions also can occur during the early morning hours and colder months of the year and inhibit pollutant dispersion.

Fog and stratus clouds often form in the cool marine air below the base of the elevated inversion. Conditions favorable for their formation usually occur during the months of May through October, when the subsidence inversion is most common. Typically, the stratus forms offshore and moves into coastal areas during the evening hours. As the land heats up the following morning, the clouds will burn off to the immediate coastline, then move back onshore the following evening.

#### *Temperature*

Due to the moderating effect of the Pacific Ocean and lower elevation, temperatures are less extreme along the coastal sections of the project area compared to more inland locations. Maximum temperatures during the summer months average in the 70s (degrees Fahrenheit) along the coast to the high 80s in the interior valleys. Minimum summer temperatures average in the 50s to low 60s over most of the project area. Maximum temperatures during the winter months average in the 60s. Minimum winter temperatures are usually in the 30s and 40s over most of the project area. Temperatures slightly below freezing are not uncommon during the coldest mornings of the winter at the project site.

#### *Wind Speed and Direction*

The proximity of the Eastern Pacific High combined with a thermal low pressure system in the southwest interior desert region results in a prevailing northwest wind flow along the coast of central California and into the Santa Ynez River valley. However, due to the blocking effect of the Santa Ynez Mountains and deflection of these winds around Point Conception, daytime sea breezes are usually from the south to southwest along the southern Santa Barbara County coast. Light northeasterly land breezes usually occur at night at the project site. These land breezes may extend many miles offshore during the colder months of the year until daytime heating reverses the flow back onshore. High pollutant impacts can occur during these conditions, when nighttime land breezes transport pollutants from the onshore area over the ocean, and return them the following morning with the onset of the sea breeze. These pollutants can combine with local emissions onshore and result in high pollutant impacts.

Another situation that can lead to high pollutant concentrations in the project area results from the buildup of high pressure in the Great Basin and is known as a "Santa Ana" condition. This

condition can produce strong northeast winds in southern California, but generally light east to southeast winds occur in the project area. Santa Ana conditions often result in the transport of pollutant-laden air from the Los Angeles urban area to Santa Barbara County. Since stagnant atmospheric conditions often occur in Santa Barbara County during a Santa Ana, local emissions combined with pollutants transported from Los Angeles can lead to significant O<sub>3</sub> impacts in the project area.

#### *Precipitation*

Precipitation within most of the project area occurs as rainfall. However, snowfalls do occur in the higher elevations of the Santa Ynez Mountains. Over 90 percent of the total annual precipitation in the project area occurs from November through April. Annual precipitation is approximately 18 inches at the project site, increasing to 30+ inches in the Santa Ynez Mountains.

Although the overwhelming majority of precipitation in the project area is produced by winter storm systems from the north Pacific, summer tropical moisture can also produce clouds and rainfall. This moisture is transported into the project area from northwest Mexico or from tropical storms off the west coast of Mexico that move northward and dissipate into southern California. However, precipitation from tropical air masses is rare and usually occurs only from July through September.

#### 4.2.1.3 Baseline Air Quality

The EPA has designated all areas of the United States as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. The criteria for nonattainment designation varies by pollutant: (1) an area is in nonattainment for O<sub>3</sub> if its NAAQS has been exceeded more than three discontinuous times in three years, and (2) an area is in nonattainment for any other pollutant if its NAAQS has been exceeded more than once per year. Presently, Santa Barbara County is in attainment for CO, SO<sub>2</sub>, NO<sub>2</sub>, and PM<sub>10</sub> and in nonattainment for O<sub>3</sub> (Santa Barbara County Air Pollution Control District [APCD] 1992). The county is also considered a moderate ozone nonattainment area by the EPA.

The ARB has designated areas of the state that are in attainment or nonattainment of the CAAQS. An area is in nonattainment for a pollutant if its CAAQS has been exceeded more than once in three years. Presently, Santa Barbara County is in nonattainment for O<sub>3</sub> and PM<sub>10</sub>, and in attainment for NO<sub>2</sub>, SO<sub>2</sub>, CO, SO<sub>4</sub>, and lead (ARB 1991). The county is considered a moderate ozone nonattainment area by the ARB. The designation "moderate" is given to an area if its design day value concentration falls in the range between 0.09 to 0.12 ppm. The design day value is defined as the fourth highest pollutant concentration recorded in a 3-year period. The county is in attainment for hydrogen sulfide, except for portions of the Santa Maria Valley and Battles Betteravia station, which reported violations in 1989. Santa Barbara County is currently unclassified for visibility. Pollutants in an area are often designated as unclassified when there is insufficient data for the ARB to form a basis for attainment status.

Ozone concentrations are generally the highest during the summer months and coincide with the period of maximum insolation. Maximum O<sub>3</sub> concentrations tend to be regionally distributed, since precursor emissions become homogeneously dispersed in the atmosphere. In 1992, the O<sub>3</sub> NAAQS in Santa Barbara County was exceeded on five days at monitoring stations within the county. However, the more stringent CAAQS for O<sub>3</sub> was exceeded on 25 days at various locations within the county.

Inert pollutant concentrations tend to be the greatest during the winter and are a product of light wind conditions and surface-based inversions. Maximum inert pollutant concentrations are

usually found near an emission source. For example, the main sources of CO are motor vehicles and the highest ambient CO concentrations are found near congested transportation arteries and intersections.

#### 4.2.1.4 Regulatory Setting

Air quality regulations were first promulgated with the passage of the *Clean Air Act (CAA)* of 1969. This act established the NAAQS and delegated the regulation of air pollution control to the states. In California, the ARB has been designated as the responsible agency for all air quality regulations. The ARB has in turn delegated this responsibility to the local and regional air quality management districts. The following is a summary of the federal, state, and local air quality rules and regulations that apply to the project.

#### *Federal Statutes and Regulations*

*Clean Air Act*, Title 40 Code of Federal Regulations (CFR) Part 50 states that all applicable state and national ambient air quality standards must be maintained during the operation of any emission source. The NAAQS include both primary and secondary standards for various pollutants. Primary standards are mandated by the CAA to protect public health, while secondary standards are intended to protect the public welfare from adverse impacts of pollution, such as materials soiling, vegetation damage, and visibility impairment. The NAAQS are presented in Table 4.2-1.

The *CAA Amendments of 1990 (CAAA)* established new federal nonattainment classifications, new emission control requirements, and new compliance dates for areas in nonattainment. The nonattainment classifications are based on a design day value. The design day value is the fourth highest pollutant concentration recorded in a 3-year period. The requirements and compliance dates are based on the nonattainment classification. The classifications and compliance dates are shown in Table 4.2-2.

**Table 4.2-2  
Federal Nonattainment Classifications**

<u>Pollutant</u>	<u>Classification</u>	<u>Design Day Value Concentration<sup>1</sup></u>	<u>Compliance Date</u>
Ozone	Marginal	0.121-0.138	November 15, 1993
	Moderate	0.138-0.160	November 15, 1996
	Serious	0.160-0.180	November 15, 1999
	Severe	0.180-0.190	November 15, 2005
	Severe	0.190-0.280	November 15, 2007
	Extreme	>0.280	November 15, 2010
Carbon monoxide	Moderate	9.1-16.4	December 31, 1995
	Serious	>16.4	December 31, 2000
PM <sub>10</sub>	Moderate	--	December 31, 1994
	Serious	--	December 31, 2001

Note: 1. The design day value is the fourth highest pollutant concentration recorded in a 3-year period.

Source: Clean Air Act Amendments, November 1990.

The CAAA generally requires ozone nonattainment areas to demonstrate a reduction in VOC emissions by 15 percent for the first 6 years (by November 15, 1996), and 3 percent annually thereafter, until attainment is reached. This plan to reach attainment is included in a State Implementation Plan (SIP) and shows current emission inventories and control measures that will lead to a reduction in future emissions.

#### *State Regulations*

The CAA also delegates to each state the authority to establish air quality rules and regulations. The adopted rules and regulations must be at least as restrictive as the federal requirements. The ARB has established the CAAQS, which are more restrictive than the NAAQS and include pollutants for which there are no federal standards. The CAAQS, found in Table 4.2-1, are intended to protect public health and welfare.

*California Clean Air Act of 1992 (CCAA)* develops and implements a program to attain the CAAQS for O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, lead, sulfates, hydrogen sulfide, and visibility reducing particulates. Similar to the federal nonattainment rating system, the state ozone nonattainment rating system, shown in Table 4.2-3, is based on the design day concentration. Attainment is reached when the design day concentration falls below 0.09 ppm.

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**Table 4.2-3  
State Ozone Nonattainment Classifications**

<u>Classification</u>	<u>Design Day Concentration</u> <sup>1</sup>
<u>Ozone</u>	
Moderate	0.09-0.12 ppm, inclusive
Serious	0.13-0.15 ppm, inclusive
Severe	0.16-0.20 ppm, inclusive
Extreme	Greater than 0.20 ppm
<u>Carbon Monoxide</u>	
Moderate	0.09-0.12 ppm, inclusive
Serious	0.13-0.15 ppm, inclusive

Source: California Health and Safety Code Sec. 40918-40920

Note: 1. O<sub>3</sub> data based on 1989-1991 calendar years, without regard to transport contributions. CO data based on 1989-1990 and 1990-1991 winter seasons.

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Moderate nonattainment areas, such as Santa Barbara County, are required to implement new emission control measures. These control measures include an indirect and area source control program, application of Reasonably Available Control Technology (RACT) to existing stationary sources, a modification to the permitting program to achieve no net increase of emissions from new or modified stationary sources that have the potential to emit 25 or more tons per year of nonattainment pollutants or their precursors, and consideration of implementing transportation control measures.

## *Santa Barbara County Regulations*

*Clean Air Act, Title 40 CFR part 51*, gives state and local agencies the authority to establish air quality rules and regulations. Rules adopted by the local air pollution control districts and accepted by the ARB are included in the SIP. When approved by the EPA, these rules become federally enforceable. The APCD, having received the necessary approvals, regulates stationary sources of air pollution in the county.

*Santa Barbara County 1991 Air Quality Attainment Plan (AQAP)*, is a comprehensive strategy that will bring the County into compliance with the state O<sub>3</sub> standard. The AQAP outlines a number of ROC and NO<sub>x</sub> emission control measures that will be implemented to bring the County into attainment with this standard. To be consistent with the AQAP, a project must implement all applicable AQAP emission control measures. Implementation of mitigation measure AQ1 would ensure project consistency with the AQAP (see section 4.2.4).

*Santa Barbara County Resource Management Department (RMD)* is responsible for regulating land use and resource planning issues within the county. The following RMD air quality significance thresholds are used to determine the significance of proposed emissions: (1) 2.5 tons of ROC, NO<sub>x</sub>, or PM<sub>10</sub> during a construction period of up to three months, (2) potential for construction emissions to exceed the 1-hour CAAQS for NO<sub>2</sub>, and (3) 2.5 pounds per hour of ROC or NO<sub>x</sub> during an operational peak transportation hour (Santa Barbara County 1990). The APCD presently is revising the RMD air quality significance thresholds and recommends that threshold (2) above no longer be used to determine the significance of proposed emissions. Since the proposed action is a maintenance or construction activity, only threshold (1) above has been used to determine the significance of project emissions.

### **4.2.2 Environmental Consequences**

Criteria for determining the significance of air quality impacts are based on federal, state, and local air pollution standards and regulations. Impacts would be significant if project emissions (1) increase ambient pollutant levels from below to above the NAAQS or CAAQS, (2) contribute measurably to an existing or projected ambient air quality standard violation, (3) are inconsistent with growth factors contained in the AQAP, or (4) exceed the RMD 3-month construction period significance threshold criteria. All other impacts would be considered insignificant.

Dredging activities would occur in two phases. The largest air quality impacts would occur during hydraulic dredging. Smaller impacts due to lower equipment usage would occur from dragline dredging. Routine maintenance would occur about every 3 years, once both phases of dredging have been completed. Emission inventories were calculated by phase for each project alternative and were based on reasonable worst-case assumptions. Construction scheduling and equipment specifics were provided by Santa Barbara County (personal communication, K. Treiberg 1993). Maintenance of an open slough mouth was assumed to occur three times annually for each alternative. Emission factors used to calculate heavy equipment emissions were obtained from *Compilation of Air Pollution Emission Factors, AP-42, Vol. II* (EPA 1985) and EMFAC7PC (Randall and Ng 1989). Construction equipment operational parameters used to calculate emissions are consistent with those used by the APCD. A summary of these data and hourly, daily, and total emissions that would occur from each project alternative are provided in Appendix C.

In general, the main combusive emission sources would be the hydraulic dredge, booster pump, or dragline crane. Particulate matter (PM) and PM<sub>10</sub> would mainly be emitted as fugitive dust



from the maintenance staging areas. Activities within staging areas were assumed to occur 10 days longer than the amount of time required to dredge each associated silt basin. Minor amounts of fugitive dust also would be emitted from the spoils piles along the silt basins after the piles had dried out, but would generally occur after the 3-month worst-case construction period. Past experience has shown that fugitive dust emissions from the piles are minimized due to the formation of a crust on the piles and the growth of vegetation. Additionally, the public has not complained about fugitive dust emissions from these sources. Therefore, the air quality impacts from these emissions would be insignificant.

Removal of the spoils from the piles storage area would generate minor amounts of combusive emissions due to equipment usage and fugitive dust emissions. These emissions would be limited to the short period of time when this activity occurs.

Odors could be emitted from dredging spoils exposed to the atmosphere due to the decomposition of organic matter. However, odor impacts are not expected to be significant, since sensitive receptors, such as schools or hospitals, are not in proximity to areas where dredging spoils would be deposited on dry land. Additionally, the public has not complained about odors from previous dredging activities (personal communication, K. Treiberg 1993). Odor impacts would generally be limited to dragline dredging or the placement of spoils on Goleta Beach.

For each project alternative, a 10-hour-per-day and 5-day-per-week work schedule was analyzed. However, the work day could be as long as 24 hours. To compensate for this uncertainty, it was assumed that dredging activities for each alternative would occur within a 3-month period. This would be a worst-case assumption, since it would maximize project emissions that are compared to the 3-month RMD emission significance threshold.

#### 4.2.2.1 Proposed Project

##### *Phase I*

Air quality impacts would occur from simultaneous dragline and hydraulic dredging and support activities. Dredging operations would require approximately 38 working days to complete all activities. A review of Table C-5 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.54, 4.86, and 1.77 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class II). All other air quality impacts would be insignificant (Class III).

##### *Phase II*

Air quality impacts would occur from hydraulic dredging and support activities. Dredging operations would require approximately 62 working days to complete, or about 3 calendar months. A review of Table C-7 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.72, 6.56, and 1.60 tons, respectively. Since dredging activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant (Class I) air quality impact. All other air quality impacts would be insignificant (Class III).

##### *Ongoing Maintenance*

Once Phase I and II activities are completed, dredging would occur about every 3 years, depending on the rate of siltation within the slough. It is expected that portions of the silt basins would be dredged as part of this activity. However, during periods of high intensity rainfall,

increased siltation could require a level of dredging that could lead to the production of significant levels of NO<sub>x</sub> emissions during a 3-month period (Class II).

#### 4.2.2.2 Traditional Maintenance

##### *Phase I*

Air quality impacts would occur from dragline dredging and support activities. Dredging operations would require approximately 76 working days to complete, or about 3.5 calendar months. For a worst-case comparison to the RMD 3-month threshold, it was assumed that all project emissions would occur within a 3-month period. A review of Table C-11 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.18, 1.85, and 1.72 tons, respectively. Since maintenance activities would not exceed any RMD 3-month emission threshold, the project would produce insignificant air quality impacts (Class III).

##### *Phase II*

Air quality impacts would occur from dragline dredging and support activities. Dredging operations would require approximately 108 working days to complete, or about 4.9 calendar months. For a worst-case comparison to the RMD 3-month threshold, it was assumed that all project emissions would occur within a 3-month period. A review of Table C-13 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.23, 2.28, and 1.92 tons, respectively. Since maintenance activities would not exceed any RMD 3-month emission threshold, the project would produce insignificant air quality impacts (Class III).

##### *Ongoing Maintenance*

Once Phase I and II activities are completed, dredging would occur about every 3 years, depending on the rate of siltation within the slough. Regardless of the level of dredging, insignificant levels of NO<sub>x</sub> emissions would be produced by this activity during a 3-month period (Class III).

#### 4.2.2.3 Beach Discharge

##### *Phase I*

Air quality impacts associated with Phase I of either this alternative or the proposed action would be nearly identical. The only difference would be that loader usage associated with the alternative would be slightly more than what would occur for the proposed action. As a result, total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.54, 4.89, and 1.77 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class II). All other air quality impacts would be insignificant (Class III).

##### *Phase II*

Air quality impacts associated with Phase II of either this alternative or the proposed action would be nearly identical. The only difference would be that loader usage associated with the alternative would be slightly more than what would occur for the proposed action. As a result, total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.73, 6.63, and 1.62 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class I). All other air quality impacts would be insignificant (Class III).

### *Ongoing Maintenance*

Air quality impacts associated with this activity would be nearly identical to those identified for the proposed action (Class II).

#### 4.2.2.4 Reduced Basin Size

##### *Phase I*

Air quality impacts would occur from simultaneous dragline and hydraulic dredging and support activities. Dredging operations would require approximately 23 working days to complete all activities. A review of Table C-15 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.35, 3.14, and 1.19 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class II). All other air quality impacts would be insignificant (Class III).

##### *Phase II*

Air quality impacts associated with this phase of the alternative would be identical to those identified for Phase II of the proposed action. As a result, the alternative would produce significant NO<sub>x</sub> emissions during dredging activities (Class I). All other air quality impacts would be insignificant (Class III).

### *Ongoing Maintenance*

Air quality impacts associated with this activity would be identical to those identified for the proposed action (Class II).

#### 4.2.2.5 Increased Basin Size

##### *Phase I*

Air quality impacts would occur from simultaneous dragline and hydraulic dredging and support activities. Dredging operations would require approximately 53 working days (2.4 months) to complete all activities. A review of Table C-17 in Appendix C shows that total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.73, 6.65, and 1.95 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class I). All other air quality impacts would be insignificant (Class III).

##### *Phase II*

Air quality impacts associated with this phase of the alternative would be slightly less than those identified for Phase II of the proposed action due to a smaller dredging requirement. However, the alternative would still produce significant NO<sub>x</sub> emissions during dredging activities (Class I). All other air quality impacts would be insignificant (Class III).

### *Ongoing Maintenance*

Air quality impacts associated with this activity would be identical to those identified for the proposed action (Class II).

#### 4.2.2.6 Discharge Pipelines on the Ground

##### *Phase I*

Air quality impacts associated with Phase I of either this alternative or the proposed action would be nearly identical. The only difference would be that 18-wheel haul truck usage associated with this alternative would be half of what would occur for the proposed action, since floats would not be transported to and from the project site. As a result, total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.54, 4.85, and 1.77 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class II). All other air quality impacts would be insignificant (Class III).

##### *Phase II*

Air quality impacts associated with Phase II of either this alternative or the proposed action would be nearly identical. The only difference would be that 18-wheel haul truck usage associated with this alternative would be half of what would occur for the proposed action, since floats would not be transported to and from the project site. As a result, total project emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub> would be 0.71, 6.54, and 1.60 tons, respectively. Since maintenance activities would exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period, this would represent a significant air quality impact (Class I). All other air quality impacts would be insignificant (Class III).

##### *Ongoing Maintenance*

Air quality impacts associated with this activity would be nearly identical to those identified for the proposed action (Class II).

#### 4.2.3 **Cumulative Impacts**

Impacts produced from the operation of the project would mainly affect the air quality of the southwest portion of the Goleta Valley, between Goleta Beach and the foothills of the Santa Ynez Mountains. Impacts from the project or its alternatives, in combination with reasonably foreseeable future projects in the ROI, would not differ substantially from the project-specific impacts identified in section 4.2.4. As a result, project emissions, in combination with emissions from cumulative projects, would not produce any ambient air quality standard exceedances. However, since the project would increase O<sub>3</sub> precursor emissions, this would exacerbate the O<sub>3</sub> nonattainment situation in Santa Barbara County.

#### 4.2.4 **Mitigation Measures**

##### 4.2.4.1 Fugitive Dust Emissions (All Alternatives)

Although significant amounts of PM<sub>10</sub> emissions would not occur from any of the project alternatives, the following standard APCD dust control measures are recommended to minimize fugitive dust emissions from the staging areas during maintenance activities for all project alternatives:

1. The District shall ensure that the following construction practices are followed:
  - a. Apply water (preferably reclaimed) at least twice daily to dirt roads, graded areas, and dirt stockpiles to prevent excessive dust from leaving the staging areas.

- b. Minimize vehicle speeds.
- c. After completion of maintenance activities, treat disturbed soil within the staging area by watering, revegetating, or spreading soil binders to prevent wind erosion of the soil.
- d. Disturb the smallest practical amount of area within the staging areas and minimize the disturbance time.
- e. Designate personnel to monitor maintenance activities and ensure that excessive dust does not occur from the staging areas.

**Timing:** These mitigation measures shall be implemented during and after the project as appropriate.

**Monitoring:** The District biologist shall be responsible for implementation of these mitigation measures as appropriate.

These measures also shall be implemented during the removal of spoils piles to minimize fugitive dust emissions. California Vehicle Code Section 23114 would require that spoils transported off-site be watered and/or tarped to ensure that dust would not be emitted from transport trucks.

#### 4.2.4.2 Proposed Project

The following discussion applies to the proposed project (phases I and II and ongoing maintenance). Mitigations for project alternatives are described in subsequent sections.

##### *Background*

Mitigation of significant air quality impacts for phases I and II focused on the reduction of NO<sub>x</sub> emissions. Two measures were analyzed: (1) retarding injection timing of diesel-powered equipment and (2) equipment electrification. Retarding injection timing by two degrees would reduce NO<sub>x</sub> emissions by about 15 percent from diesel-powered equipment (Southwest Research Institute 1991). Implementation of this control measure on applicable diesel-powered equipment (dredging equipment, loader, yard crane, and dozer) would reduce Phase I and Phase II NO<sub>x</sub> emissions to 4.12/5.57 tons (see tables C-5 and C-7). Although retarding injection timing by more than two degrees would further reduce NO<sub>x</sub> emissions, it was not considered due to fuel economy penalties.

Equipment electrification would be limited to the booster pump, since it would be the only piece of equipment that would remain fairly stationary. Discussions between the District and SDG&E (owners of a proposed hydraulic dredge and booster pump) determined that implementation of this measure would require installation of a 4 kilovolt transformer in the vicinity of the booster pump and a determination by Southern California Edison of whether there is adequate power in the electrical grid system in this area of the slough to operate the pump (personal communication, K. Treiberg 1993). The cost of implementation would be about \$50,000, not counting electricity costs during operation. For the purposes of this analysis, it is assumed that this control measure would be technologically and economically feasible. Implementation of an electric booster pump, in addition to injection timing retard on the remaining diesel-powered equipment, would reduce Phase I and Phase II NO<sub>x</sub> emissions to 2.05/3.05 tons (see tables C-5 and C-7). Therefore, application of this mitigation measure would reduce NO<sub>x</sub> emissions to less than 2.5 tons during Phase I (Class II). However, NO<sub>x</sub> emissions would remain significant during Phase II (Class I). Electrification of additional project equipment would be more

difficult, due to mobility requirements. Even though an electric dredge maintains the channel at the Santa Barbara Harbor, it is presently unknown whether an electric dredge small enough to operate in the Goleta Slough is available.

#### *Mitigation Measures*

The following emission control technologies presently are implemented in Santa Barbara County by the APCD. Although not currently proposed due to the high cost of implementation, use of high pressure fuel injectors in combination with two degree injection timing retard would reduce uncontrolled NO<sub>x</sub> emissions from diesel equipment by 40 percent.

The following mitigation measures are proposed:

2. If deemed economically feasible, the District shall ensure that high pressure fuel injectors are installed on project diesel equipment.
3. If deemed feasible, the District shall ensure that the following measures are implemented to further reduce NO<sub>x</sub> emissions:
  - a. Substitute compressed natural gas-powered vehicles for diesel- or gasoline-powered vehicles.
  - b. Curtail (cease or reduce) dredging activities during periods of high ambient pollutant concentrations (O<sub>3</sub> episodes).

**Timing:** These mitigation measures shall be implemented during and after the project as appropriate.

**Monitoring:** The District biologist shall be responsible for implementation of these mitigation measures as appropriate.

The following control measure would reduce NO<sub>x</sub> emissions during construction and is control measure N-IC-7 in the 1991 AQAP.

4. The District shall ensure that all contractor's construction equipment meet the following requirements:
  - a. Maintenance equipment shall be maintained in tune per the manufacturer's specifications, unless otherwise stated below.
  - b. Catalytic converters shall be installed on all gasoline-powered equipment, unless deemed infeasible.
  - c. Fuel injection timing on diesel equipment shall be retarded by two degrees from manufacturer's specifications. The APCD shall be consulted to determine additional emission control technologies to apply to diesel construction equipment.
  - d. The number of maintenance equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number are operating at any one time.



**Timing:** The contractor shall be required to assure compliance with these mitigation measures before a contract is awarded. These recommendations shall be part of the specifications of the bid package.

**Monitoring:** The District biologist and/or District engineer shall assure compliance with these recommendations.

- e. The booster pump shall be electrified. Additional maintenance equipment shall be electrified where feasible.

**Timing:** It shall be determined that this mitigation measure is technically feasible prior to awarding a contract to a consultant.

**Monitoring:** The District engineer in consultation with Southern California Edison and the Southern California Gas Company shall be responsible for determining technical feasibility. The District biologist and/or engineer shall assure compliance if this mitigation measure is technically feasible.

#### *Ongoing Maintenance*

To mitigate NO<sub>x</sub> emissions during ongoing maintenance activities, the following shall be implemented:

- 5. The District shall limit dredge volumes such that equipment usage will not exceed the RMD NO<sub>x</sub> emissions threshold of 2.5 tons during a 3-month period. This would correspond to dredging 18,000 and 43,000 cubic yards of spoils, respectively, by dragline and hydraulic equipment. This dredging volume assumes that all diesel-powered equipment would implement injection timing retard of at least 2 degrees to minimize NO<sub>x</sub> emissions (see section 4.2.4.2 for a discussion of this mitigation measure).

Air quality impacts from this activity would be reduced to insignificance (Class II) if this measure were implemented.

#### **4.2.4.3 Traditional Maintenance**

Since no significant air quality impacts would occur from this alternative, no mitigation measures would be required. However, to minimize fugitive dust emissions from the maintenance staging areas, the standard APCD dust control measures identified in section 4.2.4.1 are recommended.

#### **4.2.4.4 Beach Deposition**

The same mitigation measures identified in section 4.2.4.1 would also apply to this alternative. Therefore, NO<sub>x</sub> emissions during Phase I and II would be Class II and Class I, respectively.

#### **4.2.4.5 Reduced Basin Size**

The same mitigation measures identified in section 4.2.4.1 would also apply to this alternative. Therefore, NO<sub>x</sub> emissions during Phase I and II would be Class II and Class I, respectively.

#### **4.2.4.6 Increased Basin Size**

Application of the mitigation measures identified in section 4.2.4.1 would also apply to this alternative. However, electrification of the booster pump would not reduce NO<sub>x</sub> emissions to

less than 2.5 tons. Therefore, NO<sub>x</sub> emissions during Phase I and II would remain significant (Class I).

#### 4.2.4.7 Discharge Pipeline on the Ground

The same mitigation measures identified in section 4.2.4.1 would also apply to this alternative. Therefore, NO<sub>x</sub> emissions during Phase I and II would be insignificant (Class II) and significant (Class I), respectively.

## 4.3 GEOLOGY

The following information is derived from the geotechnical report specifically prepared for the proposed dredged sites (K-C Geotechnical Associates 1993), except where otherwise noted. The complete report is on file with the District. It focused on the main issues of concern associated with the proposed project; specific topics addressed included (1) stability of dredge slopes, (2) excavation characteristics of the creek sediments, and (3) suitability of dredge materials with respect to disposal options. The report addressed sites proposed to be dredged, rather than those proposed for dragline desilting. Grain size analyses were performed on sediments from the Carneros and Tecolotito basins to determine compatibility with beach sediments, but these findings were not incorporated into the geotechnical report. The sieve analyses for all five creeks are, however, included in Appendix B of this EIR/EA.

### 4.3.1 Existing Conditions

#### 4.3.1.1 Geologic Setting

The South Coast of Santa Barbara County is part of the Transverse Range Province of California, locally dominated by the east-west trending Santa Ynez Mountain Range. The dominant rock formations in this area are primarily composed of consolidated shale, siltstone, and sandstone of Cretaceous through Miocene age. Much younger unconsolidated deposits, derived from the erosional remnants of the older bedrock formations, are found blanketing the bedrock along the nearshore sections of the South Coast, including the Santa Barbara area.

Geographically, the Goleta Slough lies on the Goleta Coastal Plain. The coastal plain is underlain by a thick sequence of Pleistocene and recent deposits that unconformably overlie Tertiary-age sedimentary rocks at depths greater than 1,000 to 1,500 feet. The near surface units underlying the proposed basin sites consist of recently deposited sediment that generally consists of sand and silty sand with interbeds of silt and clay. The sediments exposed at Goleta Beach consist of recent beach deposits. A description of the recently deposited sediment and beach deposits is provided in section 3.1.1.2, Soil Conditions.

The geologic structure of the foothills and mountain areas adjacent to Goleta Valley is a south-dipping homocline (similar to one limb of a fold) interrupted by northwest-trending faults. The geologic structure beneath the older sediment on the coastal terrace is more complex. A series of northwest-trending synclinal and anticlinal folds meet and are truncated by the More Ranch Fault, which transects the southern end of the Goleta Basin and separates the coastal terrace from the Goleta Valley. This fault is considered active and shows evidence of movement within the last 11,000 years. Potentially active and inactive faults in the area include the east-west trending faults to the west (Carneros, Dos Pueblos, Eagle, Glen Annie, Goleta, and Las Varas). Northwest trending faults located in the foothills of the Santa Ynez Mountains include the San Pedro and San Jose faults (Fong et al. 1988).

The affected creek channels are generally 50 to 100 feet wide, with bank heights of approximately 4 to 8 feet.

#### 4.3.1.2 Soil Conditions

The soils encountered during field explorations generally consist of alluvial deposits within the basin sites and slough area and beach deposits at Goleta Beach. The soil conditions encountered within the three sediment basins to be dredged (i.e., Atascadero, San Pedro, and San Jose creeks) are generally similar and are grouped together for purposes of the following discussion.

The upper 8 to 9 feet of sediment generally consists of very loose to medium dense, poorly graded sand to silty sand. Laboratory test results for samples obtained from the poorly graded sand to silty sand have dry densities ranging from approximately 84 to 114 pounds per cubic foot and moisture contents ranging from approximately 16 to 37 percent. Grain size tests indicate that the material passing the No. 200 sieve on the poorly graded sand and poorly graded sand with silt samples range from 3 to 15 percent. The silty sand samples have approximately 16 to 22 percent material passing the No. 200 sieve. The sand and silty sand is generally underlain by interbeds of silty clay, clayey sand, silt, and sandy clay. Grain size tests conducted on the silt and clay samples indicate 56 to 94 percent material passing the No. 200 sieve.

Poorly graded sand with gravel was encountered at various depths in borings located south of the creek confluence. The gravels were most likely deposited during high flow conditions. As encountered in the borings, the gravel ranges in size from 1/4 to 1-1/2 inches.

Grab samples were obtained from the surface sediments at the confluence of Atascadero, San Jose, and San Pedro creeks, south of the confluence, and at Goleta Beach. The samples obtained at the confluence consisted of silty sand with approximately 24 percent material passing the No. 200 sieve.

The beach deposits at Goleta Beach consist of poorly graded sand. Two samples obtained at the beach had approximately 1.5 percent material passing the No. 200 sieve.

Sediments at the basin sites on Tecolotito and Carneros creeks were also tested by K-C Geotechnical Associates and were found to be generally finer than those at the other three basin sites, which would indicate better stability (personal communication, R. Slayman 1993).

#### 4.3.1.3 Groundwater Conditions

The basin sites are located within the tidally influenced portion of the creeks. Exploratory borings were performed during low tides, and groundwater was generally encountered within the upper 2-1/2 feet of the borings. The basin sites are generally submerged during high tide conditions.

#### 4.3.2 Impacts

Impacts would be considered significant if the project created unstable slopes or if the excavated material were incompatible with the receiving beach as defined in the document entitled *Requirements for Sampling, Testing and Data Analysis of Dredge Material*, prepared by the U.S. Army Corps of Engineers (Corps), Los Angeles District, or with the requirements of the Regional Water Quality Control Board or Coastal Commission. Corps guidelines state that dredge material is generally considered compatible with the beach disposal site if the mean fines content of the dredge material is not greater or less than 10 percent of the mean fines content of the disposal site.

##### 4.3.2.1 Proposed Project

###### *Phase I*

During Phase I of the project, pilot channels and sediment basins would be created at Atascadero, San Pedro, and San Jose creeks. This excavation would require the removal of up to 8 feet of material within the creek channels at the basin sites and dredging a channel approximately 1 to 6 feet below existing creek bed elevations between the basins and Goleta Beach. Sediments would also be removed from the existing basins at Tecolotito and Carneros creeks.

**SLOPE STABILITY.** For Atascadero, San Jose, and San Pedro creeks, dredge slopes would be excavated at the toe of the existing creek banks. A compound slope (approximately 14 feet high) consisting of an existing 1.5:1 (horizontal to vertical) creek bank approximately 6 feet high and a dredged slope approximately 8 feet high was used in the geotechnical analysis. Various inclinations of the dredged slope were evaluated.

The soil conditions used in the analysis were characterized based on the results of the field exploration and laboratory testing programs conducted by K-C Geotechnical Associates. The geotechnical properties of the material in the creek banks were assumed to be similar to the soil underlying the creeks. The results of the investigation were used to estimate a generalized cross section for the sites with geotechnical properties (unit weight, cohesion, and friction angle) assigned to typical strata.

A slope stability analysis was conducted to estimate the factor of safety under static loading conditions for high tide (submerged) and for rapid drawdown (low tide). The range of groundwater elevations for the rapid drawdown analysis was assumed to be between mean higher high water (MHHW) and mean lower low water (MLLW). The analysis indicates that slopes of 2.5:1 or flatter would be generally stable. Based on the findings of this geotechnical report, all slopes have been engineered at either 2.5:1 or 3:1; therefore, they are considered stable. It is anticipated that some sloughing could occur within the dredged slopes, especially at times of low tides, but this would not be substantially different than the slumping and sloughing that occur under natural conditions regardless of whether the project were implemented.

Evaluation of the slopes under earthquake loading conditions was not a part of the geotechnical analysis. The soils are liquefiable and would not stand under earthquake loads; however, this in itself is not considered a significant impact, since no habitable areas or areas heavily used by the public would be impacted, and since slope failure would likely occur under natural conditions.

Impacts associated with slope instability would be insignificant.

At the Tecolotito and Carneros basins, 2.5:1 slopes would be created. Since the soils at these sites are considered more stable than those at the other creeks, impacts would be insignificant.

**COMPATIBILITY OF DREDGE MATERIAL AND BEACH MATERIAL.** The field exploration, sampling, and testing analysis program conducted by K-C Geotechnical Associates followed the general requirements of the Corps (U.S. Army Corps of Engineers n.d.). The testing program was conducted to evaluate grain size compatibility between the proposed dredge material and receiving beach material. The results of the sieve analyses for all five creeks are included in Appendix B.

Based on the grain size test results from the laboratory data, the sediments within the upper 8 feet of the seven borings excavated in the three basin sites appear to be generally similar in grain size distribution. The mean percent of material passing the No. 200 sieve (mean fines content) was calculated from the test results for the total depth and upper 8 feet in each boring. The mean fines content ranged from approximately 6.1 to 16.3 percent for the samples obtained from within the upper 8 feet of the seven borings. The mean fines content of the two beach samples was estimated to be approximately 1.5 percent based on the test results. As described above, Corps guidelines state that dredge material is generally considered compatible with the beach disposal site if the mean fines content of the dredge material is not greater or less than 10 percent of the mean fines content of the disposal site. The dredge material should generally meet the Corps grain size compatibility guidelines for beach disposal, assuming a maximum dredging depth of 8 feet. Impacts associated with compatibility would be insignificant.

## *Phase II*

During Phase II, Atascadero, San Pedro, and San Jose creeks would be fully excavated up to the sediment basins. Slopes would not exceed 2.5:1. Impacts would be essentially comparable to those described for Phase I.

### *Ongoing Maintenance*

Ongoing maintenance would consist primarily of desilting the basins as needed, although sediments could be removed from the channels if events occurred which caused the deposition of heavy sediment loads. Impacts would be essentially comparable to those described for Phase I.

#### **4.3.2.2      Traditional Maintenance**

Under this alternative, sediments would be removed with a dragline instead of a hydraulic dredge. Impacts would be comparable to those described for the proposed project.

#### **4.3.2.3      Beach Deposition**

Under this alternative, hydraulically dredged materials would be deposited on the beach instead of in the surf zone. Dredge materials would have to meet Corps and state standards for compatibility, as described above. Other project components would be virtually identical to the proposed project. Impacts would be as described for the proposed project.

#### **4.3.2.4      Reduced Basin Size**

Under this alternative the basins to be hydraulically dredged would be shorter than for the proposed project. Width, depth, and side slopes would remain the same. Impacts would be as described for the proposed project.

#### **4.3.2.5      Increased Basin Size**

Under this alternative the basins to be hydraulically dredged would be longer than for the proposed project. Width, depth, and side slopes of the basins and channels would remain the same. Impacts would be as described for the proposed project.

#### **4.3.2.6      Discharge Pipelines on the Ground**

Basin and channel dimensions would not change under this alternative. Impacts would be as described for the proposed project.

#### **4.3.2.7      No Project**

Under this alternative, no maintenance would occur, and the creeks would be allowed to fill with sediments. No significant impacts to geologic resources would occur.

### **4.3.3      Cumulative Impacts**

No significant cumulative impacts pertaining to geologic resources would occur.



#### **4.3.4 Mitigation Measures**

No mitigation measures are required, since no significant impacts were identified. In order to minimize the potential for increased erosion, however, it is recommended that the dredge operate no closer than three feet from the bank.



#### 4.4 BIOLOGICAL RESOURCES

Biological resources include the native and naturalized plants and animals present in the area. For discussion purposes they are divided into vegetation, wildlife, aquatic biota, and sensitive species.

##### 4.4.1 Affected Environment

The region of influence used in describing the existing biological conditions and for assessing impacts is defined as the five proposed sedimentation basins and associated staging areas plus spoil storage areas for Tecolotito and Carneros creeks, the portions of Goleta Slough downstream of the basins, and the nearshore marine environment (intertidal and subtidal) to about 1 mi offshore and from Goleta Pier east about 1 mi. Upland areas extending approximately 1,000 feet around the basin and spoil storage areas is included for noise disturbance to wildlife.

All five streams have variable flows related to winter precipitation and a summer dry season. Surface flow often becomes intermittent in summer, particularly in dry years, although subsurface flow may continue throughout the dry season. The lower portions of each creek are tidally influenced. This tidal influence extends (or did prior to recent sediment accumulation) to or beyond the proposed basin areas in Tecolotito, Carneros, San Pedro, San Jose, and Atascadero creeks. A rapid deposition of sediment has occurred over the past several years, due in part to the Painted Cave fire and to other disturbances (e.g., agriculture and urban development) in the watersheds of the creeks. This has limited the development of a varied and abundant benthic infauna (organisms living within the sediments). Tidal influence and sedimentation plus the drought and past flood control activities (periodic dredging by the District) have also limited the growth of aquatic plants in the creeks. The following is a brief description of current conditions in the slough, in each of the creeks, and at the Goleta Beach receiver site.

##### 4.4.1.1 Goleta Slough

The extent of Goleta Slough has been greatly reduced (over 50 percent) and the character of the remaining area has been altered as a result of activities such as dredging, diking, filling, and urban/industrial and agricultural development in the watershed (The Planning Center 1984). These activities have also reduced the tidal prism and consequently the natural flushing of the slough. Both tidal and nontidal wetlands are still present, and most are located south and west of the airport.

The mouth of the slough is tidally influenced with large mudflats exposed at the lowest tides. A sand bar develops across the mouth as winter runoff declines, but this bar is periodically breached by the District to allow tidal flushing. The project area includes the confluence of Atascadero, San Jose, and San Pedro creeks at the eastern side of the slough while Tecolotito and Carneros creeks enter the northwestern side of the slough (see Figure 2.2-2). Substrates within the channels of the slough range from silt to sand.

Vegetation in Goleta Slough has been altered by human activities, and several species have been extirpated (lost) or substantially reduced in abundance. Pickleweed (*Salicornia virginica*) is often the dominant plant species along the margins of tidal channels. Areas flooded only by higher tides are dominated by pickleweed with dodder (*Cuscuta salina*), alkali heath (*Frankenia salina*), and fleshy jaumea (*Jaumea carnosa*). Subtidal and intertidal mud flats are frequently vegetated with algae. Shrub/scrub wetlands and upland scrub habitats contain big saltbush (*Atriplex lentiformis* ssp. *lentiformis*), coyote bush (*Baccharis pilularis*), and California sea-blite (*Suaeda*

*californica*). The stream and slough channels have little to no vegetation, due in part to past excavations. River bulrush (*Scirpus maritimus*) occurs in patches along the channel margins. Where freshwater influence dominates, species such as California bulrush (*Scirpus californicus*), and southern cattail (*Typha domingensis*) occur (Onuf 1983).

Past studies of the slough (Fong et al. 1988) indicate that the invertebrate fauna is not very rich in the number of species or in density of organisms present. The California jackknife clam (*Tagelus californianus*) is the dominant infaunal (living in the sediments) species. Other species present include the common littleneck clam (*Protothaca staminea*), bent-nose clam (*Macoma nasuta*), and three species of polychaete worm. The epifauna (living on top of the sediments) is characterized by the California horn snail (*Cerithidea californica*), lined shore crab (*Pachygrapsus crassipes*), and yellow shore crab (*Hemigrapsus oregonensis*).

A variety of fish use the slough, at least seasonally, and 14 species have been reported (The Planning Center 1984). The arrow goby (*Clevelandia ios*) dominates, but other common species include longjaw mudsucker (*Gillichthys mirabilis*), California killifish (*Fundulus parvipinnis*), yellowfin goby (*Acanthogobius flavimanus*), cheekspot goby (*Ilypnus gilberti*), and fathead minnow (*Pimephales promelas*) (Fong et al. 1988).

A maximum of 279 bird species have been reported within the slough (The Planning Center 1984). Of these, 121 species are water-associated, and 158 species occur in upland areas. Ducks and shore birds, primarily winter visitors, comprise most of the water-associated birds, and 12 species are known to breed in the Slough (Fong et al. 1988).

The slough channel under and downstream of the Ward Memorial Boulevard bridge offers deep water habitat for wading and diving birds including species such as belted kingfisher, mallard, wigeon, pintail, green-winged teal, northern shoveler, American coot, western grebe, pied-billed grebe, eared grebe, horned grebe, common loon, red-breasted merganser, western gull, ring-billed gull, California gull, Bonapart's gull, Forster's tern, Caspian tern, royal tern, brown pelican, double-crested and Brandt's cormorants, great blue and black-crowned night herons, and great and snowy egrets. The mud flats during lower tides provide foraging habitat for shorebirds including greater yellowlegs, dowitcher, willet, whimbrel, western and least sandpipers, marbled godwit, black-bellied and semi-palmated plovers, and killdeer. The bridge itself is host to approximately 50 cliff swallow nests whose inhabitants feed over the open water.

Great-blue and black-crowned night herons roost in the eucalyptus trees near the slough mouth, including those within Goleta Beach County Park.

A number of sensitive species are known to inhabit or visit Goleta Slough, including the American peregrine falcon, California brown pelican, Belding's savannah sparrow, and black-shouldered kite. The peregrine falcon and brown pelican are state and federally listed as endangered; the savannah sparrow is state listed as endangered and a candidate for federal listing. Black-shouldered kites are a state-designated Species of Special Concern (SSC). The tidewater goby (*Eucyclogobius newberryi*), proposed for federal listing as endangered, has been reported from the slough (Fong et al. 1988), although no museum records exist to verify this. None are assumed to be present at this time. The California sea-blite is a sensitive plant on the California Native Plant Society (CNPS) 1B (endangered) list. The state and federally listed (endangered) salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*) may have been present in the past, but no documented occurrences are available.

The California brown pelican is routinely observed feeding within the main channel of the slough while the peregrine falcon is a transient visitor. Brown pelicans breed on offshore islands, particularly Anacapa Island, from January to June. Peak numbers occur along the coast in summer and fall as migrants from Mexico arrive (Kinnetic Laboratories 1985). Belding's

savannah sparrow is a resident species of the slough, preferring dense stands of pickleweed. Areas of high density use have not been identified near the pilot channels or sedimentation basins to be dredged for the proposed project, but low density use areas (primarily for foraging) occur just west of the area where the pilot channel is to be dredged up the slough to Atascadero Creek. An adult and juvenile were observed (27 May 1993) on the south side of Atascadero Creek just downstream of the basin site (Holmgren 1993). The black-shouldered kite could forage over the project area and suitable roosting sites are available, but no habitat suitable for nesting is present in this area.

The tidewater goby inhabits coastal lagoons, and spawning takes place in burrows within sandy substrate. The life span of this fish is generally one year.

#### 4.4.1.2 Atascadero Creek

This stream generally has perennial freshwater flow that is augmented by seepage from landscape watering adjacent to the creek, and tidal influence reaches the check structure just east of Ward Drive. The proposed basin site is located downstream from this check structure, which is currently nearly buried by accumulated sediments, and freshwater flow extends downstream to the mouth. The District has overexcavated a segment of the stream channel about 1,000 feet long downstream of the check structure at intervals in the past that included six times between 1972 and 1983.

The proposed basin area has relatively steep banks and a broad, nearly flat channel. The south bank supports a mixture of coastal sage scrub and weedy species that include coyote bush, California figwort (*Scrophularia californica*), giant ryegrass (*Elymus condensatus*), tree tobacco (*Nicotiana glauca*), cocklebur (*Xanthium* sp.), horehound (*Marrubium vulgare*), thistles, and fennel (*Foeniculum vulgare*). A narrow strip of eucalyptus (*Eucalyptus globulus*) woodland is present near the top of this bank in the basin area and extends southwest to near the slough mouth. Several riparian or wetland species occur scattered along the south margin of the channel, such as arroyo willow (*Salix lasiolepis*), western verbena (*Verbena lasiostachys*), river bulrush, mugwort (*Artemisia douglasiana*), and pickleweed. The north bank is covered primarily with weedy species such as castor bean (*Ricinus communis*), sourclover (*Melilotus albus*), and tree tobacco. A few coastal sage scrub components are present scattered along the upper bank. Wetland plants in patches along the north channel margin include river bulrush, pickleweed, brass buttons (*Cotula coronopifolia*), and a cattail that probably is the broad-leaved cattail (*Typha latifolia*). Seedlings of river bulrush, cocklebur, and brass buttons were present on bars within the channel in May 1993. Just upstream of the check structure, dense willow woodland lines the south bank. The north bank has scattered sycamore (*Platanus racemosa*) and willow trees planted by the District. Dense freshwater marsh vegetation dominated by bulrush has filled the channel since the last time it was cleared by the District. Downstream of the basin site, the bank vegetation remains about the same, but freshwater wetland species are no longer present due to higher salinities.

The staging area on the north side of the creek is in a nearly barren area between the creek and the bike path. This highly disturbed habitat extends westward to about the end of the basin. From there to the mouth of the creek, the upland adjacent to the creek supports upland scrub with many weedy species and barren patches. The upland along the south side of the creek west of the basin consists of disturbed areas and upland scrub.

Numerous upland birds were observed in the eucalyptus tree woodland on the southern bank adjacent to the basin site during the field visit (18 May 1993) including mourning dove, California thrasher, mockingbird, brown-headed cowbird, Anna's hummingbird, scrub jay, European starling, house finch, northern oriole, bushtit, California towhee, and Bewick's wren. The eucalyptus trees offer good nesting and roosting habitat for numerous species in addition to

providing adequate vantage sites for raptors. Great blue herons and black-crowned night herons roost and nest within the upper branches of this row of trees. Upstream of the Ward Drive intersection, the vegetation is much thicker within the channel and the denser willows would offer suitable habitat for several warbler species.

Mammals in this area would include brush rabbit, ground squirrel, striped skunk, raccoon, opossum, gray fox, and several native and introduced rodent species. Reptiles expected would include western fence and side-blotched lizards, gopher and garter snakes.

The basin area has a substrate of sand with some gravel in the low flow channel. Green filamentous algae was present in May 1993. Aquatic invertebrates were dominated by insects ranging from aquatic beetles and water boatmen to midge larvae (Chironomidae) and mayfly nymphs. Snails (*Physa* sp.) were also abundant. Pools along the margin of the channel where storm drains enter the creek or where scour occurs contained Pacific treefrog tadpoles (*Hyla regilla*), crayfish (*Pacifastacus leniusculus*), and mosquitofish (*Gambusia affinis*). These species are all common upstream (PLUS 1986). The arroyo chub (*Gila orcuthi*) and threespine stickleback (*Gasterosteus aculeatus*) are also present upstream. Prior to sediment accumulation, longjaw mudsuckers and other estuarine species were present in the basin area.

Sediments in the low flow channel were apparently devoid of invertebrates, while midge larvae occurred in pool sediments. Similar conditions extend to the slough. The paucity of infaunal organisms is due primarily to the rapid sediment deposition that has occurred in the past two years.

#### 4.4.1.3 San Pedro Creek

Freshwater flows in this stream appear to be intermittent during the dry season, but tidal influence can extent as far upstream as Matthews Street (above the basin site) during high tides. Flow was very low upstream of the basin location in May 1993 and nonexistent downstream to the slough. The stream channel has been realigned as a result of urban/industrial development upstream, resulting in a straight channel with steep banks. The District has routinely overexcavated the channel for about 1,000 feet downstream from James Fowler Road to act as a silt basin. Such excavation occurred six times between 1972 and 1983.

The proposed basin would extend south from James Fowler Road. The stream banks in this area support weedy species such as wild radish (*Raphanus sativa*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), and dense stands of poison hemlock (*Conium maculatum*). Castor bean and tree tobacco are frequently scattered along the banks as well. Myoporum bushes (*Myoporum laetum*) have been planted above the banks in one area. A few native species occur interspersed in the weedy vegetation on the upper banks, such as California sagebrush (*Artemisia californica*), mugwort, wooly sea-blite (*Suaeda taxifolia*), and coyote bush. The lower portion of the banks adjacent to the channel are covered with wetland-associated species in distinct horizontal bands. The upper band is dominated by annual beard grass (*Polypogon monspeliensis*) and Italian rye-grass (*Lolium multiflorum*) while the lower band (approximately 1 to 3 feet wide) is predominantly pickleweed with a few patches of river bulrush and brass buttons. The bank vegetation was essentially the same downstream to the slough. No vegetation was present on sediments of the channel in May of 1993.

The staging area on the east side of the creek is characterized by weedy vegetation similar to that on the higher banks. Extending downstream, the upland area adjacent to the bank has been disturbed in a strip approximately 50 to 100 feet wide. This strip is sparsely vegetated with primarily weedy species. On the west side of the creek, weedy vegetation dominated adjacent to the basin, and a strip parallel to the bank is regularly mowed. Sewage treatment lagoons border the creek from the basin nearly to the mouth.



Due to the disturbed, weedy habitat along the creek banks of the basin area, expected wildlife species would primarily include upland bird species such as European starling, northern mockingbird, California towhee, Brewer's blackbird, and house finch. Bird species that are normally associated with aquatic habitats would be expected within the channel though few in number. Such species would include the black-crowned and great blue herons, common and snowy egrets, black phoebe, killdeer, willet, dowitcher, western sandpiper, wigeon, pintail, green-winged teal, mallard and American coot. Due to the proximity to the street and easy access it would be expected that dogs and cats would be frequent visitors to this end of the channel and could disturb bird species inhabiting and foraging on site. Numerous tracks of both cats and dogs were observed. Above the slopes of the channel which primarily consisted of upland weedy species, the habitat was heavily disturbed with compacted soil and little native vegetation. There was still enough cover to support several upland bird, mammal, and reptile species, all of which would be fairly common and widespread. Mammals, reptiles, and amphibians in this area would be similar to those found at Atascadero Creek.

The same type of habitat and accompanying wildlife species continues along the length of the San Pedro Creek channel to the confluence with San Jose Creek. The number of wetland bird species such as song sparrow, common yellowthroat, and red-winged blackbird would be expected to increase while the amount of disturbance due to pets and humans, though still present, would decrease. Tidal influence is greater in the southern reach of the channel, which may increase the number and variety of crustaceans and molluscs present. This could cause an increase in the variety of shorebirds and waterfowl foraging in the channel.

The basin area has a sandy substrate and isolated pools of water. Invertebrates in the pools included dragonfly nymphs, aquatic beetles (three species), water boatmen, sideswimmers (*Hyalolella azteca*), and mayfly nymphs. Sediments contained a few midge larvae. Threespine sticklebacks were present along with unidentified larval fish (possibly arroyo chubs). A dead bullfrog was in a pool under the road bridge.

Downstream the channel was similar to that at the basin site. California horn snails were common in and near pools. Shells of the California jackknife clam were observed about 500 feet upstream from the Ward Memorial bridge.

#### 4.4.1.4 San Jose Creek

San Jose Creek has been realigned during area development and is lined with concrete upstream of the basin site. Tidal influence extended to the concrete channel prior to sediment accumulation, and about 1,000 feet of the channel downstream from there has been overexcavated at intervals to form a sediment trap. The stream was flowing all the way to the slough on 18 May 1993 in a low flow channel that meandered between the banks.

In the proposed basin area, the west bank supports a narrow stand of arroyo willow trees with myoporum, tree tobacco, giant reed (*Arundo donax*), and pampas grass (*Cortaderia selloana*) at the southern end. The eastern bank also has some willow shrubs but generally contains more weedy species. The channel in the basin area is being rapidly colonized by freshwater marsh species and willows. Slightly raised bars are densely vegetated with arroyo willow and sandbar willow (*Salix exigua*). Lower areas contain narrow-leaved cattail (*Typha angustifolia*), another cattail that likely is the broad-leaved cattail, nutsedge (*Cyperus* sp.), knotweed (*Polygonum* sp.), water speedwell (*Veronica anagalis-aquatica*), and California bulrush (*Scirpus californicus*). Several small tamarisk (*Tamarix* sp.) were found in the low flow channel. This species is very invasive.

The proposed staging area is located northwest of the creek and supports mostly weedy vegetation similar to that of the banks. Part of the staging area is barren, and some upland

shrubs are present as well. Downstream, the upland is predominantly a weedy scrub. The access road paralleling the creek is lined with myoporum adjacent to the drive-in theater and along part of the creek bank. Between the creek and Ward Memorial Boulevard, the upland is a mixture of coyote bush scrub and weedy species that include pampas grass and tree tobacco. A few willows occur adjacent to the basin.

Downstream of the basin site, the banks have very weedy vegetation that includes hottentot fig (*Carpobrotus edulis*), pampas grass, and dense stands of mustard (*Brassica* sp.). A colony of alkali weed (*Cressa truxillensis*) is present on the upper portion of the west bank. Pickleweed occurs in patches at the base of the bank. The channel supports very little vegetation.

Along San Jose Creek the habitat and wildlife species present are similar to those in San Pedro Creek. The traffic along Ward Memorial Boulevard that parallels this channel undoubtedly disturbs at least some bird species attempting to breed and forage along the creek. Upstream of the San Jose and San Pedro confluence, the San Jose channel contains more aquatic vegetation and the substrate becomes softer. Along the row of myoporum bordering the channel, numerous upland bird species were observed feeding and flocking including cedar waxwing, California towhee, Bewick's wren, song sparrow, and brown-headed cowbird. A large flock of European starlings appear to be nesting within the wooden drive-in screens that also offer vantage sites for bird of prey such as red-tailed and red-shouldered hawks, and American kestrel. In the proposed basin area, the habitat becomes more lush with numerous willows along the margin and within the channel. This added vegetation offers cover and potential breeding habitat for additional mammals and bird species such as bushtit, song sparrow, common yellowthroat, and orange-crowned warblers. Mammals and reptiles along this stream are expected to be the same as described for Atascadero Creek.

Substrate in the basin area consists of sand with some gravel in the low flow channel. Filamentous green algae was moderately abundant in the flowing water and pools. Invertebrates present included water boatmen, aquatic beetles, and snails. The threespine stickleback and mosquitofish were common along with Pacific treefrog tadpoles.

#### 4.4.1.5 Tecolotito Creek

The Tecolotito Creek channel has been altered in the project area as a result of airport and other industrial development. The basin area just downstream of Hollister Avenue has been dredged with a dragline in the past (11 times from 1966 to 1983) to form a sedimentation basin, and sediments have accumulated again in recent years. Stream flow at Hollister Avenue was low in May 1993 and is likely to become intermittent in the summer. The low flow channel meanders within the stream banks.

Vegetation on the upper portions of the banks in the basin area is very weedy with tree tobacco, thistle, mustard, castor bean, jimsonweed (*Datura* sp.), coyote brush, poison hemlock, a garden escape sage (*Salvia* sp.), and rice grass (*Oryzopsis miliacea*) being the common species. The lower portion of the bank adjacent to the channel supports patches of pickleweed, saltgrass (*Distichlis spicata*), and river bulrush that are up to 4 feet wide. A few arroyo willow trees are also present. A high sand bar in the upper end of the basin area is covered with willow shoots, cocklebur, willow dock (*Rumex salicifolius* var. *transitorius*), and a cattail (possibly the broad-leaved cattail). Within the streambed are areas containing cattail (possibly broad-leaved cattail), small-fruited bulrush (*Scirpus microcarpus*), river bulrush, California bulrush, willow dock, willow weed (*Polygonum lapathifolium*), iris-leaved rush (*Juncus xiphioides*), creeping bentgrass (*Agrostis stolonifera*), watercress (*Rorippa nasturtium-aquaticum*), water speedwell, paradox canary-grass (*Phalaris paradoxa*), and annual beard grass.

The upland areas adjacent to the stream which would be used as a staging area and also the location where the dredged materials would be placed are very weedy. The vegetation is composed primarily of mustard, thistle, wild oats, and tree tobacco. The western side also contains several native species such as big saltbush and coyote bush. Australian saltbush (*Atriplex semibaccata*), slender-leaved iceplant (*Mesembryanthemum nodiflorum*), and ripgut brome are present as well.

At Tecolotito Creek, the slopes of the channel banks are covered with thick upland vegetation that offers cover and nesting habitat for mammal, bird, reptile, and amphibian species. The upland habitat surrounding this channel is part of the airport property and is fairly inaccessible to human use, although all of it has been recently disturbed. This extensive and open habitat is still adequate to support numerous rodents and other larger mammals such as opossum, raccoon, skunk, brush rabbit, ground squirrel, and possibly fox. Birds expected in the area include the upland species previously listed for the other creeks, though the extensive habitat (with less daily disturbances than other sites) could offer better breeding habitat. Airport light towers offer perch sites for raptors such as red-tailed and red-shouldered hawks. These raptors hunt in the area but, due to the lack of adequate cover, most likely nest elsewhere. Under the Hollister Avenue bridge were approximately 400 cliff swallow nests. Upstream of the bridge, the thick willows offer adequate habitat for additional wildlife species. Proximity to Hollister Avenue and position under the airport's flight pattern could cause some less tolerant species to avoid this area.

In the basin area, the creek substrate is predominantly sand. The low flow channel contained green algae and some emergent aquatic plants. Aquatic beetles, snails, and water boatmen were abundant. Midge larvae were present in the sediments of pools but not in the flowing channel. Threespine sticklebacks, arroyo chubs, and Pacific treefrog tadpoles were also present in May of 1993.

#### 4.4.1.6 Carneros Creek

Carneros Creek is similar to Tecolotito Creek in the project area. The basin area on the south side of Hollister Avenue has been dredged with a dragline for sediment control in the past (8 times from 1971 to 1983), and sediments have accumulated since the last time it was dredged. The stream was flowing through the box culvert under Hollister Avenue in May 1993. Other culverts immediately to the east had no flow, but a large pool remained just downstream of these culverts.

The bank on the east side of the proposed sedimentation basin has been disturbed in the past and is dominated by weedy species such as introduced grasses and hottentot fig. Mugwort was occasionally interspersed along this bank. The west bank also supported weedy vegetation, but several patches of arroyo willow were present, particularly along the edge of the channel. Understory plants in the willow patches include coyote bush, California blackberry (*Rubus ursinus*), sandbar willow, and branching phacelia (*Phacelia ramosissima*). The sand bars within the channel supported cocklebur and dock as well as patches of pickleweed and California bulrush.

The staging and spoil storage area on the east side of the creek was dominated by introduced grasses with scattered coyote bush. This area has been used for sediment storage in the past.

The Carneros Creek channel is surrounded by heavily disturbed upland habitat with easy access for pets. A dirt road borders the creek, and the channel contains evidence of human and natural debris. A row of willows on the west side of the channel offers some cover for wildlife though it is isolated and is within close proximity to Hollister Avenue. Freshwater was still flowing in May, so it would be expected that wildlife species tolerant of human disturbances could still be

found in the area. Species expected include European starling, house finch, Brewer's blackbird, and house sparrow. The diversity of mammal, reptile, and amphibian species would be similar to previously mentioned sites, but due to the extensive disturbance in the area, the number of individuals is expected to be lower.

The stream channel in the proposed basin area is primarily sand with gravel to small cobbles in the low flow channel at the north end of the basin. Downstream, the channel meanders within the banks and the substrate becomes sand. Filamentous green algae was present in the flowing water areas. Aquatic species observed included sideswimmers, aquatic beetles, water boatmen, and threespine sticklebacks. The sediments contained midge larvae.

#### 4.4.1.7 Goleta Beach Receiver Site

This area is located just east of the Goleta site sampled for the BEACON study (Chambers Group 1992), and the following descriptions are summarized from that document. Sandy beach habitat extends to the east and west of the slough mouth, but rocky habitat is present less than one mile to the east. Sandy intertidal areas are inhabited by a variety of polychaete worms and crustaceans (e.g., beach hoppers and mole crabs) with two species of clam. Rocky intertidal habitats support a much higher diversity of species that includes algae, snails, limpets, barnacles, crabs, sea urchins, starfish, and anemones.

Nearshore kelp beds extend from near the slough mouth eastward for over a mile. They provide food and habitat for marine invertebrates and fish. Subtidal habitats are typically divided into benthic (bottom associated) and pelagic (water column). Soft bottom benthic communities include organisms living on the surface of the sand (epifauna) and those living within the sediments (infauna). Species composition and abundance generally increases with water depth. Common epifaunal species in the project area include tube building worms (*Diopatra ornata*), sea pansy (*Renilla kollikeri*), sand star (*Astropecten armatus*), sea pen (*Stylatula elongata*), and sand dollar (*Dendraster excentricus*). The infauna just west of Goleta pier was dominated by a small clam (*Transenella tantilla*) and an amphipod (*Photis macinereyi*). These would be expected to occur on the east side of the pier as well. The Goleta receiver site was found to support the greatest density (111,696 organisms/square meter) and diversity (102 taxa) of benthic invertebrates of the four sites surveyed for the BEACON study. Fishes known to be common in the area include California halibut (*Paralichthys californicus*), speckled sanddab (*Citharichthys stigmaeus*), white surfperch (*Phanerodon furcatus*), black surfperch (*Embiotoca jacksoni*), kelp bass (*Paralabrax clathratus*), and rockfish (*Sebastes* spp.). Grunion (*Leuresthes tenuis*) may spawn on Goleta Beach. Harbor seals haul out less than one mile east of the slough mouth, and numerous seabirds use the area.

The sandy beach habitat east and west of the slough mouth experiences heavy human and pet use periodically throughout the year making bird breeding very unlikely within this sandy habitat. However, numerous bird species are still able to utilize this area for feeding. Some species would be expected year round except for a brief breeding period and would include marbled godwit, whimbrel, willet, black-bellied and snowy plovers, killdeer, sanderling, western and least sandpipers, and dunlin. Nearshore waters including, kelp bed areas, provide food for year round species such as the brown pelican, double-crested cormorant, Forster's tern, western gull, California gull, ring-billed gull, and western grebe. Seasonal species would include surf scoters; common and pacific loons; and least, royal, elegant, and Caspian terns.

#### 4.4.2 **Environmental Consequences**

Criteria for determining the significance of project-related impacts are based on the importance of the resource, the proportion of the resource that would be affected relative to its occurrence in the project region, the sensitivity of the resource to activities associated with the proposed

project, and the duration or the ecological ramifications associated with the effect. County guidelines (Santa Barbara County 1990) and site-specific considerations were also used in developing the following criteria.

Impacts are considered significant if they would result in (1) reduction in the population size of any rare, threatened, or endangered species; (2) degradation of biologically important habitats that are either regionally rare or unusual, or are protected by County or City policy; (3) substantial long-term (defined as 25 years or longer) loss of vegetation and of the overall capacity of the habitat to support wildlife populations; and (4) clearing of more than 0.5 acre of native vegetation on the site. These impacts may or may not be mitigable to insignificance, depending on the availability and effectiveness of specific mitigation measures. All other impacts would be insignificant.

#### 4.4.2.1 Proposed Project

Removal of sediment from Goleta Slough and in five tributary streams could affect biological resources through direct habitat alteration/disturbance, noise and human presence, turbidity and sedimentation, and accidental spills of fuels or hydraulic fluid. For this project, a large spill is defined as 5 gallons or more while a small spill is considered to be approximately 1 gallon or less. Habitat alteration would be limited to the channels and basins to be dredged, while habitat disturbance would occur in areas used for staging, spoil disposal, pipe placement, and access. Noise and human presence would affect upland areas adjacent to the dredging and booster pump. Turbidity would impact aquatic habitats downstream of the dredging and nearshore marine habitats in the vicinity of the disposal point. Sedimentation would occur in the immediate vicinity of the discharge. Fuel or hydraulic fluid spills could have direct toxic effects on aquatic organisms and birds in the areas where equipment would be operated and extending downstream to the ocean. The extent and duration of such impacts on biological resources are described in the following subsections for Phase I and Phase II of the project.

#### *Phase I*

##### TECOLOTTO AND CARNEROS CREEKS

Dragline desilting of the proposed basins would disturb approximately 1.4 acres in Tecolotito Creek and 0.9 acre in Carneros Creek (see Table 4.4-1) of stream bed habitat. Impacts on infaunal benthic invertebrates would be negligible due to the low density of organisms present. Recolonization to the same or higher densities would occur within approximately 1 year. Higher densities than are currently present may occur once the basin is excavated because the deeper water in the basin would reduce sediment movement during high runoff periods, thus allowing invertebrates to colonize. The existing stream bed has had rapid deposition of sediment plus considerable mixing of sediments during high runoff periods, all of which limit invertebrate population growth.

Sediment removal would also cause a temporary loss of invertebrates or fish living on the sediment surface or in the water column (if any water is present). The species present are common throughout the area and would recolonize rapidly from upstream and downstream. Excavation of the basins to below MLLW could result in a layer of saline water in the bottom of the basin that would influence the species of benthos present. Overall impacts on benthos would not be significant (Class III).

Reduced water velocity in the basins during storm runoff would be conducive to colonization by benthic invertebrates, while sedimentation would tend to offset this benefit. Unless disturbances in the watershed cause large amounts of silt to enter the basins, the benefits would generally

Table 4.4-1

## PROPOSED ACTION IMPACTS ON AQUATIC AND UPLAND HABITATS (ACRES)

<i>Site</i>	<i>Staging Area <sup>1</sup></i>	<i>Proposed Action Basin</i>	<i>Phase I Pilot Channel</i>	<i>Phase II Creek <sup>2</sup></i>
Tecolotito Creek	2.4	1.4	---	---
Carneros Creek	1.5	0.9	---	---
San Pedro Creek	0.5	1.2	1.2	1.1
San Jose Creek	0.5	1.1	1.2	1.0
Atascadero Creek <sup>3</sup>	0.4	3.0	1.6	5.0
Goleta Slough <sup>4</sup>	0.6	---	1.0	5.5

Notes:

1. Includes spoil storage area for Tecolotito and Carneros sites.
2. Assumes no accumulation of sediment in the pilot channel after Phase I.
3. Pilot channel is from basin to connector channel at station 13+42.
4. Includes connector channel and downstream of station 13+42 to 0+00 on Atascadero Creek.



outweigh the sedimentation effects. The basins would also contain water for most to all of the year, and this would increase habitat for invertebrates, fish, and water-associated birds.

Desilting when water is flowing in the streams would result in increased turbidity downstream that could affect fish and aquatic invertebrates through clogging of their gills and impairment of visibility for fish foraging. These impacts would be adverse but not significant (Class III), because effects would be temporary and only a few individuals of common species would be affected. Timing the work for the dry season could avoid such impacts.

The desilting process would remove the sparse aquatic and weedy vegetation that is currently in the streambed of both creeks. This vegetation has developed since the last time the basin areas were dredged and has been limited somewhat by the drought prior to 1992 and rapid sediment deposition in the last 2 years. Loss of aquatic vegetation would be adverse but not significant (Class III) in the small area affected. Recolonization would likely occur around the margins of the basins.

Deposition of the excavated materials adjacent to the creeks within the areas used in prior years for similar activities would result in a temporary loss of upland vegetation, most of which is very weedy (see sections 4.4.1.3 and 4.4.1.4). Such impacts would have no significant (Class III) impacts on vegetation.

Noise and human activities associated with the desilting process would temporarily disturb mobile (e.g., rabbit, raccoon, ground squirrel, and birds) wildlife in the immediate vicinity of the basins, causing most to avoid the area. Less mobile species, such as lizards and small rodents, could be buried under the spoils. The number of individuals lost would be small and would have negligible impacts on local populations. Impacts on larger animals is also predicted to be insignificant (Class III) because the period of disturbance would be short (about 4 weeks) and the area affected would be small. Removal of the spoils by truck would cause minor disturbance to upland wildlife.

Accidents resulting in a large spill of fuel or hydraulic fluid into either creek could have significant (Class I) impacts on aquatic biota, vegetation, and water-associated birds extending downstream into the slough. The probability, and possibly the extent, of such a spill could be reduced by mitigation.

#### ATASCADERO, SAN JOSE, AND SAN PEDRO CREEKS AND GOLETA SLOUGH

Hydraulic dredging in Goleta Slough and in Atascadero, San Jose, and San Pedro creeks would impact benthic invertebrates in a manner similar to that described above for dragline desilting in the other two creeks. The disturbance at any one location would be of short duration as the dredge moves up the streambed. The total area disturbed in each location is shown in Table 4.4-1. The temporary loss or disturbance of streambed habitat is expected to have no significant (Class III) impacts on invertebrate populations since abundance is very low. Fish present would either avoid the dredge or perish. Few individuals are currently present in the creeks due to the reduction in available open water habitat caused by sediment deposition. Turbidity during dredging would also affect any fish remaining or entering the project area. Overall, impacts on fish populations would be adverse, local, and short term but not significant (Class III). Water-associated birds using the creek and slough channels would not be adversely affected by the dredging activity (Class III impact) because the accumulated sediments have nearly eliminated habitat for these birds. The organisms removed by dredging would be discharged into the ocean where they could be eaten by marine species and, thus, the biomass would not be lost from the ecosystem. The excavated pilot channels and basins would increase the habitat available for fish and water-associated birds, and the greater depths would allow more water and fish to move up the creeks to the basins as was the case before the sediment accumulation occurred (Class IV

impact). The improved habitat conditions resulting from the proposed project would also benefit the annual Christmas bird count conducted by the Audubon Society each year.

Impacts of dredging on vegetation would be negligible in Goleta Slough since little, if any, would be affected. A small amount of vegetation would be temporarily disturbed where the booster pump and a fuel storage container are placed and where the disposal pipeline route extends to the banks to and from the pump. Pickleweed is the dominant plant species just above the high water mark with upland species (primarily weedy or scrub) at higher elevations. Disturbance at the booster pump and fuel tank sites that does not damage the roots of these plants would have no long-term adverse effects. Dredging the pilot channels in all three creeks and the basins in Atascadero and San Pedro creeks would remove a small amount of aquatic and weedy vegetation present within the streambed, but impacts would not be significant (Class III) due to the small amount to be removed. Use of the staging areas at the latter two creeks would temporarily affect previously disturbed areas dominated by weedy species (San Pedro) or barren (Atascadero).

More than half of the 1.1-acre basin area in San Jose Creek supports moderately dense aquatic wetland and riparian vegetation on accumulated sediments in the streambed. The species present are common throughout the region, but this habitat is very limited. In addition, it is a vegetated wetland, even though it developed as a result of sediment accumulation in recent years. Such wetlands were likely once common along the creek prior to human alteration of the channel. The dense willow woodland on the northwest bank of the basin area could also be disturbed by the cable used to anchor the barge to a truck during basin dredging. Loss of aquatic and riparian vegetation would be a local adverse impact that would be long term as a result of periodic maintenance and is considered significant but mitigable (Class II).

Noise from the dredge and booster pump along with human activities, including a support vessel for transferring crew, fuel, and pipe, would temporarily disturb wildlife using the stream channels and upland habitats along the creeks. Most waterfowl and shorebirds would likely avoid the disturbance area, which would increase use in other nearby areas. Some species would habituate to the noise and return to the area, but passage of a boat two or more times a day would cause most water-associated birds to fly away, possibly to return later. This would interrupt feeding, increase energy expenditure, and cause stress in the birds. Upland birds using bank vegetation would also be disturbed. Raptors and herons could abandon their perch and roost sites along Atascadero Creek, particularly if dredging occurred at night, and swallows nesting under the gas pipeline and Ward Memorial Boulevard bridges could be affected during spring. Mammals such as raccoon, skunk, and fox would also avoid the disturbance area, especially if work occurred at night.

Impacts on common wildlife species of small animals such as lizards, snakes, and rodents as well as most songbirds is expected to be short term (18 to 43 days) and not significant (Class III). Disturbance of raptor and heron roosting/perching and swallow nesting could be locally significant but mitigable (Class II).

Dredging near the mouth of Goleta Slough and use of the booster pump could adversely affect sensitive bird species such as the brown pelican and Belding's savannah sparrow. These activities would disturb pelicans using the area for resting or foraging, particularly in summer and fall when their abundance is greatest. Impacts to this species are predicted to be insignificant (Class III) because few individuals would be affected and the disturbance is unlikely to be continuous over an extended period of time (months). Nesting activities for the Belding's savannah sparrow occur far enough from the proposed dredging areas to be unaffected. A foraging area, however, exists along the channel from Tecolotito Creek just west of the pilot channel site in the slough and a few individuals apparently use a bench adjacent to Atascadero Creek. Noise from the dredge and possibly the booster pump could disturb the birds in those

areas. Impacts are considered adverse but not significant (Class III) since few individuals and no nesting would be affected and since no habitat would be physically disturbed or lost.

Refueling or maintenance of the hydraulic dredge as well as mechanical failures could result in accidental spills of fuel, lubricants, or hydraulic fluid into the creeks or Goleta Slough. Stream flow (if present) and tidal action would move the spilled materials and would eventually dilute them. Impacts on aquatic biota and possibly birds would be local and adverse but not significant (Class III) for very small spills that are either greatly diluted or contained and cleaned up. Larger spills could have significant impacts (Class I) on aquatic biota, vegetation, and water-associated birds. Mitigation could reduce the probability of such a spill and possibly the extent of the impact.

The black-shouldered kite and peregrine falcon are uncommon visitors to the slough and no adverse impacts are expected to result from the proposed project. The tidewater goby is not expected to be present and, thus, would not be adversely affected by dredging. No sensitive plant species are likely to be affected.

#### GOLETA BEACH RECEIVER SITE

Placement and movement of the pipe at the discharge location on the beach would be by small loader. This would have minor impacts on birds and invertebrates using the beach. Disturbance of birds is expected to be less than from public use of the beach, especially if it occurs during the summer. A few invertebrates living in or on the sand would be crushed by the loader, but the number of individuals affected would be small resulting in no change in local populations. Disturbances (including lighting) at night have the potential to impact grunion spawning (spring and summer), if any such spawning occurs at this location. Impacts would likely be short term and not significant (Class III), but preclusion of spawning for the duration of dredging could be locally significant but mitigable (Class II).

Discharge of sediments into the surf zone would result in a turbidity plume that would be carried by local currents. This plume would generally extend offshore and eastward (refer to section 4.1, Water Resources/Flooding). Turbidity in nearshore waters continuously, or nearly so, over a period of up to 43 days would reduce light penetration and thus photosynthetic activity of phytoplankton and kelp within the plume. In winter, this would be similar to the effects of runoff from a small storm. Impacts on the marine ecosystem, in summer or winter, are expected to be local, short term, and not significant (Class III) because the change in local productivity would be within that of natural variability and temporary.

Most of the sediment discharged would likely be deposited within about 700 feet of the discharge point. Rapid deposition would bury most benthic invertebrates in this area, although some of the more mobile species may be able to survive. Algae on any small rocky outcrops in this area could also be at least partially covered with sediment. Nearshore benthic communities are adapted to natural disturbances such as rapid deposition or scour from storm waves and can recolonize rapidly. The area affected could be approximately 10 acres. Although adverse, these temporary impacts are well within the range of natural variability and are not considered significant (Class III).

Chemical testing of the sediments to be dredged indicate that minimal amounts of toxic chemicals are present (K. C. Geotechnical Associates 1993). Thus, no direct or indirect toxic effects are predicted from the discharge.

## *Phase II*

Carneros and Tecolotito creeks would not be affected by Phase II dredging. No pilot channel is planned for Phase I and, thus, no subsequent widening of this channel to the entire creek bed would occur.

Dredging the remainder of the creek channel from the basin to Goleta Slough in San Pedro, San Jose, and Atascadero creeks as well as the Goleta Slough channel downstream from these creeks would impact biological resources in a manner similar to that described for the Phase I pilot channel. The dredge would likely be placed in the slough at Goleta Beach and work upstream, although it could be placed in one or more of the basins by crane or by truck down a ramp. The amount of benthic habitat alteration (deepening) is shown in Table 4.4-1 for each site. As described for Phase I, the loss of benthic invertebrates would be local, short term, and insignificant (Class III) due to the low density present. Any fish that have moved into the pilot channels would perish or avoid the construction activities. Turbidity would extend downstream of the dredge for the duration of the activity and could affect fish foraging. Impacts to species such as the threespine stickleback and mosquitofish would be short term and insignificant (Class III). These are common species in the area and can repopulate quickly (within one year) from upstream. Dredging would increase the aquatic habitat available for benthic invertebrates and fish as well as for water-associated birds.

A small amount of aquatic vegetation that has colonized the accumulated sediments would be removed. In addition, vegetation would be disturbed again at the booster pump and its fuel storage tank locations as well as where the pipeline crosses upland areas to and from the pump. Use of the staging areas for equipment storage and possibly launching the dredge would temporarily disturb the weedy vegetation present at San Pedro and San Jose creeks (essentially none present at Atascadero Creek and Goleta Beach) that was previously disturbed in Phase I. Loss of aquatic vegetation would be adverse but not significant (Class III) because very little would be affected. Disturbance of the upland vegetation would have negligible impacts.

Noise impacts on terrestrial wildlife would be similar to that described for Phase I, but the duration would be 23 to 56 days. Potential effects on sensitive species would be the same as in Phase II. Impacts of discharging the dredged materials into the ocean would be the same as, and additive to, the impacts of Phase I. The duration of the discharge would be longer (up to 56 days as compared to 43 days in Phase I). Accidents could have the same type of impact as for Phase I.

### *Ongoing Maintenance*

Maintenance of the Tecolotito and Carneros creek basins would require repeating the desilting process and impacts every 3 to 5 years, or as needed. Thus, habitat disturbance would occur at intervals similar to that in the past. This limits the development of aquatic vegetation within the streambed and prevents the development of a mature scrub plant community in the areas used for spoil storage.

Maintenance of the three basins (in Atascadero, San Jose, and San Pedro creeks) and possibly the creek channels would involve placing the dredge into the basins by crane or down a ramp from the staging area every 3 to 5 years, or as needed. Habitat alteration and disturbance would thus occur at intervals as has been the case in the past. Such periodic disturbance would limit the development of aquatic vegetation in the stream beds and would remove benthic populations that have colonized the basins. Impacts would be similar to those described for the initial sediment removal, except that dense vegetation is unlikely to develop in the San Jose Creek streambed as is the current situation. Maintenance of the channels would seldom be required if the basins are maintained, and thus, the impacts would likely occur once or very infrequently.

Periodic maintenance of the basins would have similar impacts on the nearshore environment, but the amount of material discharged would likely be less since not all three basins may need to be dredged in any one year, and the amount of accumulation is not expected to be as much as at present (i.e., before maintenance takes place).

#### 4.4.2.2 Traditional Maintenance

This alternative only applies to Atascadero, San Jose, and San Pedro creeks and to Goleta Slough. Impacts at Tecolotito and Carneros creeks would be the same as described for the proposed action since dragline desilting in these creeks is part of the proposed action.

##### *Phase I*

Using a dragline for sediment removal in three creeks and Goleta Slough would have substantially greater impacts on biological resources than would the proposed project as a result of greater habitat disturbance and turbidity. Disturbance of aquatic habitats in the basins and stream channels would be about the same as for the proposed project (Phase I) and result in local, short term impacts that are not significant (Class III) for San Pedro and Atascadero creeks. Impacts at the San Jose Creek basin site would be significant (Class II) as described for the proposed project.

Much more upland vegetation would be disturbed, however, through (1) access to the basins and along the creeks and slough for dredging the stream channel, (2) storage of materials dredged from the creeks and slough, and (3) bank disturbance when the dragline is lifted. The areas affected would be 6.8 acres along San Pedro Creek, 6.8 acres along San Jose Creek, 9.9 acres along Atascadero Creek, and 5.4 acres along the Goleta Slough channel to be dredged. In addition, salt marsh and riparian vegetation on the lower banks would also be disturbed on the side from which dredging occurs. This includes habitat for the Belding's savannah sparrow along Atascadero Creek (dredged from the south side) and possibly along Goleta Slough. Noise and human presence would intrude farther into the upland habitats along the creek banks because the equipment would be above the banks. The duration of the activity would also be twice as long as for the hydraulic dredge. Furthermore, spoils removal would increase the duration of such disturbance beyond the time necessary for desilting. Upland habitat impacts would likely be local but significant (Class II). Habitat disturbance in areas used for staging and spoil storage along the stream channels would likely be short term while impacts adjacent to the basins could be long term as a result of periodic maintenance.

Turbidity downstream from the dragline would be greater than for the dredge and could adversely affect fish, including the tidewater goby (if present) and invertebrates as described for Phase I of the proposed project. The level of turbidity impact would depend on how and when the desilting activities take place. For example, working from the slough upstream in the creeks during the dry season would result in greater turbidity impacts than if desilting began at the basin and proceeded downstream because the accumulated sediments would act as a dam to minimize runoff downstream. Desilting when the streams are flowing could increase the silt load in the stream flow if storm runoff has not resulted in the maximum silt load possible. During periods of low flows, turbidity would be increased considerably. Impacts to vegetation, wildlife, and aquatic species would be local and potentially significant (Class II).

Dragline desilting would not require any sediment disposal into the ocean, but turbidity carried by stream flow or tidal currents would enter the ocean. The extent of the plume, however, would be much less than for the proposed action and would have local, short term impacts on kelp and other nearshore marine organisms that are not significant (Class III).

Impacts of accidental spills of fuel and hydraulic fluid would be the same as described for the proposed project.

#### *Phase II*

Desilting the creek and slough channels beyond the areas reached in Phase I would continue the impacts described for Phase I, and additional upland areas would be affected for spoils storage. The duration of the work would be about twice that for the proposed project.

#### *Ongoing Maintenance*

Maintenance of the basins would have impacts of turbidity, noise, and upland disturbance similar to those described above, excluding the stream channel work. Benefits of more open water habitat would be the same as for the proposed project. Periodic maintenance of the stream channels is unlikely to be needed if the basins are maintained, except possibly after large storm events.

#### 4.4.2.3 Beach Deposition

Disposal of the materials hydraulically dredged from San Pedro, San Jose, and Atascadero creeks and from Goleta Slough on the beach, rather than into the surf zone as for the proposed project, would affect biological resources on the beach and potentially in nearshore waters if water in the spoils runs off into the ocean. Impacts of other dredging activities would be the same as for the proposed project, but a second booster pump would be necessary.

#### *Phase I*

Discharge of the sediments onto the beach would bury those organisms living in or on the sand. It could also adversely affect grunion spawning, if any occurs on the beach and if discharge occurred in spring or summer. The area affected would be a maximum of 3.5 acres, and the disturbance would last 8 to 10 days for a deposition depth of 3 feet and 16 to 20 days for a depth of 6 feet. Species living on the sand surface would recolonize the area within about one year from nearby areas, while use of the beach would be precluded for most, but not all, shorebirds during disposal activities. Organisms living within the sand would also recolonize, but the zonation would be horizontally compressed due to the higher elevation of the sediments (i.e., greater slope at the water's edge). Use of the second booster pump would increase the noise near the Goleta Beach roosting area for herons, thereby increasing the potential for significant (Class II), but short term, impacts. The disposal area would be suitable for bird resting once disposal activity (including grading of materials) ceases, but the foraging area and abundance of invertebrates would be reduced and limited by the recolonization rate of those organisms.

As the spoils are transported away by the waves and long-shore currents, and the beach profile returns to preproject levels (estimated to take many years, or a very large storm), the zonation of infauna would return as well. Overall impacts on biological resources would be local, short term, and insignificant (Class III).

#### *Phase II*

In Phase II, the same types of disturbance would occur again over an area of up to 3.5 acres.

#### *Ongoing Maintenance*

Periodic maintenance dredging would have impacts similar to those described for Phase I, although the area of beach affected would be less.



#### 4.4.2.4 Reduced Basin Size

##### *Phase I*

In this alternative, the amount of benthic aquatic habitat disturbed in Phase I would be reduced for San Pedro, San Jose, and Atascadero creeks (see Tables 4.4-1 and 4.4-2). All other impacts would remain the same as for the proposed project. The smaller amount of material to be dredged would reduce the length of time required to complete dredging by 6 days for 24 hours/day or 15 days for 10 hours/day. In addition, the amount of sediment deposition in nearshore waters would be less.

##### *Phase II*

Biological impacts would be the same as described for the proposed project.

##### *Ongoing Maintenance*

With smaller basins, maintenance would likely be required more frequently than for the proposed project. The potential for sedimentation in the stream channels below the basins would also increase along with the frequency of dredging. Impacts would be similar to those described for the proposed project.

#### 4.4.2.5 Increased Basin Size

##### *Phase I*

The basins to be hydraulically dredged would be larger, thereby affecting more benthic habitat. For Atascadero Creek, however, the basin cannot extend farther upstream due to the weir, so the pilot channel would be shorter in Phase I. The areas affected are shown in Table 4.4-2. The disturbance would last longer (6 to 15 days) than for the proposed project (18 to 43 days), including the turbidity plume in nearshore waters.

##### *Phase II*

The areas to be dredged in San Pedro Creek, San Jose, Creek and Goleta Slough would be the same as in the proposed project. For Atascadero Creek, the stream channel to be dredged would be about 872 feet shorter, reducing the disturbed area to 2.8 acres. The duration of the disturbance to upland habitats and nearshore waters would also be reduced.

##### *Ongoing Maintenance*

The frequency of maintenance dredging in the basins and creek channels would likely decrease, but impacts would still be similar to those described for the proposed project.

#### 4.4.2.6 Discharge Pipeline on the Ground

This alternative applies only to those areas to be hydraulically dredged.

##### *Phase I*

Placement of the hydraulic dredge discharge pipeline on land, rather than within the creek or slough channels would impact biological resources through disturbance of vegetation during pipeline placement and removal and from noise associated with the equipment used in moving the pipes. Vegetation would be disturbed in upland habitats along the creeks and on the banks

Table 4.4-2

**IMPACTS OF REDUCED AND INCREASED BASIN ALTERNATIVES  
ON AQUATIC HABITATS (ACRES)**

<i>Alternative</i>	----- SITE <sup>1</sup> -----		
	<i>San Pedro Creek</i>	<i>San Jose Creek</i>	<i>Atascadero Creek <sup>2</sup></i>
Reduced Basin			
Phase I			
Basin	0.5	0.4	1.3
Pilot channel	1.2	1.2	1.6
Phase II			
Creek channel	1.1	1.0	5.0
Increased Basin			
Phase I			
Basin	1.8	1.6	5.1
Pilot channel	1.2	1.2	0.8
Phase II			
Creek channel	1.1	1.0	2.8

Notes:

1. Carneros Creek, Tecolotito Creek, and Goleta Slough areas affected would be the same as for the proposed project. Staging area at all locations would also be the same as in the proposed project.
2. For the Increased Basin Alternative, the pilot channel and Phase II areas are smaller than for the proposed project and the Reduced Basin Alternative because the larger basin would extend downstream and eliminate part of the pilot channel.

where the pipes must cross the channel to reach the booster pump and the ocean. The amount and type of vegetation affected would depend on the exact location of the pipeline, the access roads available, and the number of channel crossings necessary. Disturbance of pickleweed areas large enough to support Belding's savannah sparrows could affect this species through loss of foraging habitat. Noise from the equipment used in moving the pipeline and human presence would disturb wildlife in adjacent areas, causing some to avoid the area, at least temporarily. Impacts on biological resources would be local and short term and could range from insignificant (Class III) where only disturbed areas are affected to significant (Class II) where native vegetation and/or sensitive species are affected.

#### *Phase II*

Impacts of widening the pilot channels would be similar to those described for Phase I, although areas disturbed in Phase II could be reused to reduce impacts.

#### *Ongoing Maintenance*

The impacts described for Phase I would be repeated at intervals, whenever maintenance dredging is required.

#### **4.4.2.7      No Project**

Leaving the accumulated sediments in the creek channels and Goleta Slough would avoid the impacts associated with their removal as described above, but the rapid succession from open water to marsh and riparian habitats would continue to occur. Wetland and riparian vegetation would continue to colonize the channels, especially where freshwater influence is the greatest (e.g., upper San Jose Creek). This vegetation would provide habitat for birds and other species associated with marshes and riparian corridors, while open water habitat for aquatic species and water-associated birds would continue to decrease as more sediments accumulated. Tidal influence would also decrease in the creeks, resulting in a loss of salt marsh. The potential for flooding (primarily freshwater) would increase. This could have beneficial effects (Class IV) on some areas of the slough that have become isolated from flooding due to channelization of the creeks and increased bank height.

The slough mouth would remain closed more frequently during much or all of the year when flows are too low to maintain the opening and, thus, would prevent tidal influence and access to marine fish. The resulting stagnant water would support a somewhat different biological community, in part due to greater extremes of salinity and temperature. Algal blooms would likely become more frequent in the stagnant water and could result in fish kills. Over time, more upland habitat would develop as the slough gradually fills in.

#### **4.4.3      Cumulative Impacts**

The proposed project would add a small increment to the cumulative impacts of past disturbances to the creeks and Goleta Slough. Considering proposed or planned future projects in the area (e.g., upstream silt basin on Carneros Creek, upstream sediment removal in Atascadero Creek, airport runway expansion, and more development in the creek watersheds), the proposed project would add to the overall impact on the creeks. However, once the basins and channels are dredged, the project would help prevent impacts of sediment deposition within Goleta Slough resulting from further development (soil disturbance) in the watershed.

Traditional maintenance in the creeks instead of hydraulic dredging would have greater cumulative impacts than for the proposed action due to the greater disturbance of upland habitats within the slough.

Cumulative impacts of the other alternatives would be similar to those of the proposed project.

#### 4.4.4 Mitigation Measures

Significant vegetation impacts include loss of wetland and riparian vegetation in San Jose Creek. For wildlife, significant impacts could occur for raptor and heron roosting/perching and swallow nesting, tidewater goby (if present), and aquatic biota if larger spills of fuel or other toxic fluids associated with dredge operation were to occur.

The District has adopted Standard Maintenance Practices (see the *Final Program Environmental Impact Report for Santa Barbara County Flood Control Routine Maintenance Activities*, 90-EIR-7) that include a number of measures to reduce impacts on biological resources, such as removal of non-native species and revegetation with native species where feasible. The District also has in place a Pesticide & Petroleum Leak and Spill Prevention & Clean-up Plan. This plan, however, deals almost exclusively with the use of pesticides, although it could be amended to include spill prevention and clean-up.

The mitigation measures described below are required to reduce impacts to significant levels.

1. Impacts of removing wetland and riparian vegetation in San Jose Creek shall be mitigated through restoration and enhancement of riparian and salt marsh habitat along the banks of San Jose Creek. Restoration shall include the following:
  - a. Selective removal of invasive weedy species along the creek banks, such as pampas grass, giant reed, poison hemlock, and castor bean. Pampas grass will need to be removed for 2 to 3 consecutive years to eliminate the seed bank.
  - b. Removal of myoporum along the west bank of San Jose Creek in the basin area and replacement with native species such as willow, saltbush, and alkali weed.
  - c. Seed or cutting collection from the immediate project area for native species to be used in revegetation.
  - d. A weed control program that may include selective spraying with herbicides within the designated mitigation areas.

**Timing:** The Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program shall be used as a guide to revegetate the areas subject to revegetation. See 90-EIR-7 Annual Plan. Revegetation shall take place concurrent with the dredging operations, as the recommended schedule for dredging is also the best time to revegetate with riparian species.

**Monitoring:** Revegetation shall be monitored by a District biologist in accordance with the Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program. Success of the revegetation shall be based on the Revegetation Plan and the California Department of Fish & Game 1601 agreement. Criteria for revegetation success over a 3-year period shall include survival rate and cover of native species.

2. Potential adverse impacts to raptor and heron roosting/perching in the immediate project area shall be mitigated by limiting dredging to daytime hours or by developing a plan to monitor the response of the birds to project activities with specified actions to take place if adverse impacts are found.

**Plan Requirements:**

- a. A methodology for observing the birds that includes a schedule of surveying prior to District activities (baseline conditions) and to coincide with periods of activity, including at night, that could affect the birds.
- b. Criteria for determining that an adverse impact is occurring.
- c. Measures to be taken if adverse impacts occur and the procedures to follow in implementing these measures.

**Timing:** The plan shall be prepared and approved by the District biologist prior to commencing dredging activities.

**Monitoring:** Monitoring will be done by the District biologist or a qualified ornithologist.

3. A site-specific emergency spill contingency plan for hydraulic and dragline dredging shall be developed and implemented.

**Plan Requirements:**

- a. Containment and cleanup procedures that minimize impacts to biological resources. These include specifying access locations, precautions to take in areas of native vegetation, types of materials to be used (non-toxic), and notifications to resource management agencies such as the California Department of Fish and Game and the U.S. Fish and Wildlife Service.
- b. Cleanup equipment and materials to be stored at the staging areas for immediate use in case of an accident.
- c. Specifications for disposal of any contaminated materials resulting from the cleanup activities.
- d. Measures to be taken to restore any significant environmental damage caused by the spill or cleanup activities. Such measures are to be taken only when natural recovery would be very slow (more than 3 years) or not likely to occur without help.

**Timing:** The plan shall be prepared prior to sending the Request for Proposal for dredging activities.

**Monitoring:** All cleanup activities for accidental spills shall be monitored by the District biologist and a report documenting the cleanup and any damage to biological resources shall be prepared and kept in the District files.

4. Impacts of the traditional maintenance alternative on upland and salt marsh vegetation along San Pedro, San Jose, and Atascadero creeks and in Goleta Slough shall be mitigated through a restoration and enhancement plan to compensate for areas of native vegetation disturbed during the stream channel dredging and spoil storage process. The restoration plan shall follow the outline presented in measure 1 with minor changes to fit the conditions at each site. Spoils storage areas that contained weedy species prior to deposition of sediments shall be reseeded with noninvasive nonnative grasses after the spoils have been removed. Conduct desilting from upstream to downstream and during

the dry season after animal breeding (about July through October) to reduce turbidity impacts and potential disturbance of sensitive wildlife breeding.

**Timing:** The Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program shall be used as a guide to revegetate the areas subject to revegetation. See 90-EIR-7 Annual Plan. Revegetation shall take place concurrent with the dredging operations as the recommended schedule for dredging is also the best time to revegetate with riparian species.

**Monitoring:** Revegetation shall be monitored by a District biologist in accordance with the Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program. Success of the revegetation shall be based on the Revegetation Plan and the California Department of Fish & Game 1601 agreement.

5. The potential for impacts to grunion spawning and swallow nesting shall be avoided to the extent feasible. Perform the hydraulic dredging and pipelaying in the Goleta Slough channels, and the dragline desilting in Tecolotito Creek, after the swallow breeding season has been completed and before the next season begins (i.e., between 1 August and 1 April). Prior to pipelaying across the beach and discharge of dredged sediments during the grunion spawning season, conduct a survey (on high tides at night) to determine if any grunion use this beach. If they do, suspend dredging and pipe moving activities at night and minimize vehicle activity on the beach to prevent damage to eggs in the sand.

**Timing:** Schedule dredging between August and April.

**Monitoring:** Project scheduling shall be coordinated with the District biologist and pre-project surveys for grunion shall be conducted by the District biologist.

6. Impacts of placing the hydraulic dredge discharge pipelines in upland areas containing native salt marsh vegetation and sensitive species such as the Belding's savanna sparrow shall be mitigated through avoidance. Areas of native vegetation shall be avoided when placing the pipeline in upland areas. The locations where the pipeline could be placed with negligible effects on vegetation and sensitive species shall be shown on plan maps of the site and shall be marked (using flagging) in the field by a qualified biologist working with the dredge operator.

**Timing:** The pipeline locations shall be determined prior to commencing dredging activities.

**Monitoring:** The District biologist shall assist the dredge operator when locating pipeline routes.

The following measures are recommended to reduce adverse but insignificant impacts.

7. Vegetation and wildlife disturbance in San Pedro and Atascadero creeks shall be mitigated by weed control and replanting of native plants along the creek banks using measures described in Mitigation 1c. Invasive weedy species, such as pampas grass, giant reed, poison hemlock, myoporum, and castor bean shall be selectively removed. Pampas grass will need to be removed for 2 to 3 consecutive years to eliminate the seed bank.

**Timing:** The Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program shall be used as a guide to revegetate the areas subject to



revegetation. See 90-EIR-7 Annual Plan. Revegetation shall take place concurrently with the dredging operations as the recommended schedule for dredging is also the best time to revegetate with riparian species.

**Monitoring:** Revegetation shall be monitored by a District biologist in accordance with the Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program. Success of the revegetation shall be based on the Revegetation Plan and the California Department of Fish & Game 1601 agreement.

8. Long-term disturbances in the spoils storage areas adjacent to Tecolotito and Carneros creeks shall be compensated by weed control and revegetation. After the spoils have been removed, disturbed areas at the Tecolotito and Carneros spoil storage areas shall be seeded with a mixture of introduced grasses that do not become invasive in salt marshes to prevent dominance by weedy species. The basin banks that have been disturbed by dredging shall also be seeded in this manner. An active weed control program shall be established along with annual monitoring that will aid in establishing vegetative cover with at least moderate value for wildlife.

**Timing:** The Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program shall be used as a guide to revegetate the areas subject to revegetation. See 90-EIR-7 Annual Plan. Revegetation shall take place concurrent with the dredging operations, where appropriate, as the recommended schedule for dredging is also the best time to revegetate with riparian species.

**Monitoring:** Revegetation shall be monitored by a District biologist in accordance with the Revegetation Plan for Santa Barbara County Flood Control District Maintenance Program. Success of the revegetation shall be based on the Revegetation Plan and the California Department of Fish & Game 1601 agreement.



## 4.5 RISK OF UPSET/HAZARDOUS MATERIALS

This section addresses the potential for upset (e.g., fires and explosions) or the release of hazardous materials, as well as the potential impacts to public safety should these events occur. Potential impacts to physical resources resulting from these occurrences are dealt with in sections 4.1, Water Resources/Flooding and 4.4, Biological Resources. Health impacts associated with potential contaminants in the dredge material itself are addressed in section 4.1, as are risks associated with floods.

### 4.5.1 Affected Environment

Operation of the Santa Barbara Municipal Airport (SBMA), industrial, transportation, and other human activities serve as the primary sources of potential accidents and release of hazardous materials in the vicinity of the Goleta Slough. In addition, on a periodic basis, dredging activities by the District pose potential fire and chemical/fuel discharge related risks.

The principal hazards associated with SBMA operation are airport crashes and dropped materials (e.g., part of an aircraft or fuel) that may result in fire, injury and death, property damage, and water pollution. In general, approximately 15 percent of all civilian aircraft incidents occur near airport boundaries. Each county in California has an Airport Land Use Commission (ALUC) whose purpose is to work toward compatible land uses surrounding airports. There are two designated safety zones associated with the SBMA: Safety Area 1 (the clear zone) is the area close to the end of the runways; Safety Area 2 (the approach zone) extends substantially beyond the clear zone (Santa Barbara County Resource Management Department 1993).

Industries in the area pose potential hazards primarily related to their activities, the chemicals that are used, and the potential for their release. Potentially risk-creating industrial operations include aircraft-related support operations, aircraft remanufacturing and refurbishing, the Southern California Gas Company gas injection and storage facility and associated above- and underground gas lines, the University of California, and the Goleta Sanitary District wastewater treatment plant. With the exception of two sewer crossings north of the proposed San Pedro Creek basin (near Placencia Street and north of Daley Street), there are no other sewer crossings beneath the creeks (personal communication, H. Reyes 1993).

Transportation activities pose risks primarily related to accidents and the release of flammable and toxic materials being transported.

As previously described, dragline desilting operations in the Goleta Slough and surrounding creeks have occurred periodically in the past. Potential risks associated with these operations include the accidental discharge of fuels, lubricants, and hydraulic fluids onto the ground or into the creeks or slough. The District has a Pesticide and Petroleum Leak and Spill Prevention and Clean-Up Plan that describes emergency procedures for preventing and dealing with spills of materials during transport, storage, or usage.

The Santa Barbara County Fire Department has four fire stations in the vicinity of the Goleta Slough that would provide emergency response (personal communication, M. Goddard 1993). Due to their proximity, Fire Department response time is likely to be less than 10 minutes.

#### 4.5.1.1 Atascadero Creek

Known hazards in the vicinity of the proposed basin include the gas injection and storage facility operated by the Southern California Gas Company, located south of the proposed basin.

Upstream of the proposed basin there is an abandoned 8-inch gas line that crosses the creek, but it is outside the project area. Downstream, toward Goleta Beach, high pressure above-ground gas lines cross the creek in the vicinity of the proposed booster pump (see Figure 2.2-2). The basin and creek are outside of the airport safety zones.

#### 4.5.1.2 San Pedro Creek

The principal hazards in this area are related to airport activities. A small part of the proposed basin may be within Safety Area 1. In addition, to the west of the proposed basin is the Goleta Sanitary District wastewater treatment plant.

#### 4.5.1.3 San Jose Creek

The principal hazards in this area are related to airport activities. A small portion of the northern end of the proposed basin may be within Safety Area 1. The straight, divided design of Ward Memorial Boulevard results in only limited transportation related risks.

#### 4.5.1.4 Tecolotito Creek

The proposed basin area is outside the safety areas of the airport, although there are some airport-related activities in the area. Downstream of the basin there is a 16-inch underground gas line (#247) owned by the Southern California Gas Company. No other underground gas lines cross this creek. Except for the limited potential for transportation accidents along Hollister Avenue, there are no other major sources of risk.

#### 4.5.1.5 Carneros Creek

The proposed basin is outside the safety area of the airport, although there are some airport-related activities in the area. Except for the limited potential for transportation accidents along Hollister Avenue, there are no other major sources of risk.

#### 4.5.1.6 Goleta Beach

This area is outside the safety areas of the airport. Besides limited transportation risks of vehicles using Ward Memorial Boulevard, there are no known major hazards in the vicinity of Goleta Beach.

### 4.5.2 Environmental Consequences

CEQA Section 15065(d) states that a project that "... will cause substantial adverse effects on human beings, either directly or indirectly ..." would have a significant environmental effect. Appendix G(v) states that a project that would "... create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people or animal or plant population in the area ..." normally would have a significant effect on the environment. An individual employed in the construction or operation of the project is not considered a member of the public.

The county has defined the criticality and frequency classifications in the Environmental Thresholds and Guidelines Manual (Santa Barbara County Resource Management Department 1990). The criticality classification includes the following:

*Negligible:* No significant risk to the public with no minor injuries.

*Minor:* A small level of public risk with at most a few minor injuries.

*Major:* A major level of public risk with up to 10 severe injuries.

The frequency classification utilizes the following definitions:

*Frequent:* Greater than once a year or an event that would occur once a year on the average.

*Likely:* Between once a year and once in 100 years, which would probably occur during the project lifetime.

*Unlikely:* Between once in 100 years and once in 10,000 years, which is an event unlikely to occur during the project lifetime.

Significant impacts would likely be caused by a combination of factors indicated in the shaded portion of Figure 4.5-1.

A non-statistical approach for determining the above classifications was used in order to estimate the potential risk impact and was based on discussions with persons with familiarity with the proposed equipment, including dredge operators and District personnel (personal communication, W. Dyson, C. O'Brien, L. Thomas, K. Treiberg 1993).

#### 4.5.2.1 Proposed Project

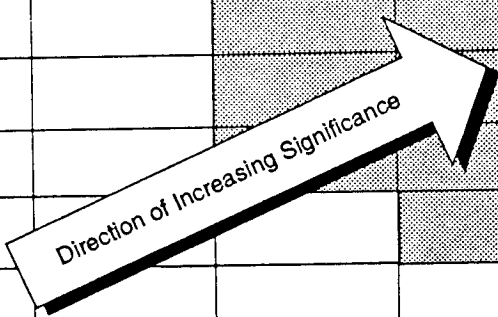
The following discussion applies to each of the affected creeks and the beach discharge area.

##### *Phase I*

Potential hazards of the proposed project are primarily related to leaks and fires.

- **LEAKS OF FUELS, HYDRAULIC OIL, AND LUBRICANTS DURING TRANSFER.** Trucks coming onto the sites would supply the dredge, crane, and other vehicles and equipment with diesel fuel, hydraulic oil, and lubricants as required. Depending on tank size and the operating schedule, the dredge may require refueling one or two times a week. The SDG&E dredges have spill collars located around the fuel inlet that can catch small leaks. Engine oil requires replacement approximately every 100 hours of operation; hydraulic oil replacement, approximately every 1,000 hours of operation or possibly less frequently (SDG&E changes the hydraulic oil every two years). Silt curtains can be utilized for controlling silt dispersion and containment of fuel or oil spills under low water flow conditions. This risk is considered to have a likely frequency and a negligible criticality and is therefore not significant.
- **FUEL STORAGE TANK LEAKS.** With the exception of the booster pump fuel storage, there would be no storage of fuel in tanks that are separate from the equipment. For a booster pump located on land, an above-ground fuel storage tank would be installed in accordance with government regulations in the vicinity of the pump. The exact location and design have not been determined. In the case of a rupture, the fuel would be contained by the required diking. (For temporary installation, SDG&E typically creates a plastic lined area that is capable of holding the entire fuel tank capacity.) The risk of a fuel storage tank leak is considered to have a likely frequency with a negligible criticality because of required spill containment design. This risk is therefore considered not significant. If used, a floating booster pump would either have an integral fuel storage tank that would need refueling or possibly an on-land fuel tank with a

		Severity of Consequences				
		Negligible	Minor	Major	Severe	Disastrous
Frequency of Occurrence	Frequent					
	Likely					
	Unlikely					
	Rare					
	Extraordinary					



LEGEND

Potentially Significant Impacts

Figure 4.5-1

MATRIX CATEGORIES OF POTENTIAL IMPACT SIGNIFICANCE



fuel line connection. The fuel line connection would pose a greater risk than the integral system, but is not considered a significant risk for a properly designed system.

- **FUEL STORAGE TANK FIRES.** Due to government-regulated storage tank placement and design, the effects of a fire would be minimized, and the potential for an occurrence is unlikely (less than once during the project lifetime). The storage tank facility would be designed in conformance with Section 79, Division V of the 1988 Uniform Fire Code. Fire suppression equipment would be located at the storage tank site. The associated risk of a fuel storage tank fire is considered to have an unlikely frequency (less than once every 100 years) with a negligible to minor criticality. With rapid emergency response to a fire at a properly designed fuel storage tank area, the impacts of such an incident would be insignificant.
- **DREDGE OR CRANE FIRE.** The fuel tank on board the dredge could range from 400 to 700 gallons in capacity. Accidental ignition could result in a fire, which depending on its location could spread. The dredge, being located in the water, would be a somewhat lesser hazard than a crane. Fire suppression equipment would be provided on the equipment, and emergency services are readily available in the area. The associated risk of a dredge or crane fire is considered to have an unlikely frequency (less than once every 100 years) with a negligible to minor criticality.
- **DISCHARGE PIPELINE ACCIDENTS.** Potential hazards associated with the pipeline include accidents resulting from connection operations and the manner of installing, moving, and removing of the pipeline. The associated risk is considered to have a likely frequency with a negligible criticality.
- **STORM CONDITIONS.** Because the dredge would not be operating on the open sea, SDG&E dredge operators stated that dredging would likely continue during storm conditions. Location of the booster pump and equipment would be located where flooding would be unlikely to occur.

The Southern California Gas Company has expressed concern over the impact of dredging Atascadero Creek on the pilings that support the high pressure gas lines crossing over the creek. The pilings have withstood traditional maintenance practices which have occurred over the past 20 years, and impacts from the proposed project are expected to be comparable. If the pipeline were to collapse, however, impacts from a potential explosion and fire would be significant (Class II).

Assuming five days per week dredging, approximately 38 working days would be required for 10-hour days and about 16 working days for 24-hour days. There are counterbalancing risks with each of these modes of operation with a slight reduction for 10-hour-per-day operation. A 24-hour-per-day operation would reduce the amount of time that the dredge equipment is left unattended and subject to potential vandalism and release of fuels and chemicals. The equipment in the staging areas would be locked behind a chain link fence. SDG&E dredge operators have indicated that this has not posed a problem in the past. On the other hand, working during daylight hours generally would increase safety due to increased visibility.

The four fire stations in the vicinity of the Goleta Slough would be capable of providing rapid response for any emergency. The department placed no conditions on the proposed project other than compliance with Uniform Fire Code requirements for storage and handling of diesel

fuel by operators (Rosenberger 1993). Emergency response is considered adequate to deal with emergencies resulting from the proposed project.

#### *Phase II*

Risk of upset concerns would be greater for Phase II because of the more extensive nature of the work requiring approximately 56 working days for 10-hour-per-day operation and 24 working days for 24-hour-per-day operation to complete. The increased risk would be directly related to the length of time that the dredging operation would occur; therefore, the overall risk would be increased by approximately 50 percent. However, the risk classifications are considered to remain as discussed above and are not considered significant. It is assumed that any potential impacts to the Southern California Gas Company pilings in Atascadero Creek would be mitigated as part of Phase I.

#### *Ongoing Maintenance*

The same types of risks would be present as described for the proposed project, although it is assumed that any required modifications to the Southern California Gas Company pilings would be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.2 Traditional Maintenance

##### *Phase I*

Traditional dragline desilting and support activities would take approximately 76 working days. This constitutes a longer period of activity than for the proposed project. Risks associated with moving, loading, transporting, and disposal of the dredged material by truck would be present, but they would be readily mitigated to insignificance (safety impacts associated with spoils hauling trips are addressed in section 4.10, Traffic and Circulation). Offsetting these risks is the lack of risks associated with the pipeline installation, moving, operation, and removal, which is required for the proposed project. Furthermore, the ability to leave all the equipment at night in a secure area (access is only through a locked chain link fence) and the lack of need for booster pump(s) and separate fuel storage tank(s) generally provide a somewhat lower risk for this alternative than for the proposed project.

In sum, the risks of traditional maintenance are considered to be the same as the proposed project at the Tecolotito and Carneros sites, and less than the proposed project at the other sites. However, in all cases, the risks are not considered significant, with the exception of risks to the Southern California Gas Company pilings in Atascadero Creek.

##### *Phase II*

The desilting activities for this phase would take approximately 108 working days; thus, risks would be increased somewhat over the proposed project merely due to the length of time involved. Except for the longer period of time for dredging and the more extensive activities along the creeks, the risks are essentially the same as for Phase I, with the exception of potential impacts to Gas Company pilings, which are expected to be mitigated prior to Phase II.

#### *Ongoing Maintenance*

The same types of risks would be present as described for the proposed project, although it is assumed that any required modifications to the Southern California Gas Company pilings would

be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.3 Beach Deposition

##### *Phase I*

Because of the second booster pump required for this alternative there would be a small increase in risk over the proposed project. The risks would be similar to those described for the booster pump in the proposed project. However, given proper design, installation, and operation, the overall risks would not be significant.

##### *Phase II*

The additional risks for Phase II would be the same as described for Phase I with the exception of potential impact to Southern California Gas Company pilings. The overall risks would not be significant.

##### *Ongoing Maintenance*

The same types of risks would be present as described for Phase I, although it is assumed that any required modifications to the Southern California Gas Company pilings would be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.4 Reduced Basin Size

##### *Phase I*

Because the basins to be hydraulically dredged would be smaller, more frequent dredging would be required, although dredging would last for fewer hours each time. Since the average number of hours of dredging over a several-year period would not be altered substantially, the overall risk would be comparable to the proposed project.

##### *Phase II*

The risk associated with Phase II would be the same as described for the proposed project, with the exception of Gas Company pilings.

##### *Ongoing Maintenance*

The same types of risks would be present as described for the proposed project, although it is assumed that any required modifications to the Southern California Gas Company pilings would be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.5 Increased Basin Size

##### *Phase I*

Because the basins to be hydraulically dredged would be larger than for the proposed project, less frequent dredging would be required, although dredging would take longer each time. Since the average number of hours of dredging over a several-year period would not be altered substantially, the overall risk would be comparable to the proposed project.

##### *Phase II*

The risk associated with Phase II would be the same as described for the proposed project, with the exception of Gas Company pilings.

##### *Ongoing Maintenance*

The same types of risks would be present as described for the proposed project, although it is assumed that any required modifications to the Southern California Gas Company pilings would be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.6 Discharge Pipelines on the Ground

##### *Phase I*

Impacts of this alternative would be essentially comparable to the proposed project. The pipeline would be more readily accessible to the public, and there is a possibility of either accidental rupture or intentional damage and subsequent rupture that could result in injury. This particular scenario is considered to have a frequency classification of likely (between one and 100 years) and a criticality of negligible and is therefore not significant.

##### *Phase II*

This alternative would be essentially similar in risk to the general public as described for Phase I, except for the longer period of activity, with the exception of Gas Company pilings. Therefore, the risk is not considered significant.

##### *Ongoing Maintenance*

The same types of risks would be present as described for the proposed project, although it is assumed that any required modifications to the Southern California Gas Company pilings would be completed during Phase I. Under normal circumstances, only the basins would be desilted; therefore, risks would be proportionally less than described for phases I or II. Impacts would be adverse but insignificant.

#### 4.5.2.7 No-Project

There would be no risks associated with fire, leaks, or spills and the resulting contamination for the No-Project Alternative. Therefore, there would be no risk of upset for this alternative, other than the potentially severe risk associated with flooding, as described in section 4.1.2.7.

#### **4.5.3 Cumulative Impacts**

Neither the proposed project or its alternatives would contribute to a significant cumulative impact associated with risks.

#### **4.5.4 Mitigation Measures**

The following mitigation measure is required to reduce the potentially significant impact for a gas pipeline accident resulting from damage to the pilings in the Atascadero Creek to an insignificant level (Class II). This applies to all alternatives.

1. The District shall coordinate with the Southern California Gas Company to assure that the pilings supporting the pipeline crossing in Atascadero Creek are able to withstand dredging activities.

**Timing:** The District engineer shall meet with the Southern California Gas Company prior to commencing dredging but after a contractor has been hired.

**Monitoring:** The District engineer shall assure that Southern California Gas Company concerns have been addressed.

Other potential impacts caused by the occurrence of a fire and leakage of chemicals from the dredge or other equipment during chemical/fuel transfer or operation are not considered significant (Class III) based on information provided by dredge contractors concerning standard procedures. In order to ensure that appropriate practices are followed by whichever contractor is selected, the following measures are recommended.

2. The District shall prepare a Risk Management Plan including the following elements:
  - a. The District shall require that equipment operators be trained to provide appropriate response in cases of accidental fires.
  - b. The District shall require all dredging personnel shall be trained to handle accidental spills of liquids in accordance with the procedures established in the District's Pesticide and Petroleum Leak and Spill Prevention and Clean-up Plan. A silt curtain shall be on site and ready to install at all times to confine accidental spills. Special absorbents, kitty litter, sand, sawdust or absorbent clay materials shall be available on site to contain spills if needed. Emergency communication equipment shall be available to the personnel. Operators are to contact the Regional Water Quality Control Board if a fuel/chemical leak occurs.
  - c. The dredge operator shall take special measures to assure that proper procedures for fueling and lubricant and hydraulic oil removal and that special equipment, such as drip holders, be used. Fuel trucks during fuel transfer shall be located over an impervious surface at each site. Operators are to follow procedures approved by the EHS for proper disposal of petroleum wastes.
  - d. If equipment is to be left unattended, measures shall be designed to restrict access to it by the public in order to prevent vandalism and the potential subsequent releases.
  - e. Radio or cellular communications will be available to equipment operators for emergency response.

**Timing:** The plan shall be prepared prior to sending out the Request for Proposal for dredging activities.

**Monitoring:** The District engineer shall be responsible for compliance with the plan.



## 4.6

## NOISE

Noise is defined as unwanted sound that is usually caused by human activity and added to the natural acoustic setting of a locale. It is further defined as sound that disrupts normal activities or that diminishes the quality of the environment. There are two types of noise sources: stationary and transient. Stationary sources are typically related to specific land uses; transient sources move through the environment along established paths or randomly. The total acoustical environment of a locale is the blend of the background or ambient acoustics with the unwanted noise. The human response to noise is diverse and varies with the type of noise, the time of day, and the sensitivity of the receptor.

The decibel (dB) is the accepted standard unit for measuring the level of noise. It is generally adjusted to the A scale (dBA) to correspond to the range of normal human hearing. For outdoor environments where sound levels are continuously changing, the energy-equivalent noise level ( $L_{eq}$ ) is a commonly used measure because it averages the level of sound from a variety of sources over a given period. The day-night noise level ( $L_{dn}$ ) is an alternative measure that represents an average noise over a 24-hour period; this system adds 10 dB to the measured noise levels occurring between 10 P.M. and 7 A.M. to compensate for the increased sensitivity to noise during sleeping hours. The Community Noise Equivalent Level (CNEL) is a similar noise index. It differs from the  $L_{dn}$  in that a penalty of 5 dB is added to noise levels occurring between 7 P.M. and 10 P.M. In practice, the two indices are almost identical. Table 4.6-1 illustrates typical sound levels of various environments.

Slight changes in loudness are difficult to detect. The human auditory system can barely distinguish a 2-dB change unless the two noise events occur within seconds. Under most conditions, a 5-dB change is required to be noticeable (EPA 1973). Because of limited human sensitivity, when the sound level is doubled (corresponding to a 3-dB increase as measured with a sound level meter), an individual perceives only a 25-percent increase in sound level. To cause an individual to perceive a doubling in sound level, a 10-fold increase (a 10-dB increase) in sound level is required.

### 4.6.1 Affected Environment

Information concerning ambient noise levels is taken from the *Goleta Community Plan, Final Draft* (Santa Barbara County Resource Management Department 1993).

#### 4.6.1.1 Atascadero Creek

The proposed basin area and its vicinity are exposed to airport-related noise levels ranging from below 60 dB to above 65 dB. This estimate does not include the noise generated by traffic along Ward Memorial Boulevard or along Ward Drive, which could increase the ambient noise levels at some locations. (Calculating noise impacts from multiple sources is not a matter of simple addition; louder noise levels "mask" lower noise levels so that the latter are not perceptible, and when comparable noise levels are combined, the change in ambient conditions is barely perceptible.) Estimates of the noise generated from Ward Memorial Boulevard were made assuming approximately 20,000 average daily trips (Santa Barbara County Public Works 1993) and assuming heavy truck traffic to be 10 percent of the total traffic. The approximate levels ( $L_{dn}$ ) at varying distances from the median are as follows: about 74 dB at 100 feet, about 69 dB at 200 feet, about 66 dB at 300 feet, about 64 dB at 400 feet, and about 63 dB at 500 feet (HUD 1980). Barriers such as walls and differences in elevation between the traffic and the noise receptors would reduce these levels substantially.

Table 4.6-1

## TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

<i>At a Given Distance from Noise Source</i>	<i>A-Weighted Sound Level in Decibels</i>	<i>Noise Environments</i>	<i>Subjective Impression</i>
	140		
Civil defense siren (100')	130		
	120		Pain threshold
Jet takeoff (200')	110	Rock music concert	
	100		Very loud
Pile driver (50')	90	Boiler room	
Ambulance siren (100')	80	Printing press plant	
Freight cars (50')	80	In kitchen with garbage disposal running	
Pneumatic drill (50')	70		Moderately loud
Freeway (10')	60	Data processing center	
Vacuum cleaner (10')	50	Department store	
Light traffic (100')	50	Private business office	
Large transformer (200')	40		Quiet
	30	Quiet bedroom	
Soft whisper (5')	20	Recording studio	
	10		Threshold of hearing
	0		

Other noise sources in the vicinity include the Southern California Gas Company storage and injection facility to the south of the proposed basin, which generates a low background noise; agricultural activities to the northeast of the proposed basin; human activity along the bike path (refer to section 4.10, Recreational Resources); and domestic activities at the mobile home park to the north.

The noise sensitive receptors in the vicinity of the proposed basin are the residents of the Rancho Goleta Mobile Home Park adjacent to Atascadero Creek. The combined noise level at any noise receptor is calculated in a logarithmic manner. As a result, close to Ward Memorial Boulevard the average daily noise levels would be dominated by the traffic and would essentially be the same as those given above (approximately 65 to 70 dB). Farther from the road, the mobile homes closest to the proposed basins would likely experience noise levels in the 60 to 65 dB CNEL range primarily produced by the airport activities.

#### 4.6.1.2 San Pedro Creek

The proposed basin area and its vicinity are exposed to airport-related noise levels ranging from 60 dB to about 75 dB CNEL. North of the basin current levels exceed 75 dB. To the east of the site, there are a few residences among several small businesses. These noise-sensitive receptors are exposed to levels within the 65 dB to 69 dB CNEL range.

#### 4.6.1.3 San Jose Creek

The proposed basin area and the adjacent areas are exposed to airport-related noise levels ranging from about 60 dB to almost 70 dB CNEL. Estimates of noise levels generated by Ward Memorial Boulevard are discussed above in section 4.6.1.1.

On the airport side of Ward Memorial Boulevard are light industries, including drywall and welding. Heavy equipment is being stored at the Santa Barbara Twin Screens drive-in theater. During a site inspection, background compressor noise was observed originating in the drive-in area.

The noise-sensitive receptors in the vicinity of this creek are the residents of the Rancho Goleta Mobile Home park across Ward Memorial Boulevard. Noise levels are described above in section 4.6.1.1.

#### 4.6.1.4 Tecolotito Creek

The proposed basin and adjacent areas are exposed to airport-related noise levels ranging from about 65 dB to 69 dB CNEL. South of the basin noise levels increase to above 75 dB.

This location is in a commercial and industrial area. There are no noise-sensitive receptors in the vicinity of the proposed basin. Across Hollister Avenue are commercial buildings. To the southeast of the basin site are the airport and various airport support facilities. To the southwest are open fields.

#### 4.6.1.5 Carneros Creek

The proposed basin and adjacent areas are exposed to airport-related noise levels ranging from about 65 dB to 69 dB CNEL. The location is just north of the airport. Noise levels increase to above 75 dB CNEL south of the basin.

No noise-sensitive receptors are located in the vicinity of this basin. There are several commercial/retail activities north of the project site, located across Hollister Avenue.

#### 4.6.1.6 Goleta Beach Receiver Site

In general, the Goleta Beach area is exposed to less than 60 dB CNEL from airport noise. Noise levels due to surf and wind are often higher. For the Exxon Santa Ynez Unit (SYU) project, 24-hour measurements were taken at the northwest corner of the parking area at Goleta Beach, located at the fence about 120 feet from Ward Memorial Boulevard and 50 feet from the footpath closest to the creek (Exxon 1987). Measurements were taken from Monday through Thursday, beginning on September 28, 1987. CNEL values were 61.7, 62.7, 64.7, and 65.6 dB, respectively. Typical noise levels for a beach were measured for the Exxon SYU project at the landfall of Ellwood Pier about 15 feet from the edge of the pier. These measurements indicated that the surf was the predominant noise source and produced a CNEL value of 71.1 dB (70.9 dB  $L_{dn}$  and 65.2  $L_{eq}$ ). The surf produced sound levels consistently over 63 dB.

The principal noise-sensitive receptors are the people visiting the beach and the surrounding grounds, the park ranger's residence, and the Beachside Bar-Cafe. The noise levels are in the 60 dB to 71 dB CNEL range.

#### 4.6.2 Environmental Consequences

Much of the affected area is under the jurisdiction of Santa Barbara County with regard to noise ordinances for construction-related projects. It is enforced by the Division of Development Review through the Coastal Zoning Ordinance (sections 35-169.9 and 35-185). The Santa Barbara County General Plan Noise Element (1979) and the Environmental Thresholds and Guidelines Manual (amended 1990) set the following criteria for determining noise impacts:

- A proposed development that would generate noise levels in excess of 65 dB CNEL and could affect sensitive receptors would be considered to have a significant impact.
- Outdoor living areas of noise-sensitive uses that are subject to noise levels in excess of 65 dB CNEL would be considered to be significantly impacted by ambient noise. A significant impact would also occur where interior levels cannot be reduced to 45 dB or less.
- A project will have a significant effect on the environment if it will increase substantially the ambient noise levels for adjoining areas.

These criteria are consistent with federal standards. The County has not identified thresholds for outdoor recreational areas; however, the Federal Highway Administration, in Policy and Procedure Memorandum 90-2, identified an  $L_{eq}$  of 67 dB as compatible with picnic areas, recreation areas, playgrounds, active sports areas, and parks where serenity and quiet are not of extraordinary significance.

The Tecolotito and Carneros basins are within the City of Santa Barbara. However, the County criteria are used where appropriate for significance determination for projects impacting County land.

Noise sensitive land uses are defined in the Noise Element to include residential, transient lodgings, hospitals and nursing homes, education facilities, libraries, churches, and places of public assembly. Commercial and industrial land uses and public parks and beaches are not included as noise sensitive land uses.

In general, the highest noise impacts would occur during the dredging activities. At a distance of 50 feet, dredges generate about 86 dB, cranes with draglines have a noise level of about 82 dB,

dozers generate about 80 dB, and front-end loaders generate about 80 dB (ADL Inc. 1986). These values are consistent with values given by the EPA (EPA 1971).

Additional noise generation from the project would involve trucks carrying operators and equipment to the site. These trucks would carry fuel, lubricants, and other materials as needed.

Where a crane with a dragline would be used for dredging, there would be occasional moving of the material on site by a bulldozer and collection and removal of the dredge material by trucks.

#### 4.6.2.1 Proposed Project

Noise generation data were obtained from Mud Cat, Ellicott Machine Corporation, and from San Diego Gas and Electric Company (SDG&E), for dredges and booster pumps considered comparable to those that would be used for the proposed project (personal communication, W. Dyson, C. O'Brien, D. Sackman, L. Thomas 1993). Mud Cat provided noise level measurements at various distances and directions from a Model 370 dredge operating under full power. A conservatively high value of 86 dB at 50 feet was estimated. SDG&E stated that its dredge, with proper sound insulation and muffling, is able to produce noise levels of less than 65 dB at 300 feet, which translates to approximately 81 dB at 50 feet. For the following noise discussion, a noise level of 86 dB at 50 feet was used for calculations for both the dredge and booster pump. Unless otherwise specified, a background noise level of 60 dB was assumed. Low and high CNEL values are presented, which represent 10-hour and 24-hour days, respectively.

#### *Phase I*

**ATASCADERO CREEK.** The Rancho Goleta Mobile Home Park, north of the proposed basin, is the closest noise-sensitive receptor. The dredge would be approximately 130 feet from the mobile home park at its closest point. CNEL values of 74 dB for a 10-hour day and 85 dB for a 24-hour day were estimated, assuming no additional noise reduction (attenuation). At the opposite side of the creek (approximately 250 feet away from the park), CNEL values would vary from 69 dB to 79 dB. At the ends of the basin, approximately 400 feet away from the nearest mobile home, CNELs would vary from 65 dB to 75 dB.

Further reductions in noise are quite likely because of the difference in elevation of the noise receptors and the noise-generating equipment. (There could be a change of elevation of approximately 10 feet or more, with the side of the creek acting as a barrier.) The difference in elevation would form a barrier that would reduce noise by 5 dB to 20 dB. The degree of shielding would depend on the relative position of the equipment and the receptor in question. Shielding by the various rows of mobile homes would provide additional noise reduction.

Assuming a probable attenuation of about 10 dB, the Phase I operation would produce a CNEL of 64 dB for a 10-hour day when the dredge operated closest to the mobile home park; this would conform with County criteria for residential areas. However, a 24-hour operation would likely exceed the allowable levels due to noise penalties imposed for nighttime operations; impacts would be significant. A CNEL of 75 dB was estimated at the closest location; a reduction of 10 dB would result in CNELs of 69 dB if the dredge operated on the far side of the basin and 65 dB if it operated at the ends of the basin. The increased noise at night would be likely to cause annoyance and sleep disturbance among residents of the mobile home park. Approximately 20 mobile homes are located within 400 feet of the dredge operation and would experience the greatest impacts.

Impacts to residents associated with dredging the pilot channel would be insignificant due to the distances involved, although noise from dredging operations would be perceptible (Class III).

**SAN PEDRO CREEK.** Several potentially noise-sensitive residences are located to the east of the northern end of the proposed basin. At the closest location the houses would be about 200 feet from the dredging operation, which would produce unattenuated CNELs of from 71 dB to 81 dB (10-hour and 24-hour-per-day operation). Reductions in noise levels of 10 dB due to intermediate shielding would be likely to reduce these levels to 61 dB and 71 dB, respectively. At a point approximately 400 feet from the northern end of the basin, the dredge would be about 400 feet from the houses. The noise levels at this point would be about 65 dB and 75 dB for 10-hour and 24-hour operations, respectively. Assuming a 10-dB reduction from attenuation, the CNEL at this point would be approximately 55 dB and 65 dB.

Ambient noise levels in this area already exceed County thresholds. Daytime dredging operations would result in average noise levels that are lower than those currently experienced. Therefore, impacts would be insignificant. When dredging occurred closest to the neighboring residences, 24-hour operations would increase ambient noise levels by between 2 dB and 6 dB. This increase in average noise levels could be perceptible. Moreover, it is likely that dredging late at night and early in the morning would represent a considerable change over current conditions and could prove annoying to residents due to the lack of overflights and vehicular traffic at this time. Impacts from nighttime operations would be significant.

**SAN JOSE CREEK.** The principal noise sensitive receptors are the residents of the Rancho Goleta Mobile Home Park, which is situated across Ward Memorial Boulevard from the proposed basin. The closest mobile home is approximately 220 feet from the creek. Unattenuated noise levels of 73 dB and 80 dB (10-hour and 24-hour operation, respectively) could result at the nearest mobile home, assuming a background noise level of 70 dB. However, as discussed above, the difference in elevation between the creek and Ward Memorial Boulevard creates a barrier that could reduce the combined noise level to about 70 dB and 73 dB CNEL.

During the daytime, noise would be essentially masked by traffic on Ward Memorial Boulevard, and impacts would be insignificant. However, nighttime dredging noise would likely be more perceptible and more annoying than in the daytime, because there is less traffic on Ward Memorial Boulevard to mask the noise, as well as fewer overflights, and since noise from dredging would represent a relatively large change from current nighttime conditions. Impacts during 24-hour operations would be potentially significant.

**TECOLOTTITO CREEK.** Because there are no noise-sensitive receptors in the vicinity of this basin, there would be no noise impacts of a dragline operation at this location.

**CARNEROS CREEK.** Because there are no noise-sensitive receptors in the vicinity of this basin, there would be no noise impacts of a dragline operation at this location.

**GOLETA BEACH.** A booster pump location near the bridge across the slough north of the park could potentially generate noise levels of 62 dB and 70 dB CNEL (given 10-hour and 24-hour operation) at the ranger's residence; 62 dB and 68 dB CNEL at the Beachside Bar-Cafe and 61.8 dB and 69 dB CNEL at the picnic area, conservatively assuming a background noise level of 60 dB CNEL. Impacts of the booster pump alone would be insignificant for 10-hour operations because ambient noise would not change perceptibly nor would it exceed County thresholds. It is likely, in fact, that much of the noise from the booster pump would be masked by the sound of the waves. Impacts from 24-hour operations would be significant at the ranger's residence and insignificant at the picnic area, because Goleta Beach is a day-use park and noise penalties for night-time operations would not apply.

Pilot channel dredging could produce noise levels at the ranger's residence that could temporarily exceed the County criteria, depending on the dredge location. Assuming a background noise level of 60 dB, unattenuated CNELs of 65 dB could be reached at a distance



of 1,400 feet from the source assuming 24-hour operation, and at a distance of 400 feet from the source for 10-hour operation. Twenty-four hour operation would likely produce a greater impact on the ranger's residence due to the potential for sleep disturbance; the 10-hour-per-day operation would be of a lesser impact for a greater number of days. This would be a significant but short-term impact.

The loader moving the discharge pipeline on the beach would be located a minimum of 800 feet east of the Beachside Bar-Cafe. It would operate approximately one-tenth of the time that discharge was occurring. While noise from the loader would be noticeable to people recreating at Goleta Beach, this impact would be considered adverse but not significant (Class III). No thresholds would be exceeded, and the loader would operate for only a relatively brief time each day. Park users could avoid the increased noise by using the beach area to the west of the deposit site.

### *Phase II*

Phase II involves dredging the creeks downstream of the proposed basins. Near the Atascadero Creek basin, the noise impact on the mobile home park residents would be less than during Phase I because of the greater distance from the dredging. Depending on the dredge location, impacts could be perceptible but would be insignificant (Class III) for 10-hour dredging operation. Impacts along San Jose and San Pedro creeks would be minimal because of the lack of noise-sensitive receptors in the vicinity of the dredging in the creeks south of the proposed basins. There would be no noise impacts in the vicinity of the Tecolotito or Carneros creeks.

Noise impacts would occur at the ranger's residence at Goleta Beach and would be adverse and significant on a short-term basis, as described for Phase I. Operating 24 hours per day would have more severe repercussions than would 10 hours a day, because of potential sleep interference at the ranger's residence. However, 24-hour-per-day operation may be desirable in order to shorten the overall period of disturbance. Noise levels at various distances from the dredge are discussed above.

Impacts of loader operations on Goleta Beach would be adverse and short-term but not significant, as described for Phase I (Class III).

### *Ongoing Maintenance*

Under normal circumstances, ongoing maintenance would be limited to work in the basins. Therefore, impacts would be short-term and limited to residences in the immediate vicinity of the basins. As described for the proposed project, impacts to residences would be insignificant for 10-hour days and significant for 24-hour days. Under certain circumstances, desilting of the creeks could be required. Impacts would then occur at Goleta Beach ranger's residence and would be comparable to those described for Phase I.

#### **4.6.2.2      Traditional Maintenance**

##### *Phase I*

**ATASCADERO CREEK.** Noise impacts from activities at the Atascadero Creek basin would be similar to those described for the proposed project with some offsetting considerations, although impacts would last longer. In particular there would be increased noise due to the fact that the crane would be located slightly closer to the mobile home park than the dredge, since it would operate from the creek bank, which would no longer serve as a noise barrier. Traditional maintenance would not occur at night. CNEL values of 74 dB for a 10-hour day were estimated, assuming no additional noise reduction. Noise impacts would be short term but significant

(Class I). Noise associated with trucks hauling away stockpiled dredge spoil would be sporadic and insignificant. Impacts at Goleta Beach would be significant, as described for Phase I.

SAN PEDRO CREEK. A 10-hour-per-day operation would not be significant, but would produce a short-term adverse impact (Class III).

SAN JOSE CREEK. A 10-hour-per-day operation would create insignificant but adverse short-term impacts (Class III).

TECOLOTITO AND CARNEROS CREEKS. Noise impacts from activities at the Tecolotito and Los Carneros basins would be insignificant, as described for the proposed project.

GOLETA BEACH. No loader or booster pump would be required, and impacts from dragline desilting would be adverse but insignificant at the ranger's residence and elsewhere at Goleta Beach (Class III). The CNEL would exceed 65 dB only if the equipment operated closer than 180 feet of the ranger's residence.

#### *Phase II*

Impacts at the residences near the basins would be adverse but insignificant (Class III); desilting would not occur in the basins, but in the channels which are further away. Impacts at Goleta Beach would be as described for Phase I. Noise associated with trucks removing stockpiled dredge spoils would be short-term, sporadic, and insignificant.

#### *Ongoing Maintenance*

Impacts at nearby residences would be comparable to those described for Phase I. Impacts to Goleta Beach would occur only if further desilting of the creeks were required and would be comparable to Phase I.

#### 4.6.2.3 Beach Deposition

##### *Phase I*

The principal difference between noise impacts described for the proposed project and this alternative would occur at Goleta Beach County Park. A second booster pump in the vicinity of the park would increase the likelihood of impacting the facilities at the park, including the ranger's residence. In addition, there would be increased loader and other equipment activities at the beach. If the booster pump were located within 400 feet of the ranger's residence, impacts would be significant.

##### *Phase II*

Noise impacts would be similar to those described for Phase II of the proposed project, with the exception of the area near the basins, which would not be substantially affected. Impacts here would be similar to Phase I beach deposition impacts but of longer duration.

#### *Ongoing Maintenance*

Impacts would be comparable to Phase I.

#### 4.6.2.4 Reduced Basin Size

##### *Phase I*

Impacts would be essentially comparable to the proposed project, although a shorter period of dredging would be required in the basins.

##### *Phase II*

The noise impact classifications would essentially be the same as described for the proposed project for Phase I.

##### *Ongoing Maintenance*

Reducing the basin sizes would increase the frequency of dredging operations but would not change the number of days of dredging over a multi-year period as compared to the proposed project. Although the noise impact classifications would essentially be the same as described for the proposed project, the increased frequency is considered to produce a slightly more adverse impact in terms of the increased annoyance.

#### 4.6.2.5 Increased Basin Size

##### *Phase I*

Impacts would be essentially comparable to the proposed project, although dredging of the basins would take slightly longer.

##### *Phase II*

The noise impact classifications would essentially be the same as described for the proposed project for Phase I.

##### *Ongoing Maintenance*

An increased basin size would result in less frequent maintenance, although each maintenance period would be of longer duration. Although the noise impact classifications would essentially be the same as described for the proposed project, the decreased frequency is considered to produce a slightly lesser impact in terms of the annoyance to the noise sensitive receptors.

#### 4.6.2.6 Discharge Pipelines on the Ground

##### *Phase I*

This alternative would not substantially change the impacts described for the proposed project.

##### *Phase II*

Noise impacts for this alternative would be essentially the same as for the proposed project.

##### *Ongoing Maintenance*

Impacts would be comparable to the proposed project.

#### 4.6.2.7 No Project

There would be no noise impacts as a result of this alternative.

#### 4.6.3 Cumulative Impacts

Projects that could potentially contribute to cumulative noise impacts include the Beachside Bar-Cafe expansion and installation of a fire water line (see section 3.5, Projects Considered for Cumulative Analysis, for a detailed discussion of cumulative projects). Both of these projects are located in Goleta Beach County Park, although it is not known exactly when they would begin. Specific information such as duration of construction cannot yet be precisely determined, yet it appears likely that the projects would be completed prior to the proposed project. It is possible, however, that construction could coincide with the proposed project and create significant, short-term noise impacts. Although noise levels would be higher if the projects occur simultaneously, the overall period of noise-related annoyance would be minimized.

#### 4.6.4 Mitigation Measures

The proposed project and its alternatives (Phase I) would create short-term significant impacts. In all cases but two (near the Atascadero Creek basin under the Traditional Maintenance alternative and at the Goleta Beach ranger's residence for all alternatives except Traditional Maintenance) significant impacts to nearby sensitive receptors would be reduced to insignificance (Class II) by restricting dredging in the basins to 10 hours a day. Class I impacts would also be reduced by the following measure, but not to insignificant levels.

1. Dredging shall be limited to weekdays between 7:30 A.M. and 5:30 P.M.

**Timing:** Weekdays between 7:30 A.M. and 5:30 P.M.

**Monitoring:** The District biologist or engineer will act as the Noise Control Officer and shall assure that these mitigation measures are implemented.

The recommended timing of dredging activities does not conform to standard County construction hours; however, working 10-hour days is a common practice among dredge operators and would reduce the overall period of disturbance while allowing dredging to be confined to daytime hours.

Impacts to residents near Atascadero Creek (Traditional Maintenance alternative only) and Goleta Beach (all alternatives, except Traditional Maintenance) would be minimized by the following measures, although impacts would remain significant during the relatively brief period of time when dredging/desilting operations occurred nearest those sensitive receptors (Class I). These measures would also effectively minimize Class II and III impacts.

2. The program shall inform the affected public of the expected duration and frequency of the project, as well as the need for and the benefits of the project. Property owners adjacent to the project activities shall be given the dredging schedule seven days in advance. Any alterations or additions shall require three day notification.

**Timing:** A dredging schedule shall be mailed to the affected public at least seven days in advance of the commencement of dredging activities.

**Monitoring:** The District biologist or engineer shall prepare and mail dredging schedules.

3. All noise-generating equipment shall be properly maintained. Equipment shall be muffled to the extent feasible. Engine enclosure covers shall be used during operation of the equipment.

**Timing:** Immediately prior to commencement of dredging activities.

**Monitoring:** The District biologist or engineer shall assure that these recommendations have been implemented.

If a second booster pump is required (i.e., for the beach deposition alternative), the following measure would apply:

4. The booster pump shall be located more than 400 feet from the ranger's residence or a noise barrier shall be constructed around the booster pump.

**Timing:** Immediately prior to commencement of dredging activities.

**Monitoring:** The District biologist or engineer shall assure that these recommendations have been implemented.





## 4.7 CULTURAL RESOURCES

The proposed project's potential impact on archaeological resources and ethnic values is discussed below in this section. No historical structures are located within the impact area and, therefore, these resources are not discussed further.

### 4.7.1 Affected Environment

#### 4.7.1.1 Archaeological Resources

Data used for this analysis were derived from previous studies and archaeological site records reviewed at the Central Coast Information Center at the University of California, Santa Barbara (UCSB), and the Santa Barbara Museum of Natural History. Some archaeological sites within the impact area were visited by Science Applications International Corporation archaeologists to verify previous boundary definitions.

#### *Definition of the Resource*

Archaeological sites are defined as locations where physical remains (artifacts) associated with previous human activity are identified. These sites can date to prior to European influence (prehistoric) or subsequent to this time when written records are available to help interpret artifacts (historic). The Goleta Slough is within the Chumash cultural area that at the time of Spanish contact was the most heavily populated along the California coast (Brown 1966). Prehistoric sites such as those found adjacent to the Goleta Slough include village settlements (sometimes containing cemeteries); temporary camps where food and tool materials were collected; and smaller, briefly occupied sites where tools were manufactured or repaired. Historic archaeological sites within the project impact area may include remains associated with seafaring vessels that entered the slough or were part of activities (i.e., ship building) that were carried out on the banks of the slough. Offshore prehistoric archaeological resources include living areas on landforms such as stream terraces or exposed bedrock outcrops submerged by rising sea levels, or isolated artifacts dropped out of boats during prehistoric fishing activities (Chambers Group, Inc. 1992:4-184). Historic offshore archaeological resources include shipwrecks and remains of past commercial or industrial activity (e.g., fishing, oil exploration).

#### *Existing Conditions*

**REGION OF INFLUENCE.** The region of influence encompasses the specific project area and the more general regional study area. The regional study area is the broad context in which cultural resources are defined in terms of place and time, evaluated by comparison to the cultural resources in the same context, and evaluated in terms of regional issues and research questions. The region of influence for this EIR/EA is defined as coastal Santa Barbara County, the cultural resources of which have been characterized in numerous summary documents (Wilcoxon, Erlandson, and Stone 1981; A. Brown 1967; Santa Barbara County 1993).

The project area is specifically those areas where impacts on cultural resources may occur and require evaluation; primarily areas that may be subject to direct construction impacts including creek channel dredging and excavation, placement of dredge spoils and their subsequent removal, and equipment staging. Illicit archaeological artifact collection, an indirect impact, could occur by exposing archaeological sites and by increasing the number of individuals aware of their existence. Artifact collectors would benefit from the removal of vegetation during dredging activities that currently obscure archaeological sites within the project area; construction workers uncovering cultural resources during creek flood control maintenance could be introduced to these sources of prehistoric materials.

**SETTING.** The project site is within the Goleta Slough, an embayment formed by faulting episodes after creation of the Miocene Monterey, Rincon, and Santa Barbara formations. This deep embayment was filled during rising sea levels of the Sangamon interglacial. Subsequent erosion resulted in steep canyons cut into the coastal plain, creating long channels into the bay. As late as 5,000 years ago, the sea level continued to rise and flooded the slough basin (Wilcoxon, Erlandson, and Stone 1981:5). Geomorphological processes including sedimentation and erosion created the sandspit known as Goleta Beach. The sandspit characteristically trapped additional sediment in the slough basin, leading to reduced estuary depth over time.

Research of ethnohistoric accounts of Spanish and European explorers that describe the slough indicate that waters from the body entered the Pacific Ocean through two entrances approximately 1.5 miles apart (Stone 1982:5). This suggests that the Devereux Slough and Goleta Slough were connected 200 years ago, at least during high tide. In 1782 Pantoja y Arriaga described the depth of the slough south of Mescalitan Island at approximately 11 feet at high tide, with the remainder barely four feet deep (Stone 1982:7), while 10 years later Vancouver considered that the slough had "...very shallow water and [was] incapable of admitting vessels of any burthen..." (Menziess 1924:318-319). The discrepancy between these two accounts illustrates the difficulty in precisely defining the depth of the slough prior to historic disturbances. Based on ethnohistoric accounts, the extent of the slough in 1770 is correlated with the USGS 10-foot elevation contour that would accommodate the maximum subtidal depths of up to 11 feet (Stone 1982:13) (see Figure 4.7-1). Creek channel depths feeding the slough basin would equal this depth south of Mescalitan Island and diminish to perhaps half that at the furthest upstream point of the proposed project. Other historic information suggests that the slough was indeed deep enough to sustain sea-faring vessels.

The ability of the slough to accommodate ships is suggested by construction of a shipyard on the mesa south of Atascadero Creek by Benjamin Foxen. It did not survive for a long period of time, possibly due to the lack of suitable construction wood and the shallow water adjacent to the slough sandspit (Wilcoxon, Erlandson, and Stone 1981:54).

Massive flooding in 1861 and 1862 appears to have contributed substantial alluvial silt to the slough basin. No recorded data exist to define precisely the flood's effects (U.S. Army Corps of Engineers 1968:5). Walker Tompkins (1966:62) reported that, according to informant's recollections, between 10 and 14 feet of sand and silt were dumped in the slough so that previous navigation was made impossible. Other analyses of Goleta Slough morphology agree that this flood transformed the navigable estuary into a shallow catchment basin (Speth and others 1970:77; U.S. Army Corps of Engineers 1968:7). Since then, a series of modern floods, with one in 1914 the most devastating, have occurred that have contributed to Goleta Slough basin infilling (U.S. Army Corps of Engineers 1968:8, 14).

A whaling camp was built at the slough mouth in about 1870 and existed for approximately a decade (Wilcoxon, Erlandson, and Stone 1981:54). Subsequent recreational use of the slough led to construction of a two-story house on Mescalitan Island and cabins on the sandspit (Wilcoxon, Erlandson, and Stone 1981:55-56). During World War II, an airport originally developed in 1928 was used as a Marine Corps Air Training Base and nearly 100 major structures were erected in the slough for military purposes (Wilcoxon, Erlandson, and Stone 1981:57). Draining of slough bottoms to create arable land and construction of the Santa Barbara Airport and Ward Memorial Drive have dramatically reduced the Goleta Slough to its current size (Wilcoxon, Erlandson, and Stone 1981:5).

Flood control realignment, maintenance of Goleta Slough creek channels, and airport construction, have also resulted in modifications to original bank configurations. For example, Atascadero Creek was originally located adjacent to and at the base of More Mesa, approximately 100 meters south (Wilcoxon, Erlandson, and Stone 1981:69). Historic dragline

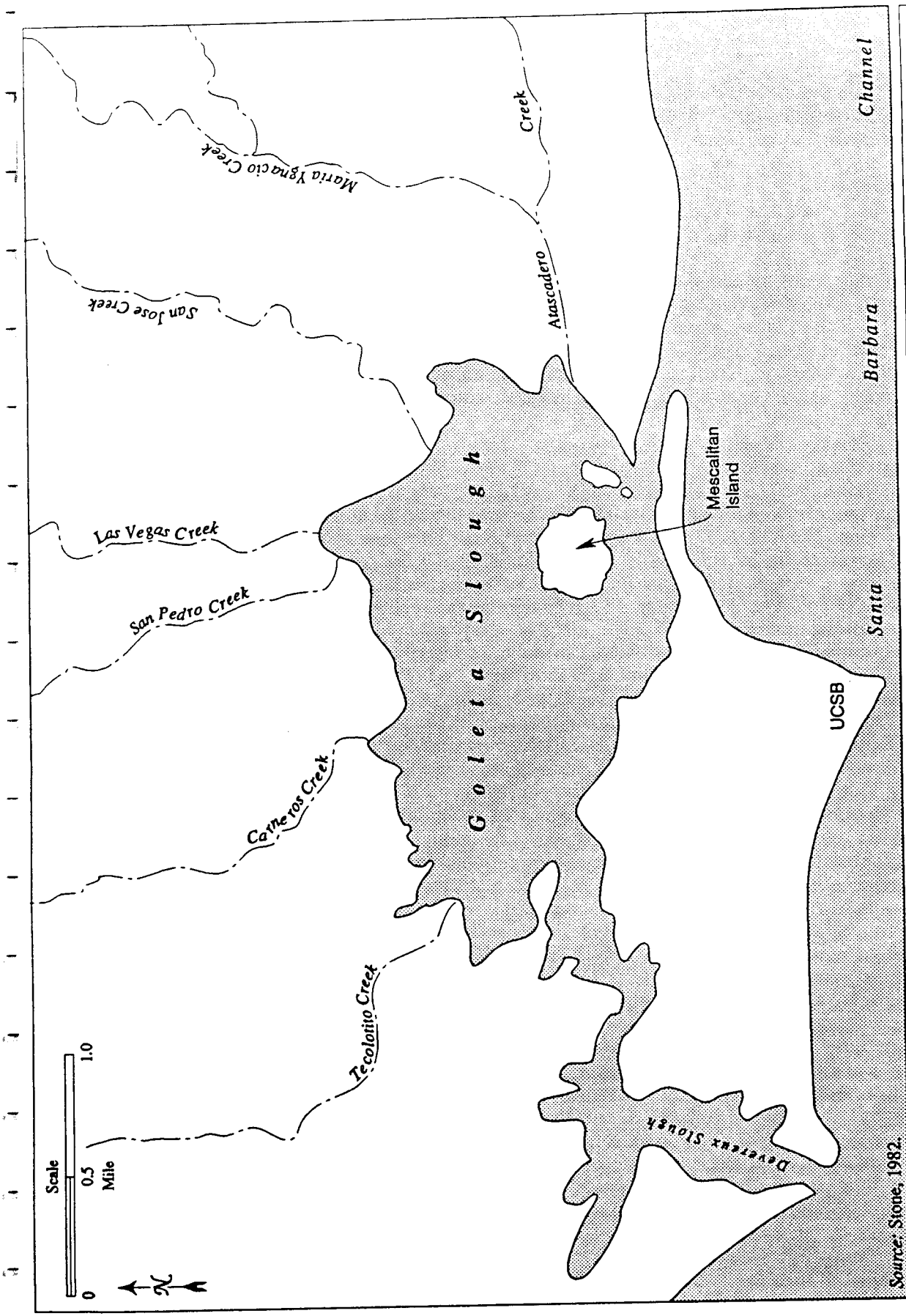


Figure 4.7-1  
GOLETA SLOUGH VICINITY AND PROJECT AREA CA. A.D. 1770  
(at high tide)

desiltation in all the creeks within the project area has removed soils approximately to the boundaries of proposed Phase II dredging, although the depths may vary somewhat (within 1 to 2 feet). Airport construction resulted in the relocation of Carneros and Tecolotito creeks.

#### *Previous Investigations*

The Goleta Slough vicinity has been the subject of numerous archaeological investigations. Outside of Vandenberg Air Force Base, it is the most studied area in Santa Barbara County. One study involved a comprehensive survey of all the creek drainages within the slough in association with the U.S. Army Corp of Engineers Goleta Flood Protection Program (Wilcoxon, Erlandson, and Stone 1981). This investigation included an intensive survey of creek banks and the slough bottom. All proposed project impact areas along slough creek channels were previously evaluated during this survey. Therefore, no additional archaeological survey was considered necessary. As a result, several archaeological resources have been recorded within the proposed impact area. They are summarized below.

#### ONSHORE CULTURAL RESOURCES

**SBA-45.** This site was first located by David Banks Rogers as recorded in his *Prehistoric Man on the Santa Barbara Coast* in 1929. At the time, the site occupied two low mounds north of Atascadero Creek. It was assigned to the Hunting Period by Rogers, dating to approximately 2400 B.C. to 1000 A.D. Subsequent excavations identified extensive shellfish remains, fishhooks, small projectile points, a pestle, mortars and a rubbingstone with cultural materials 6 feet deep. A human burial was also encountered. The site apparently was used as a village over a long period time and was adjacent to Atascadero Creek, which would have been located 300 feet south of its present location at the base of More Mesa (Wilcoxon, Erlandson, and Stone 1981:62). Construction of Ward Memorial Boulevard and the realignment of Atascadero Creek have disturbed large portions of the site. It is presently partially submerged by the creek and covered with dredging spoils. Across from this deposit, on the southern bank of the creek, exist cultural remains that have been relocated during dredging activities. The cultural materials are diverse and extensive, but are mixed with modern slough shellfish species excavated from outside the archaeological site. Due to the mixing of soils and redeposition, the integrity of this deposit on the southern bank is highly questionable. Cultural materials including organic remains on the north bank, however, have been preserved by the waters of Atascadero Creek, which has improved the integrity of the site. The northern stream bank appears to contain 2 to 3 feet of alluvium that covers the intact archaeological deposit (Wilcoxon and Imwalle 1992:8). Unfortunately, the site has been ravaged by illegal excavation and artifact collection. Overall, the remaining materials at the site have a high degree of integrity. Due to the extensive and varied artifacts, human remains, and high degree of integrity, the site is considered to be extremely sensitive and significant.

**Locus 2.** At the confluence of San Pedro and San Jose creeks exists a deposit of cultural material that was identified during the U.S. Army Corp of Engineers Flood Protection Program project (Wilcoxon, Erlandson, and Stone 1981:99-100) and reevaluated in 1992 (Wilcoxon and Imwalle 1992:12). Archaeological site remains including shellfish, animal bone, and chipped stone artifacts are on the ground surface and the vertical creek cutbank. Materials on top of the bank have been mixed with modern slough shellfish species in what appears to be soils that have been moved during creek channel dredging and Ward Memorial Boulevard construction. These cultural materials apparently are associated with nearby archaeological sites SBA-45 (to the east) and SBA-46 (an extremely significant, ethnohistoric village site named *Helo* directly westward) and are primarily buried below dredged slough silt soils. On the southern creek bank, a lens of dark shell midden lies at the base of a road leading to the Goleta Sanitary District facility on Mescalitan Island (SBA-46). During periods of Indian occupation, this locus was probably under water. This fact, together with the observed relationship of cultural materials

mixed with modern slough shellfish, suggest that deposits within Locus 2 do not represent an original, intact archaeological deposit. The contents, integrity, and extent of this locus have not been evaluated, however, so that scientific and public significance of the remains have not been assessed (Wilcoxon, Erlandson, and Stone 1981:122; Wilcoxon and Imwalle 1992:12).

**SBA-1696.** This archaeological site is located on a small knoll above the southern bank of Atascadero Creek. The most northerly portion of the site is separated from the remainder of the deposit by a Southern California Gas Company facility road. Based on surface observations, the site is 16 to 24 inches deep and contains shellfish, sea and land mammal bone, and fish remains. Stone and groundstone tools found at the site suggest a Late Period (1000 A.D. to 1805 A.D.) occupation (Wilcoxon, Erlandson, and Stone 1981:91). Although portions of the site have been removed during road construction, the majority remains intact. Roadcut exposures are subject to erosion. The density of remains, diversity, and relative integrity suggest that this site is potentially significant.

#### OFFSHORE CULTURAL RESOURCES

Two underwater prehistoric isolate localities have been identified in the project vicinity offshore. Locality 10, approximately 2,000 feet west of Goleta Pier, includes stone bowl fragments found in water 20 to 40 feet deep. Locality 52, south of the KTMS radio towers approximately 1,750 feet east of the potential disposal area, contained 6 mortar fragments (Hudson 1976: Tables 2-4, SBMNH Locality Records). No unreported prehistoric underwater artifacts curated at the Santa Barbara Museum of Natural History are associated with the Goleta Slough mouth or within the disposal area. Five historical shipwrecks have been identified along the Goleta Slough mouth, dating from 1819 to 1878 (MMS 1987; Chambers Group, Inc. 1992:4-185). Six cannons were discovered in the surf zone in 1981 adjacent to the KTMS radio towers approximately 2,000 feet east of the slough mouth. These are considered to have been lost on the *Dorotea*, which sank in 1829. A magnetometer survey of the area adjacent to the cannon finds by the California Department of Parks and Recreation was negative (Wheeler and Kallman 1984). An anchor found inside the Goleta Slough in 1891 may have been lost on an 18th-century vessel navigating prior to massive infilling during 19th-century floods. More Landing, a pier constructed contemporaneously with the whaling station on Goleta Beach, was located approximately one-half mile east of the modern Goleta Beach pier. During the 1920s, the beach and bluffs east of the Goleta Beach pier were the site of oil production including wells and structures, traces of which are visible during low tide in the winter (Chambers Group, Inc. 1992:4-185).

In addition to the magnetometer survey at the location of the cannons, an archaeological underwater survey of an area adjacent and west of the Goleta Pier, over 300 feet west of the proposed disposal site, was negative (Chambers Group, Inc. 1992:4-185).

##### 4.7.1.2 Native American Values

Native Americans are considered a "community or ethnic or social group" that are affected by the disturbances to prehistoric archaeological sites (CEQA Appendix G [j]). Many local Native Americans believe that these prehistoric resources represent their heritage and cultural identity. Any disturbance to these sites therefore is a potentially adverse impact to their spiritual values. Although it is difficult to provide a hierarchy of spiritual importance to different types of archaeological sites, those that contain human remains, that date from the ethnohistoric period where descendancy can be traced in some cases, or village sites with extensive cultural remains have been the source of significant controversy when impacted by project design. To some Native Americans, ground disturbances to archaeological sites, including archaeological excavations, may constitute adverse impacts.

#### 4.7.2 Environmental Consequences

##### 4.7.2.1 Significance Criteria

Both federal and state criteria govern the assessment of cultural resource significance. These are summarized below.

##### *National Register of Historic Places (36 CFR 60.4)*

These criteria pertain to projects with federal funding and/or jurisdiction. According to the National Register criteria, a significant cultural resource is one that contains one of the following:

Is associated with events that have made a significant contribution to the broad patterns of history, or is associated with the lives of persons significant in the past; or

Embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value or represent a significant and distinguishable entity whose components may lack individual distinction, or have yielded, or may be likely to yield, information important in prehistory or history.

##### *American Indian Religious Freedom Act*

This is a federal statute that requires evaluation of any project that could potentially affect locations including archaeological sites, biological habitats, or topographic features associated with Native American religious practices. Those elements that are considered significant to Native American groups shall be protected and preserved.

##### *CEQA Appendix G, Significant Effects*

Criteria pertinent to private and public projects within the state of California are listed in the California Environmental Quality Act (CEQA) Appendix G.

A project will normally have a significant effect on the environment if it will:

(j) Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study.

(w) Conflict with established recreational, educational, religious or scientific uses of the area.

##### *CEQA Appendix K, Archaeological Resources*

Criteria specific to archaeological site significance are provided in Appendix K.

An important, or significant, archaeological resource is one which:

A. Is associated with an event or person of:

1. Recognized significance in California or American history, or



2. Recognized scientific importance in prehistory.
- B. Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;
  - C. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
  - D. Is at least 100 years old and possesses substantial stratigraphic integrity; or
  - E. Involves important research questions that historical research has shown can be answered only with archaeological methods.

Appendix K also includes a process in the event that human remains are encountered during construction. The procedure includes contacting the County coroner, who determines whether an investigation into the cause of death is required. If the remains are Native American in origin, then the descendant of the individual represented by the human remains is contacted to develop a procedure for the material's disposition. The Native American Heritage Commission serves to identify a most likely descendant when one has not been identified originally. The human remains disposition plan is carried out in consultation with the landowner.

*Santa Barbara County Cultural Resource Thresholds of Significance; Cultural Resource Guidelines*

Santa Barbara County has developed two mechanisms for implementing CEQA Appendix G and K criteria. The thresholds of significance (1990) incorporate the criteria into a process for evaluating cultural resources potentially affected by development. The Cultural Resource Guidelines, revised in 1993, expand upon the CEQA Appendix G and K criteria. The Archaeological Element contains a framework for developing research questions relevant to the understanding of Santa Barbara County prehistory, pursuant to Appendix K Criteria A.2, B, and E. The Historical Element describes a process for evaluating architectural and other above-ground properties, and includes a list of criteria for significance based on National Register of Historic Places definitions and other local jurisdictions' ordinances.

4.7.2.2 Proposed Project

*Phase I*

This project involves using a hydraulic dredge to desilt a pilot channel and instream basins within the tidally-influenced portions of Atascadero, San Jose, and San Pedro creeks and dragline desilting of Carneros and Tecolotito creeks. A booster pump could be placed on land and operation staging areas would be located adjacent to creekbanks. Access to the pump and staging areas would be on existing roads. This activity would have the following effects:

**ONSHORE CULTURAL RESOURCES**

No cultural resources have been identified during previous archaeological investigations at the proposed project sites in San Jose, Tecolotito, and Carneros creeks. Therefore, no impacts would occur.

**San Pedro Creek -- Locus 2.** Activity on this creek would be in the vicinity of Locus 2, adjacent to SBA-45 and -46. If placed on land, the booster pump would be located approximately 750 feet to the south and would not result in any impact. Proposed cross-sections of pilot channel excavation adjacent to the cultural resource indicate that impacts would be limited to 20 feet

north of the south bank and 12 feet south of the north bank. The channel at its greatest width of 15 feet would be 5 to 6 feet deep, which may be deeper than historical dredging has reached. As "... most of the deposit appears to be buried ..." (Wilcoxon, Erlandson, and Stone 1981:99; Wilcoxon and Imwalle 1992:12), this excavation could displace Locus 2 archaeological materials. When Locus 2 was recorded, it was impossible to determine precisely the extent and integrity of the deposit. The site was revisited as part of this investigation, and the cultural deposit was visible on both sides of San Pedro Creek. Alluvial silts without cultural remains approximately 3 feet wide have formed at the base of the deposit adjacent to the tidal channel. It is possible that remains have been placed there during construction activities; they may be from either SBA-45 or SBA-46, two distinctly different cultural deposits.

Although apparently located beneath the water level of the slough during Native American occupation, the locus could alternatively represent an easterly extension of SBA-46 remains, as the locus rests on the base of the easterly Mescalitan Island slope (Wilcoxon, Erlandson, and Stone 1981:99). Locus 2 cultural materials may be originally associated with a site that has the potential to address research questions about Native American lifestyles in the prehistoric Goleta Slough. Consistent with earlier assessments (Wilcoxon and Imwalle 1992:18), if Locus 2 remains are found to have a buried prehistoric component that extends below the historic dredging depth within the proposed pilot channel excavation area (greater than 4 feet below sea level), then impacts to the resource could be potentially significant.

Human remains have been identified at both SBA-45 and SBA-46. If materials at these sites have been redeposited at Locus 2, it is possible that human remains also exist there. Excavation of the pilot channel within Locus 2 could impact redeposited human remains, if the buried deposit extends to depths below the historic dredging depth. If cultural remains are redeposited, the scientific value of the materials would be limited; however, impacts on Native American values would be significant, as the remains are still considered to have spiritual integrity. Native American representatives have previously considered Locus 2 to be significant, regardless of its stratigraphic integrity (Wilcoxon, Erlandson, and Stone 1981:122).

**Atascadero Creek -- SBA-45.** The proposed pilot channel in the vicinity of SBA-45 would be excavated to a 4 to 6 foot depth. The path of the channel on the western extreme of the site would be excavated on the south side of the channel, approximately 130 feet away from the site deposits on the creek bank. As the channel continues upstream and adjacent to SBA-45 deposits, it would angle toward the northern creek bank so that excavation would begin 13 feet from the creek bank with exposed deposits. When revisited as part of this investigation, the site was covered with vegetation, and a deposit of non-cultural alluvium at least 3 feet wide was identified between the tidal channel and the cultural deposit. The pilot channel excavation would not impact soils directly adjacent to the creek bank, but would remove materials approximately 10 feet from the bank to sea level. These soils may be non-cultural alluvium capping the intact archaeological deposit, and based on historic dredging activities, most probably are so. It is impossible, however, to determine the profile of the site below the existing creek channel without exploratory excavation. Therefore, impacts from pilot channel excavation could encroach within significant archaeological resources if dredging extends below historic disturbance levels. Impacts are therefore considered potentially significant as materials that have the ability to address research questions about past lifestyles would be lost.

Indirect impact of increased access to the site could result during construction and after the site has been exposed subsequent to pilot channel construction. This exposure could contribute to existing illicit artifact collection activity, which is considered a potentially significant indirect impact.

Due to the extensive remains at the site, the presence of human remains, and awareness of previous illicit artifact collection, Native Americans consider the potential impact on this resource to be significant.

**Atascadero Creek -- SBA-1696.** The nearest extension of this prehistoric archaeological site is 625 feet south of the Atascadero Creek bank and 10 feet higher in elevation. Pilot channel excavation would not impact the site. The in-stream basin would be excavated entirely within the existing creek banks approximately 125 feet north of the site boundary, and the Atascadero Creek staging area would be located on the opposite creek bank. No dredge spoils would be placed along Atascadero Creek, so the cultural resource would not appear to be impacted by the proposed project.

#### OFFSHORE CULTURAL RESOURCES

The proposed disposal site extending from 300 to 1,000 feet east of the Goleta Beach parking lot contains no recorded prehistoric materials. Magnetometer surveys to the west and east of the impact area have been negative. Therefore, the probability of encountering historic resources in the area is considered low. Impacts on offshore cultural resources are therefore considered insignificant.

#### *Phase II*

#### ONSHORE CULTURAL RESOURCES

No Phase II activities are proposed at Tecolotito, and Carneros creeks. Phase II activities at San Jose Creek would have no impacts, since no cultural resources are present.

**San Pedro Creek -- Locus 2.** Phase II dredging operations would result in the removal of soils beginning 2 to 3 feet above sea level and extending to four feet below sea level. Excavation would commence at the creek bank and extend on a 3:1 slope to 4 feet below sea level. It is unclear whether this excavation would impact intact archaeological materials without testing and evaluation. If the cultural deposit is buried by recent alluvium, has not been previously removed during historic dredging, and is intact, impacts on the archaeological resource would be significant, since information with the potential to address research questions about the past would be lost.

This locus has not been previously excavated by artifact collectors, probably due to its lack of accessibility. Proposed activities would expose the archaeological deposit but due to this access difficulty, would not increase the likelihood of illicit artifact collection. Indirect impacts are considered insignificant.

Phase II excavations could remove archaeological materials that are considered significant to Native American representatives, regardless of whether the materials have been disturbed or not, since they represent the remnants of their ancestral heritage.

**Atascadero Creek -- SBA-45.** This proposed channel excavation would remove soils beginning 2 to 3 feet above sea level at a 3:1 slope to four feet below sea level. The horizontal extent of creek bank removal at sea level would be between 7 and 10 feet. It appears that at least 3 feet of this soil is recent alluvial silts, but below these soils it is impossible to determine the extent of cultural material present, and whether historic dredging has completely removed archaeological materials within the proposed impact area. Impacts on the archaeological resource would also depend on the amount of alluvial silts that overlay the cultural deposits. This cannot be determined precisely without subsurface excavation. It is possible, however, that cultural deposits exist at or near sea level where accumulated silt would have capped the bank.

Traditional dragline maintenance along Atascadero Creek has impacted SBA-45 remains, as exhibited by their location on the southern creek directly opposite the site. The extent of this disturbance would be determined only by exposing and investigating the existing creek bank to sea level. In the absence of this information, impacts from Phase II dredging are considered to have the potential to significantly impact archaeological remains and lead to a loss of information about past lifestyles. This is considered a potentially significant impact.

The indirect impact of increased access to the site could result during construction and after the site has been exposed subsequent to Phase II dredging. This exposure could contribute to existing illicit artifact collection activity that is considered a potentially significant indirect impact.

Based on the extensive cultural and human remains found at the site, Phase II excavations would result in a significant impact on Native American values.

**Atascadero Creek -- SBA-1696.** Phase II dredging activities would be entirely contained within the existing creek bed. Therefore, the cultural deposit would not be affected and no impacts would result.

#### OFFSHORE CULTURAL RESOURCES

The proposed disposal site extending from 300 to 1,000 feet east of the Goleta Beach parking lot contains no recorded prehistoric materials. Magnetometer surveys to the west and east of the impact area have been negative. Therefore, the probability of encountering historic resources in the area is considered low. Impacts on offshore cultural resources are therefore considered insignificant.

#### *Ongoing Maintenance*

After completion of Phase II dredging, routine desilting within the basins would not encroach beyond previously excavated debris basin areas. Therefore, no further impacts on onshore cultural resources would be anticipated. An exception to this activity would be in response to a major storm, after which creek channels would potentially be cleared. In this situation, the potential for the impacts associated with Phase II activities would occur.

#### 4.7.2.3 Traditional Maintenance

Impacts associated with dragline desilting of all five creek channel basins would potentially affect cultural resources on San Pedro and Atascadero creeks. Depending upon the extent of silts removed, portions of Locus 2 and SBA-45 could be disturbed when basins are excavated. The dragline crane could disturb creekbanks containing cultural resources and impact them as desilting spoils are placed along the creekbanks. Removing stockpiled soils from creekbanks could accidentally result in excavation below the "bluetop" zone used to provide a buffer between the spoils cap and native archaeological soils underneath at SBA-45 and SBA-1696. Removing vegetation along the banks of the archaeological sites would potentially contribute to increased access to the exposed prehistoric artifacts and exacerbate illicit collection. The impacts defined above affecting onshore cultural resources that could occur during traditional maintenance activities are considered potentially significant. This maintenance alternative would not affect any offshore cultural resources and impacts on these resources would be insignificant.

#### 4.7.2.4 Beach Deposition

This alternative would not place sand within an area of known cultural resources. The potential for impacting buried prehistoric cultural resources on the beach which is subject to continuous

wave action is insignificant. Any unknown historic remains within this area would be buried by placement of the dredged soils and be further preserved from surf action. Impacts on onshore cultural resources on the beach would be insignificant. Other impacts would be as described for the proposed action. This alternative would not affect any offshore cultural resources and impacts on these resources would be insignificant.

#### 4.7.2.5 Reduced Basin Size

This alternative would reduce the amount of impact at the proposed basin locations. As none of the basins would be placed within archaeological deposits, reducing their size would have no effect on cultural resources. Impacts on onshore cultural resources would still occur from excavation of the pilot channel. These would be considered potentially significant.

#### 4.7.2.6 Increased Basin Size

##### *Onshore Cultural Resources*

**San Pedro Creek -- Locus 2.** The southern extent of the proposed increased basin would not encroach within the vicinity of Locus 2 boundaries. Therefore, ground disturbances associated with this alternative would not result in additional impacts on Locus 2. Impacts on cultural resources would still occur from excavation of the pilot channel. These would be considered potentially significant.

**Atascadero Creek -- SBA-45.** The proposed increased basin would extend approximately 800 feet further than the proposed project. If the eastern basin boundary for this alternative remained in its current location, the increased basin excavation could encroach within SBA-45 site boundaries, which are currently poorly defined. Impacts on cultural resources would still occur from excavation of the pilot channel. Therefore, ground disturbances within the site area would be potentially significant, similar to the proposed project.

#### 4.7.2.7 Discharge Pipelines on the Ground

This alternative would involve placing the discharge pipes on the ground adjacent to the creek channels rather than in the creek water. Dredging impacts would be identical to those discussed for Phase I and Phase II of the proposed project. No additional effects on offshore resources would result.

##### *Onshore Cultural Resources*

**San Pedro Creek -- Locus 2.** Pipes placed on top of Locus 2 deposits would rest against redeposited overburden overlying the potentially intact archaeological deposit. Assuming that placement of the pipes would not result in any subsurface disturbance, impacts on Locus 2 from this alternative would be insignificant for both phases.

**Atascadero Creek -- SBA-45.** Pipes placed on top of SBA-45 deposits would rest against redeposited overburden overlying the potentially intact archaeological deposit. Assuming that placement of the pipes would not result in any subsurface disturbance, impacts on SBA-45 from this alternative would be insignificant for both phases.

**Atascadero Creek -- SBA-1696.** The placement of pipes along the creek bank would potentially be on top of a sterile cap of dredge spoils above the cultural deposit. Due to this 2-foot cap, SBA-1696 deposits would not be affected by pipe placement, and therefore no impacts would be associated with this alternative for both phases.

#### 4.7.2.8 No Project Alternative

This alternative would not involve excavation adjacent to or within archaeological site boundaries. No investigation of soil integrity would be required. Sediments from upstream erosion would continue to accumulate at the base of creek banks, which over time could lessen the amount of erosion affecting these resources. The infilling of stream basins could act to seal and preserve presently exposed archaeological site profiles. This preservation would be considered a beneficial impact on cultural resources as research value and ethnic heritage values would be maintained (Class IV).

#### 4.7.3 Cumulative Impacts

The project would contribute to cumulative impacts on archaeological resources caused by projects proposed by the Santa Barbara City Airport Expansion Plan (P. Snethkamp in preparation) and Goleta Sanitary District plans to develop a reclaimed water pipeline network in the South Patterson Avenue area (Wilcoxon and Imwalle 1992). A number of archaeological sites and historical structures would be affected by these projects, including intact remains of SBA-45, SBA-1698, SBA-42, SBA-1699, and SBA-1700. The proposed project would potentially affect an additional two prehistoric resources that could be intact and significant in terms of CEQA Appendix G and K criteria. If intact deposits were identified that would be impacted, the project's contribution to cumulative impacts would be significant, as the impacts to these resources would exacerbate the loss of other irreplaceable data concerning Santa Barbara Channel prehistory caused by cumulative projects in the vicinity.

#### 4.7.4 Mitigation Measures

##### Background

CEQA Appendix K, Archaeological Resources, stresses the importance of avoiding impacts to any archaeological site identified in a project area, regardless of the resource's potential significance. This is a fundamental difference between state and federal historic preservation legislation, in which the latter requires assessment of significance regardless of the feasibility of avoidance. The following mitigations are designed to emphasize avoidance of impacts in accordance with CEQA Appendix K criteria.

The District has developed Standard Maintenance Practices that would apply to this project (see the mitigation and monitoring reporting program for the *Final Program Environmental Impact Report for Santa Barbara County Flood Control Routine Maintenance Activities*, 90-EIR-7). Many of these are written as goals to direct mitigation of potential project impacts. Practices Nos. 9 and 10 under category I, Avoidance of Significant Resources, apply to the project as follows:

1. Wherever possible, significant cultural resources should be avoided and protected.
2. Where significant cultural resources cannot be avoided, appropriate data recovery programs pursuant to Santa Barbara County Cultural Resource Guidelines should be implemented.

##### Mitigation Measures

These practices have been refined to apply to the potentially significant cultural resources that are discussed in this section. The following measures stressing avoidance of impacts include buffers that are designed to preclude accidental encroachment of dredging equipment within archaeologically sensitive soils and within areas where site boundaries are not explicitly understood (in the absence of subsurface cultural resource investigations).



1. Dredging excavation shall not occur within a minimum 25-foot distance measured along the top of creek banks, and within 5 feet of the existing creek bank toe of slope adjacent to Locus 2 and SBA-45 site boundaries. These avoidance areas shall be temporarily staked during construction.

**Timing:** The avoidance boundaries shall be staked immediately prior to commencement of dredging activities.

**Monitoring:** The avoidance boundaries shall be staked by a qualified archaeologist.

This measure would reduce the potential for direct and indirect impacts on cultural resources and ethnic values to less than significant levels (Class II).

The District has indicated that avoidance of all recorded archaeological sites would be feasible. In the unlikely event that construction design would require revision and encroachment in these areas, the following would be required:

2. An extended Phase 1 program to identify the extent of archaeological remains along the existing tidal channel shall be performed at Locus 2 and SBA-45. This would include hand excavation of profiles spaced no greater than 20 meters apart beginning at sea level and continuing in elevation up the creek bank. The excavation would cease when cultural materials were encountered and would record the extent of the material. If cultural materials appear to extend below sea level, the profile shall be extended into the tidal channel until the edge of the deposit is identified. Based on the results of this investigation, design of the dredging excavation shall incorporate a 5-foot buffer from the edge of the cultural deposit to avoid accidental equipment encroachment within the resource. This area shall be staked during construction activities.

Incorporation of this measure would reduce direct and indirect impacts on cultural resources and Native American values to less than significant levels (Class II).

3. If impacts to Locus 2 and/or SBA-45 deposits cannot be avoided, a Phase 2 archaeological testing program shall be conducted pursuant to County Cultural Resource Guidelines to determine the integrity of materials to be impacted. If significant resources are discovered that cannot be avoided by project redesign, a Phase 3 data recovery program shall be undertaken to salvage materials relevant to research questions defined in the Archaeological Element of the County Cultural Resource Guidelines. This program shall be carried out pursuant to County Cultural Resource Guidelines specifications and a proposal for this work shall be reviewed and approved by the County.

Incorporation of this measure would reduce direct impacts on cultural resources to a less than significant level (Class II) but would not reduce impacts on Native American values (Class I).

4. All archaeological excavations shall be monitored by a local Native American representative pursuant to County Cultural Resource Guidelines.

**Timing:** During dredging activities in sensitive areas.

**Monitoring:** A qualified archaeologist and Native American representative shall implement these mitigation measures.

5. All dredging operations within archaeological sites and buffer areas shall be monitored by a County-approved archaeologist and local Native American representative. If

unexpected archaeological remains are encountered, dredging activities shall be redirected elsewhere until the significance of the materials can be evaluated pursuant to County Cultural Resource Guidelines. If significant and feasible, dredging activities shall be redesigned to avoid further disturbances to the cultural deposit. If not avoidable, Phase III data recovery excavations shall be undertaken pursuant to County Cultural Resource Guidelines.

**Timing:** During dredging activities in sensitive areas.

**Monitoring:** A qualified archaeologist and Native American representative shall implement these mitigation measures.

Incorporation of these measures would reduce impacts on cultural resources to a less than significant level (Class II), but would not reduce impacts on Native American values (Class I).

## 4.8

## AESTHETICS

Visual resources consist of the natural and man-made features that give a particular environment its aesthetic qualities. These features may be natural appearing or modified by human activities. Together they form the overall impression of an area, referred to as its landscape character. Landforms, water surfaces, vegetation, and man-made features are treated as characteristic of an area if they are inherent to the formation, structure and function of the landscape. Landscape character is evaluated to assess whether a proposed project would be compatible with the existing setting or would contrast noticeably with the setting and appear out of place.

Visual resources also have a social setting; this includes public values, goals, awareness, and concern regarding visual quality. The social setting is addressed as visual sensitivity, or the relative degree of public interest in visual resources and concern over adverse changes in the quality of that resource, and is often a function of proximity to the resource in question. Visual sensitivity is key in assessing the importance of an effect on the visual resource, and whether it represents a significant impact.

### 4.8.1 Affected Environment

The region of influence for visual resources includes the land and water areas associated with the five creeks (Atascadero, San Pedro, San Jose, Tecolotito, and Carneros), and the Goleta Slough as well as nearby land uses that may be considered potentially sensitive (e.g., parks, beaches, and residential areas).

#### 4.8.1.1 Atascadero Creek

The proposed basin site is located south of the terminus of Ward Drive, and is bordered to the north by the Atascadero Creek Bikeway System, agricultural land, and a mobile home park; to the west by the Goleta Slough Reserve; to the south by open space; and to the east by the corridors of Atascadero and Maria Ygnacio creeks, and scattered residential and agricultural uses. Figure 4.8-1 shows a view of the proposed basin site from a point near the bikepath.

The site is visible from the bikeway, which is elevated approximately 4 feet above the creek and drops several feet at the dredge site so that it is nearly level with the creek bank, allowing an unobstructed view of the dredge site. This viewshed is referred to as the Bikeway Viewshed and includes the water surface and sediment deposits along the creek bed, the top portion of the north creek bank, the southern creek bank, and open space beyond.

The north creek bank is a disturbed riparian corridor; the vegetation is generally sparse and has a weedy appearance. The terrain between the north creek bank and the bikeway is almost completely barren. Existing vegetation provides minimal screening of the proposed project site. Vegetation along the north creek bank is slightly denser west of the dredge site. Vegetation in the project vicinity is a mixture of native and weedy species and is not of a variety or quantity that would be considered a scenic resource.

Atascadero Creek is a wide, level channel filled with accumulated sediments which are light brown in color, and contains only a narrow stream of water during much of the year. When stream flows are light, a green filamentous algae is sometimes present. During late winter and spring when the creek flows are high, the water surface fills the entire creek bed and enhances the scenic value of the Bikeway Viewshed. Vegetation in the creek is sparse to nonexistent.



Figure 4.8-1. Bikeway viewshed (Atascadero Creek).

Vegetation along the south creek bank is dense, and is a mixture of low-growing coastal sage scrub with some weedy species. Open space consisting of disturbed grassland on gently rolling terrain and a narrow band of mature landscape trees (eucalyptus) dominate the viewshed background south of the site. Nightlighting in the proposed project area is minimal, and is generated primarily by the mobile home park north of the project site.

The proposed project vicinity is considered visually sensitive due to the somewhat natural, rural setting, and recreational uses in the area. Surrounding agricultural and open space uses enhance the visual setting, and provide an important scenic element to recreational use of the bikeway. Since motor vehicles are prohibited in the project vicinity, potential viewers would be limited to cyclists and pedestrians on the bikeway. Although the Bikeway Viewshed is not specifically identified in the County's Open Space Element as a visual resource, it falls within the definition of an urban perimeter, which is visually important to both travellers and residents along the perimeter as well as those residing elsewhere in the community (County of Santa Barbara 1979).

#### 4.8.1.2 San Pedro Creek

The proposed basin site is located in San Pedro Creek immediately south of the James Fowler Road bridge along the eastern border of the Santa Barbara Municipal Airport (SBMA). Figure 4.8-2 shows the proposed basin site looking south from James Fowler Road. The site is bordered to the north and west by the airport and commercial/retail development; to the west by open space and disturbed vegetation; to the south by the Goleta Slough and associated wetlands; and to the east by a small residential area with some light industry. This area is referred to as the Placencia Street neighborhood, and parallels the eastern creek bank. It includes industrial uses such as painting and drywall facilities that generate moderate levels of noise and dust. Class II bikepaths exist on both sides of Fairview Avenue and James Fowler Road in the project vicinity.

The project site is located directly within the line of sight of motorists and cyclists travelling southbound on Fairview Avenue, which becomes James Fowler Road north of the project site, and is visible at a right angle to motorists and cyclists on the James Fowler Road bridge. This viewshed is referred to as the James Fowler Road Viewshed, and is characterized by relatively level open space with disturbed weedy vegetation west of the creek, and a narrow band of similar vegetation and mature landscape trees (myoporum) immediately east of the creek. The Placencia Street neighborhood consists of residential and light industrial development further east of the site. The site is also partially visible from the Goleta Sanitary District, which is a public utility, and as such is not considered a sensitive receptor.

The creek bed, water surface, and vegetation in the creek are similar to Atascadero Creek. Both creek banks are relatively steep, and are covered with low-growing, weedy vegetation. The background of the James Fowler Road viewshed is characterized by the tall landscape trees (palm and eucalyptus) of Goleta Beach Park, and a knoll with disturbed vegetation and some native scrub species to the west.

Landscape trees (myoporum) provide some screening of the project site along the eastern creek bank. The trees become quite dense and screen the creek entirely toward the southern portion of the Placencia Street neighborhood. The eastern creek bank is covered with disturbed, weedy vegetation. Vegetation in the vicinity of the creek is generally weedy and is not considered a scenic resource. The overall impression of the viewshed is that of a disturbed riparian corridor, which provides some visual relief to this predominantly industrial area. Nightlighting in the general project vicinity is considerable and is generated by the SBMA, the Goleta Sanitary District, and to a lesser extent, traffic on James Fowler Road and residences in the Placencia Street neighborhood.

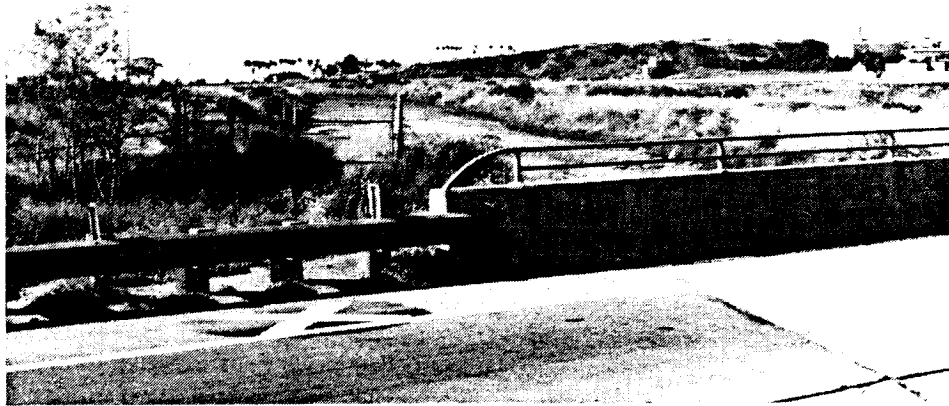


Figure 4.8-2. Fowler Road viewshed (San Pedro Creek).



Surrounding uses are predominantly industrial, and include the SBMA, the Goleta Sanitary District, and light industrial uses in the Placencia Street neighborhood. Potential viewers would observe the project site while commuting to work, or while bicycling along Fairview Avenue and James Fowler Road.

#### 4.8.1.3 San Jose Creek

The proposed basin site is located in San Jose Creek south of the intersection of Kellogg Avenue and Thornwood Drive, and between Ward Memorial Boulevard and the Santa Barbara Twin Screen Drive-In Theater. Figure 4.8-3 shows a view of this site from its west bank, near the drive-in theater. It is bordered to the north by commercial and light industrial uses and the drive-in theater; to the south and east by Ward Memorial Boulevard, a mobile home park and Goleta Slough wetlands, and to the west by Goleta Slough wetlands.

The northern portion of the dredge site is plainly visible from the westbound lanes of Ward Memorial Boulevard, which is elevated approximately 4 feet above the top of the creek banks. This view is referred to as the Ward Memorial Boulevard Viewshed, and is not within the motorists' direct line of sight but is located at a right angle. The dredge site is not visible from the eastbound lanes of Ward Memorial Boulevard due to screening by dense vegetation, and the angle of vision.

The dredge site is filled with dense riparian vegetation consisting of shrubby willows, while the creek banks are covered with riparian and weedy vegetation. Both creek banks have been graded, and are relatively steep. Water flows are similar to Atascadero Creek. Immediately north of the dredge site, the creek bed and both banks are channelized with concrete. The drive-in theater movie screen, and a narrow band of mature landscape trees (myoporum) are located north of the dirt road above the west creek bank. Due to the height and contrast of the movie screen and landscape trees, these features dominate the Ward Memorial Boulevard viewshed. Overall, this viewshed is characteristic of a disturbed riparian corridor, and provides some visual relief to the urban setting.

Considerable nightlighting is generated by both lightposts and traffic on Ward Memorial Boulevard, and to a lesser extent by the mobile home park to the east, and traffic and commercial and industrial uses on south Kellogg Avenue. Surrounding uses are commercial and industrial, and the general appearance of this area is urban.

#### 4.8.1.4 Tecolotito Creek

The proposed basin site is located in Tecolotito Creek immediately south of Hollister Avenue near the intersection of Hollister Avenue and Cremona Drive (see Figure 4.8-4). It is bordered to the north by Hollister Avenue and the University Business Center to the east and west by open space consisting of disturbed vegetation, and to the south by the airport and associated facilities. The Goleta Slough and associated wetlands are also located further south, east, and west of the site.

The northern portion of the dredge site is obscured from the view of motorists and pedestrians on Hollister Avenue due to the angle of vision, and the fact that Hollister Avenue is elevated approximately 8 feet above the creek bed. This viewshed, referred to as the Hollister Avenue Viewshed, is located at a right angle to the motorists' line of sight, and is further obscured by a low concrete traffic barrier and a cyclone fence, both of which are located on the Hollister Avenue bridge above the creek. The entire dredge site is visible from the upper floors of the Business Center located north of the project site. Views of the site are brief for passing motorists, lasting several seconds at most, while employees of the Business Center would view



Figure 4.8-3. Ward Memorial Boulevard viewshed (San Jose Creek).



Figure 4.8-4. Hollister Avenue viewshed (Tecolotito Creek).

the site throughout the workday. Views of the actual dredge site are limited since it is a relatively small portion of the overall viewshed, and is quite narrow.

The Hollister Avenue Viewshed consists of a relatively broad expanse of level open space and disturbed, weedy vegetation and the narrow riparian corridor of Tecolotito Creek. The creek bed is flat, and water flows are similar to Atascadero Creek. A sandbar in the proposed dredge site supports low-growing riparian vegetation. Both creek banks are quite steep, and are densely covered with low-growing vegetation consisting of native and weedy species. The background of the Hollister Avenue Viewshed includes large landscape trees (eucalyptus and palms) and large UCSB and SBMA buildings. The SBMA facilities are largely obscured due to distance, terrain and vegetation. The overall impression of the viewshed is that of a broad expanse of open space with a narrow, disturbed riparian corridor which provides some visual relief to the otherwise urban setting. Considerable nightlighting is generated by traffic and street lights on Hollister Avenue, and commercial uses in the project vicinity.

Due to the urban setting and lack of scenic resources, this site is not considered visually sensitive. Surrounding uses north of Hollister Avenue include a business park and small commercial/retail developments. Additional open space, the Goleta Slough wetlands, the SBMA, and UCSB border the site to the south, east and west. Potential viewers in the project vicinity include persons employed in nearby industrial or business centers, the SBMA, or UCSB, and would view the site while commuting to and from work, or during the lunch hour. This viewshed is characterized by a disturbed riparian corridor with open space and disturbed vegetation on both sides, which provides some urban relief.

#### 4.8.1.5 Carneros Creek

The proposed basin site in Carneros Creek is similar to Tecolotito Creek, and is located approximately one-half mile west of the Tecolotito Creek project site. The site is located immediately south of Firestone Street, which parallels Hollister Avenue to the south (see Figure 4.8-5). The site is bordered to the south and north by small commercial and retail businesses, to the southeast by the SBMA and associated support facilities, and to the west by open space consisting of disturbed weedy vegetation.

The Carneros Creek project site is located approximately one-half mile south of the Tecolotito site, and views of the Carneros Creek site are similarly limited due to the elevation of Hollister Avenue, the angle of vision, and the narrow creek. This viewshed, referred to as the Carneros Creek Viewshed, is located at a right angle to the motorists' line of sight, and is further obscured by a cyclone fence and a low wooden traffic barrier, both of which are located on Firestone Street. The northern portion of the dredge site is obscured from the view of eastbound travellers on Hollister Avenue by dense, tall riparian vegetation, consisting mainly of willows. The eastbound approach is also obscured by a dense stand of ornamental trees (*Ficus* sp.) north of the site, and dense riparian vegetation on the eastern creek bank. Views from the westbound approach are partially obscured by dense riparian vegetation and ornamental shrubs. Views of the site from Hollister Avenue are brief, lasting several seconds at most. Viewers are as described above for Tecolotito Creek.

The Carneros Creek Viewshed includes native vegetation and mature landscape plantings. Tall stands of riparian vegetation exist along the northwest creek bank; landscape shrubs border the northern portion of the dredge site, and a dense row of landscape trees exist in the grass strip between Hollister Avenue and Firestone Street. West and east of the site the open space is similar to Tecolotito Creek. Both creek banks are relatively steep, and are densely covered with low-growing vegetation. The east bank is dominated by weedy species such as introduced grasses, while the west side supports willows and weedy vegetation. Creek flows are similar to Atascadero Creek. Sandbars in the proposed dredge site support low-growing riparian



Figure 4.8-5. Carneros Creek viewshed.

vegetation. The site is characterized by a narrow riparian corridor with open space on both sides; some visual relief is provided in this urban setting. Nightlighting is the same as described above under Tecolotito Creek.

Adjacent uses include airport support facilities such as workshops and repair garages, and small commercial and retail establishments that serve local businesses. Surrounding uses are similar to Tecolotito Creek. This area is characterized by an urban appearance.

#### 4.8.1.6 Goleta Beach

The photograph in Figure 4.8-6 was taken from Goleta Beach County Park looking toward the area where the booster pump would be placed. Figure 4.8-7 shows the dredge material disposal area approximately 500 feet east of the mouth of the slough. Goleta Beach is a day-use park that includes a parking lot, the Beachside Bar-Cafe, picnic areas, restrooms, two ranger residences, a snack bar and bait shop, the Goleta Pier, beach volleyball courts, and various utility and storage areas. Goleta Slough wetlands and the SBMA lie to the north, UCSB is directly west, and the Southern California Gas Company facility lies on the bluffs to the east. It is not visible from the park.

##### *Views of the Goleta Beach Receiver Site*

**OVERALL:** Natural coastal features dominate this highly scenic recreational area. This viewshed is characteristic of an estuarine habitat, and includes the confluence of the freshwater creeks that composes the Goleta Slough. Tree-lined coastal bluffs, the broad expanse of the Pacific Ocean, the sandy beach, and rugged, marshy vegetation inhabited by numerous shorebirds are also important components of the viewshed. This landscape is valued as a scenic resource by the residents of Santa Barbara County and beyond.

On-site vegetation consists of ornamental landscaping such as planted succulents, herbaceous perennials, and large specimen trees in parking lot planters. This vegetation is a departure from the native and naturalized vegetation along the slough banks, the beach and coastal bluffs.

**WARD MEMORIAL BOULEVARD:** Passing motorists have limited views of Goleta Beach County Park, since this viewshed is located at a right angle to the motorists' line of sight. In addition, the park is several hundred feet to the south, and presents a complicated viewshed that includes numerous structures, trees, (i.e., ranger residences, the Beachside Bar-Cafe, and Goleta pier), and the Pacific Ocean and beach area. These elements form the background of the viewshed, and are more difficult to discern due to distance and numerous features in the viewshed. The slough is more visible due to its proximity to Ward Memorial Boulevard and the water surface, which appears as a single unifying visual element. Nightlighting is considerable, and is generated by street lights along Ward Memorial Boulevard and adjacent streets.

**ATASCADERO CREEK BIKEWAY SYSTEM:** Views of the slough are located at a right angle to the bicyclists' line of sight, with the exception of the portion of the bikeway near the Goleta Beach County Park entrance. This viewshed is characterized by a natural estuarine appearance and consists of the water surface, the banks of the slough, and associated vegetation and wildlife. The open, calm water surface created by the confluence of the three creeks provides an ideal setting for bicyclists and other recreationists on the bikeway. The elevation of the bikeway varies from approximately 4 to 10 feet above the slough, generally enhancing visibility of the dredge site. Nightlighting along the bikeway is generated by street lights along Ward Memorial Boulevard in the project vicinity.

**GOLETA BEACH COUNTY PARK PARKING LOT:** The slough and parking lot are visible to park patrons looking north from the Beachside Bar-Cafe parking lot area. The viewshed is relatively



Figure 4.8-6. View of Goleta Slough from Goleta Beach parking lot.



Figure 4.8-7. View of Goleta Slough and Goleta Beach from Goleta Beach parking lot.



open; however, some screening vegetation is located along the southern banks of the slough. The main body of the slough appears as an open body of water in the foreground, and the Los Padres mountains form the background. Two bridges traverse the slough in an east-west direction, and are visible from this viewshed. The parking lot is elevated approximately 6 to 10 feet above the slough, which enhances visibility of the dredge site. Nightlighting exists in the parking lot and at the entrance to the Beachside Bar-Cafe.

**BEACH AREA:** The beach area includes the sandy beach southeast and southwest of the site, and the Goleta Pier. The dominant features of the viewshed from the southeast portion of the beach are the coastal bluffs and eucalyptus woodland lining the bluffs, and the slough mouth. Southwest of the site the viewshed consists of the main body of the slough, which is largely obscured due to the lower elevation of the beach, and the Beachside Bar-Cafe, and parking lot planters. From the Goleta Pier, views of the slough are obscured by the Beachside Bar-Cafe, but the mouth of the slough is visible. Visibility from the beach is limited due to its lower elevation in relation to the slough, although the beach and slough are level near the slough mouth. Nightlighting along the beach is generated by the Beachside Cafe, the Goleta Pier, and UCSB.

#### 4.8.2 Environmental Consequences

Potential aesthetic impacts were assessed according to the aesthetic impacts guidelines of the *Environmental Thresholds and Guidelines Manual* (Santa Barbara County 1990). According to these guidelines, assessing the visual impacts of a project involves two major steps: (1) assessing the visual resources of the project site and (2) determining the potential impact of the project.

According to state and county definitions, significant visual resources include scenic highway corridors; parks and recreational areas; views of coastal bluffs, streams, lakes, estuaries, rivers, watersheds, mountains, and cultural resource sites; designated scenic areas; and other areas where the public is concerned about the aesthetic quality (Santa Barbara County 1979 and 1989; CEQA Section 15064). Four types of settings are considered especially important; coastal and mountainous areas, the urban fringe, and travel corridors. Important factors in evaluating the visual resources of a specific project site include the site's setting as well as its physical attributes, relative visibility, and relative uniqueness.

An adverse visual impact occurs when an action perceptibly changes the physical environment such that the change does not appear characteristic of the region. Changes that seem uncharacteristic are those that are incompatible, discordant, or distracting. Adverse visual impacts may be created through obstruction of views, inconsistency with surrounding uses, intensive development, lack of landscaping, and/or extensive grading. The significance of visual impacts depends on how noticeable the adverse change may be (Santa Barbara County 1979 and 1989). This is a function of project features, their context, and the viewing conditions, including angle of view, distance, and primary viewing direction.

Potential visual impacts have been analyzed by (1) evaluating the general aesthetic compatibility of the proposed project with the surrounding environment; (2) identifying views of the project site from sensitive viewing locations (e.g., roadways, scenic or recreational areas), (3) evaluating existing features within each view that contribute to the natural coastal setting; (4) evaluating the compatibility of specific project developments with the natural coastal setting of each view; (5) evaluating the visibility of compatible and incompatible project elements within each view; and (6) evaluating potential obstruction of views.

Potentially incompatible project components include the presence and activity of construction equipment, spoils discharges offshore and stockpiles onshore, nightlighting, the discoloration of the creeks and ocean, the removal of vegetation, and construction-generated noise and dust.

#### 4.8.2.1 Proposed Project

##### *Atascadero Creek*

Phase I and II are similar for purposes of this analysis and are discussed together. Phase I involves removal of approximately 42,000 cubic yards of spoils from a sediment basin and pilot channel. The basin would be approximately 87 feet wide, 8 feet deep, and 1,172 feet long while Phase II involves dredging approximately 80,500 cubic yards from Goleta Slough to the sediment basin in Atascadero Creek (see Chapter 2.0, Project Description, for more information). Both phases would remove a small amount of aquatic vegetation in the sediments to be dredged, although upland vegetation would not be substantially affected. Construction would require approximately six weeks for Phase I and a maximum of two and one-half months for Phase II. This is a worst-case estimate and assumes 10-hour working days; if construction occurred on a 24-hour basis, the duration would be much shorter.

Spoils gathered from Atascadero Creek would be discharged by a 12-inch pipeline into the ocean at a point 500 feet east of the mouth of Goleta Slough. The pipeline would be suspended by floats in the creek. An equipment staging area would occupy approximately 20,000 square feet between the north creek bank and the bikeway. It would be surrounded by a chain-link fence, and would be used for pipeline and float storage.

Construction equipment would include a dredge, SDG&E hydraulic dredge, booster pump and discharge pipeline, a small support boat, three employee vehicles, a loader (Cat 936) and dozer, and four 18-wheel trucks. The dredge, boat, and pipeline would be in the creek throughout construction. The booster pump would be used to pump spoils through the pipeline, and would be located near the pipeline at a point between the dredge site and the mouth of the slough.

The dredging equipment, dozer, loader, and staging area would be equipped with lights to facilitate a 24-hour schedule, if required. The dredge would have an overhead light and another light for gauges and equipment. The staging area would be lit on an as-needed basis only, and it is assumed that employees would be equipped with hand-held flashlights.

Due to the scarcity of screening vegetation along Atascadero Creek, construction equipment and the staging area would be visible to bikeway users for a minimum of 30 seconds during Phase I (longer for pedestrians). Dredging between the basin and the slough would be almost entirely obscured because the creek turns south away from the Bikeway Viewshed at this location and is not visible. Phase II impacts would be significant, however, if the basin area were used as staging area.

**SIGNIFICANCE OF IMPACTS.** Dredging activities would be incompatible with the sensitive Bikeway Viewshed. Construction would partially obstruct views of the creek, and would be plainly visible to bikeway users travelling east and west for several seconds. The construction vehicles and staging area containing floats and pipeline would create an industrial appearance that would be out of character with the setting. These impacts would be short-term, but are considered potentially significant due to the sensitivity of the viewshed (Class I).

Impacts due to vegetation removal would be less than significant due to the scarcity of existing vegetation in Atascadero Creek (Class III). Lighting impacts are also considered less than significant due to the limited use of nightlighting (Class III). Less tangible impacts to the aesthetic environment include construction-generated noise and dust (see sections 4.6, Noise, and 4.2 Air Quality).

### *San Pedro Creek*

Phase I and II are essentially the same for purposes of this analysis and are discussed together. Phase I involves removal of approximately 15,800 cubic yards from a pilot channel as well as a sediment basin approximately 45 feet wide, 8 feet deep and 750 feet long while Phase II involves dredging approximately 13,680 cubic yards from Goleta Slough to the sediment basin (see Chapter 2.0, Project Description, for more information). Both phases would remove all vegetation in the sediments to be dredged.

Construction equipment, activities and the staging area would be the same as discussed above under Atascadero Creek, except that the staging area would be located east of the creek. The duration of construction would be approximately half that for Atascadero Creek due to less dredging. Construction-related traffic would be the same as discussed above under Atascadero Creek.

Phase I construction equipment and the staging area would be visible to motorists travelling east and west on James Fowler Road for several seconds, and to motorists travelling southbound on Fairview Avenue for several seconds. James Fowler Road curves sharply to the north at the point where Fairview Avenue becomes James Fowler Road, which is approximately 100 feet east-northeast of the project site. Motorists would be focused on the road whether driving eastbound or westbound, and would have a very brief view of the project site. Phase II would be obscured in the portion of the creek several hundred feet south of the dredge basin since the creek is not within the James Fowler Road Viewshed at this location.

**SIGNIFICANCE OF IMPACTS.** Although dredging activities would be incompatible with the riparian corridor, construction would be short-term and views would be brief, and a relatively small portion of the viewshed would be impacted at any given time. Additionally, the project area is bounded by the airport and other industrial activities, which reduce the visual quality of the area and provide visual distractions. Therefore, impacts are considered potentially adverse but insignificant (Class III). Impacts due to vegetation removal and nightlighting are the same as discussed above under Atascadero Creek.

### *San Jose Creek*

Phase I and II are essentially the same for purposes of this analysis and are discussed together. Phase I involves removal of approximately 17,400 cubic yards of spoils from a pilot channel and sediment basin approximately 43 feet wide, 8 feet deep and 785 feet long. Phase II involves dredging approximately 12,770 cubic yards from Goleta Slough to the sediment basin (see Chapter 2.0, Project Description, for more information). Both phases would remove all vegetation in the sediments to be dredged.

Construction equipment, activities, and the staging area would be the same as discussed above under Atascadero Creek, except that the staging area would be located west of the creek. The duration of construction would be approximately half that of Atascadero Creek due to less dredging. Construction-generated traffic would be the same as discussed above under Atascadero Creek (see section 4.10, Traffic).

Phase I construction equipment and the staging area would partially obstruct views of the creek, and would be plainly visible to motorists travelling west on Ward Memorial Boulevard for several seconds. Phase II would be obscured in the portion of the creek several hundred feet southwest of the dredge basin since the creek is not within the viewshed of Ward Memorial Boulevard at this location.

**SIGNIFICANCE OF IMPACTS.** Although dredging activities would be incompatible with the riparian corridor of the Ward Memorial Boulevard Viewshed, construction would be short-term and the viewshed is not considered significant since adjacent uses are commercial or industrial, and since the area has generally been disturbed. Impacts would be potentially adverse but insignificant (Class III). Due to the substantial quantity of existing vegetation in San Jose Creek, the loss of this vegetation is considered a potentially adverse but insignificant (Class III) aesthetic impact.

Impacts due to nightlighting, noise, and dust are the same as discussed above under Atascadero Creek.

#### *Tecolotito Creek*

For Tecolotito and Carneros creeks the proposed project consists of dragline desilting rather than use of a hydraulic dredge. The following changes apply to dredging in Tecolotito and Carneros Creeks: (1) A dragline crane would be used instead of the hydraulic dredge; (2) the support boat and booster pump would not be required; (3) additional traffic would be generated from spoils hauling; (4) a spoils disposal area would be required instead of an equipment staging area, and (5) construction would occur in only one phase.

Approximately 10,000 cubic yards of spoils would be removed from a sediment basin which would be approximately 110 feet wide, 8 feet deep, and 560 feet long (see Chapter 2.0, Project Description, for more information). All vegetation in the sediments would be removed. Construction would require approximately one month. This is a worst-case estimate, and assumes 10-hour working days. If construction occurs on a 24-hour basis, the duration would be much shorter.

Construction would partially obstruct views of the creek, and would be visible to motorists and cyclists travelling east and west on Hollister Avenue for several seconds. The basin would be at right angles to the viewers and would not be within the normal line-of-sight. The dragline crane would deposit the spoils behind the crane, approximately 30 to 100 feet from the top of the bank along the length of the basin. Stockpiled spoils would be located on both sides of the creek, and would be approximately 10 feet high. Spoils would be removed on an as-needed basis by members of the public, e.g., contractors who require fill dirt for construction projects. A temporary loss of weedy upland vegetation would result from deposition of excavated materials adjacent to the creeks. This vegetation is low growing; however, and is not of a variety or quantity that is considered a scenic resource.

The equipment would have lights to facilitate a 24-hour schedule if required, and another portable overhead light would be installed on a pole. It is assumed that employees would be equipped with hand-held flashlights.

Construction equipment and the spoils disposal area would be visible to motorists and cyclists travelling east and west on Hollister Avenue for several seconds.

**SIGNIFICANCE OF IMPACTS.** Although dredging activities would be incompatible with the riparian corridor of the Hollister Avenue Viewshed, basin construction would be short-term, views would be limited and would last only a few seconds, and Hollister Avenue is not considered a scenic corridor. Moreover, it is developed with commercial uses in the project vicinity, which diminish the visual sensitivity of the area, and also serve to distract the viewer's attention. Traffic along Hollister Avenue would also distract the viewer from maintenance activities. Therefore, impacts associated with maintenance activities are considered potentially adverse but insignificant (Class III). Impacts from the stockpiling of spoils would be longer-term but for the reasons described above would be insignificant (Class III).

Impacts due to vegetation removal would be negligible, since there is currently very little in the basin. Impacts from the limited night lighting that would be required would be minimal in comparison to existing lighting along Hollister Avenue.

#### *Carneros Creek*

The proposed project for Carneros Creek consists of dragline desilting and is similar to that discussed above for Tecolotito Creek. Approximately 5,800 cubic yards of spoils would be removed from a sediment basin approximately 60 feet wide, 6 feet deep, and 600 feet long (see Chapter 2.0, Project Description, for more information). All vegetation in the sediments would be removed.

Construction equipment and the spoils disposal area would partially obstruct views of the creek, and would be visible within the Carneros Creek Viewshed to motorists and cyclists travelling west on Hollister Avenue for several seconds. Views from the east would be obscured by existing vegetation. The northern portion of the dredge basin would not be visible due to screening vegetation along the northwest creek bank.

**SIGNIFICANCE OF IMPACTS.** Although dredging activities would be incompatible with the Carneros Creek Viewshed, construction would be short-term, views would be limited to several seconds and would not be within the normal line-of-sight. Moreover, the creek would only be visible from the westbound traffic lanes, which are across the street. Hollister Avenue is not a scenic corridor, and the surrounding area is largely developed with commercial and industrial uses; thus, viewer expectations are not what they would be in a more rural area. Traffic on Hollister Avenue would also serve to distract the viewer from activities in the creek. Impacts would be potentially adverse but insignificant (Class III). Impacts associated with the stockpiling of spoils would last longer, but for the reasons described above would be insignificant (Class III).

Impacts due to vegetation removal and night lighting would be the same as described above under Atascadero Creek.

#### *Goleta Beach*

Construction equipment, including night lighting, activities, the duration of construction, and the staging area would be the same as discussed above under Atascadero Creek, except that the staging area would be located in the eastern portion of the Goleta Beach parking lot, and a booster pump would be located adjacent to the slough. Additionally, a light would be required on the loader moving the discharge pipeline on the beach and a light on a pole would be needed at the beach, as well. Project visibility from viewsheds at Goleta Beach are discussed below.

**Ward Memorial Boulevard:** Dredging would be visible from Ward Memorial Boulevard for several seconds but would be largely obscured near the San Pedro/San Jose outlet due to the angle of vision.

**Atascadero Creek Bikeway System:** Dredging would be visible from the bikeway for several seconds.

**Goleta Beach Parking Lot:** Dredging activity and the staging area would be visible from the northeastern portion of the parking lot. Duration of views would vary from several seconds to hours, depending on the length of time people remain in the area.

**Beach Area:** Dredging equipment would be highly visible during mobilization. Activity in the vicinity of the parking lot staging area would be visible from the eastern portion of the beach, but would be largely obscured from the western portion of the beach by topography and the

Beachside Bar-Cafe. Duration of views would vary depending on the length of time people remain in the area.

Spoils from Atascadero, San Pedro, and San Jose creeks would be discharged by pipeline just offshore at a point approximately 500 feet east of the slough mouth. The pipeline would be floated from the three creeks and would traverse the beach to the discharge point in the ocean. The pipeline would be a maximum diameter of 12 inches.

The pipeline would be moved several hundred feet every few days; however, the discharge point would remain at least 300 feet east of the parking lot. A plume of discolored water would reach approximately 1,000 feet offshore (see Figure 4.9-1), and would remain for the duration of dredging at the three creeks. Since the discharge point would be east of the pier, and prevailing currents are from the west, the plume would be carried further east, and is not expected to extend in a westerly direction to the immediate vicinity of the pier.

**SIGNIFICANCE OF IMPACTS.** Dredging would be incompatible with the sensitive viewsheds of Goleta Beach. Construction equipment would partially obstruct views of the slough, and would be plainly visible to recreationists in the vicinity of the project site. The slough and discharge point in the ocean would be discolored due to turbidity. The Goleta Beach viewsheds are considered highly sensitive by virtue of their physical properties as well as the intensive recreational uses in the area. Although construction would be short-term, impacts are considered potentially significant (Class I).

Impacts due to night lighting would be negligible to the minimal lighting that would be required, particularly since Goleta Beach is a day-use park only.

#### *Ongoing Maintenance*

Under normal conditions, maintenance would be required in the basins only, although under certain conditions maintenance would be required in the channels. Impacts would probably occur every three to five years and would be comparable to those described for the basins and channels above.

#### **4.8.2.2      Traditional Maintenance**

Impacts for Tecolotito and Carneros creeks are discussed under the proposed project above.

#### *Atascadero Creek*

Less equipment would be required for this alternative than for the proposed project, and no staging area for floats and pipeline would be required. The major difference would result from stockpiling spoils along the banks of the creek. Impacts would be long-term, whereas impacts from the actual dredging or desilting would be limited to the duration of the activity. The spoils piles could be up to 10 feet high, would be darker than the surrounding sediments, could restrict views of the creek, depending on their placement, and would further detract from the character of the area. Impacts would be significant and unmitigable (Class I) until the spoils piles were removed. After they were removed, the affected area would be largely devoid of vegetation. Impacts would be adverse but insignificant. Mitigation measures recommended under Biological Resources (section 4.4.4) include revegetation of affected areas.

#### *San Pedro Creek*

As described for the proposed project, impacts from construction would be insignificant (Class III). Impacts from stockpiling spoils would be highly visible over a longer period of time and



would represent a perceptible change in the character the area, however. The public has an expansive view of Goleta Slough from James Fowler Road, and if spoils were piled approximately 10 feet high, they would restrict views of the open space that extends beyond the creek. Impacts would be significant and unmitigable until the stockpiles were removed (Class I).

#### *San Jose Creek*

As described for the proposed project, this area has limited visual sensitivity in the vicinity of the basin site. The portion of the creek that extends south of the basin is in an undeveloped area, but it runs parallel and immediately adjacent to Ward Memorial Boulevard, which is elevated above the creek. The creek is not a dominant feature in the public viewshed in this area, and desilting the creek and stockpiling spoils along its banks would not restrict views of open space. Impacts would be adverse but insignificant (Class III).

#### *Goleta Beach*

Impacts to Goleta Beach would be less than described for the proposed project. No staging area would be required, and the amount of equipment used would be lessened considerably. Additionally, no discharge pipeline would traverse the beach, and the dredge plume would not be created. The primary impact would result from stockpiling spoils along the creekbanks. The stockpiled spoils would be visible within the Ward Memorial Boulevard, Bikeway, Goleta Beach Park and Beach Area viewsheds. These piles would be unsightly in themselves and would restrict views of the open spaces beyond. Impacts would be significant and unmitigable until they were removed (Class I).

#### *Ongoing Maintenance*

Under normal conditions, maintenance would be required in the basins only, although under certain conditions maintenance would be required in the channels. Impacts would probably occur every three to five years and would be comparable to those described for the basins and channels above.

#### **4.8.2.3      Beach Deposition**

This alternative involves depositing spoils on the beach near the slough mouth rather than in the ocean. Impacts would be as described for the proposed project with the following exception.

Stockpiled spoils would be located along the beach east of the slough mouth, and would be approximately 3 feet high, 1,500 feet long, and would extend the width of the beach. The stockpile would be darker than the surrounding sand, would partially block views of the beach, and would greatly alter the appearance of the area. Impacts would be significant and unmitigable (Class I).

#### **4.8.2.4      Reduced Basin Size**

Short-term impacts would be incrementally reduced due to the slightly shorter construction period and smaller area impacted; however, since maintenance would be required more frequently, impacts would occur more frequently. The nature of the impacts would be as described for the proposed project.

#### **4.8.2.5      Increased Basin Size**

Short-term impacts would be incrementally increased due to the slightly longer construction period and the larger basin size; however, since maintenance would be required less frequently,

overall impacts would be slightly reduced. The nature of the impacts would be as described for the proposed project.

#### **4.8.2.6      Discharge Pipelines on the Ground**

Under this alternative, the pipeline could be more perceptible, depending on its location; however, the pipeline would be visible when placed in the creekbed, as well, and impact classifications would remain as described for the proposed project.

#### **4.8.2.7      No Project**

The No-Project Alternative would result in progressive sedimentation of the five creeks and Goleta Slough. The water surface would be reduced and discolored, and the quantity of sediments, algae, and vegetation would increase. The visual quality of the riparian corridors and estuarine habitat of the five creeks and the slough would change as upland areas would be created.

#### **4.8.3              Cumulative Impacts**

Cumulative projects that could potentially affect aesthetic resources within the ROI include the Beach Nourishment Demonstration project that has identified Goleta Beach County Park as a potential receiver site. The EIR/EA prepared for this project found significant aesthetic impacts resulting from nearshore activities (Chambers Group, Inc. 1992). If the proposed project or any of its alternatives took place concurrently, impacts to aesthetic resources in the vicinity of Goleta Beach would be exacerbated, although the overall period of disturbance would be minimized. Cumulative impacts could be significant.

The Beachside Bar-Cafe expansion and installation of a fire water line could also potentially occur at the same time as the proposed project, although it is likely that they would be completed prior to the onset of the proposed project. Construction activities associated with these projects could, in combination with the proposed project or its alternatives substantially diminish the aesthetic quality of Goleta Beach County Park. Impacts would be short-term but could be cumulatively significant.

#### **4.8.4              Mitigation Measures**

No feasible mitigations for aesthetic impacts have been identified, although impacts would be minimized by restricting activities in the vicinity of Goleta Beach to the months between November and mid-April, since the beach receives less use during that period.

## 4.9 TRAFFIC/CIRCULATION

### 4.9.1 Affected Environment

The region of influence (ROI) used in describing existing traffic conditions and for assessing impacts includes the roadways immediately surrounding the project site, including U.S. Highway 101, Ward Memorial Boulevard, Hollister Avenue, Fairview Avenue, Kellogg Avenue, Pine Avenue, Ward Drive and Thornwood Drive, Sandspit Road, and Placencia Street. These roadways, which also serve bicyclists and pedestrians, are described below and their locations shown on Figure 4.9-1. Additional transportation corridors include the Atascadero Creek Bikeway System, which is used for bicycling, strolling, and horseback riding, and other existing and proposed bikepaths along the roadways in the project vicinity. These are addressed in detail in section 4.10, Recreation.

#### 4.9.1.1 Existing Roads in the Proposed Project Vicinity

The following roadway descriptions are summarized from the *Goleta Community Plan Final EIR* (County of Santa Barbara Resource Management Department 1992).

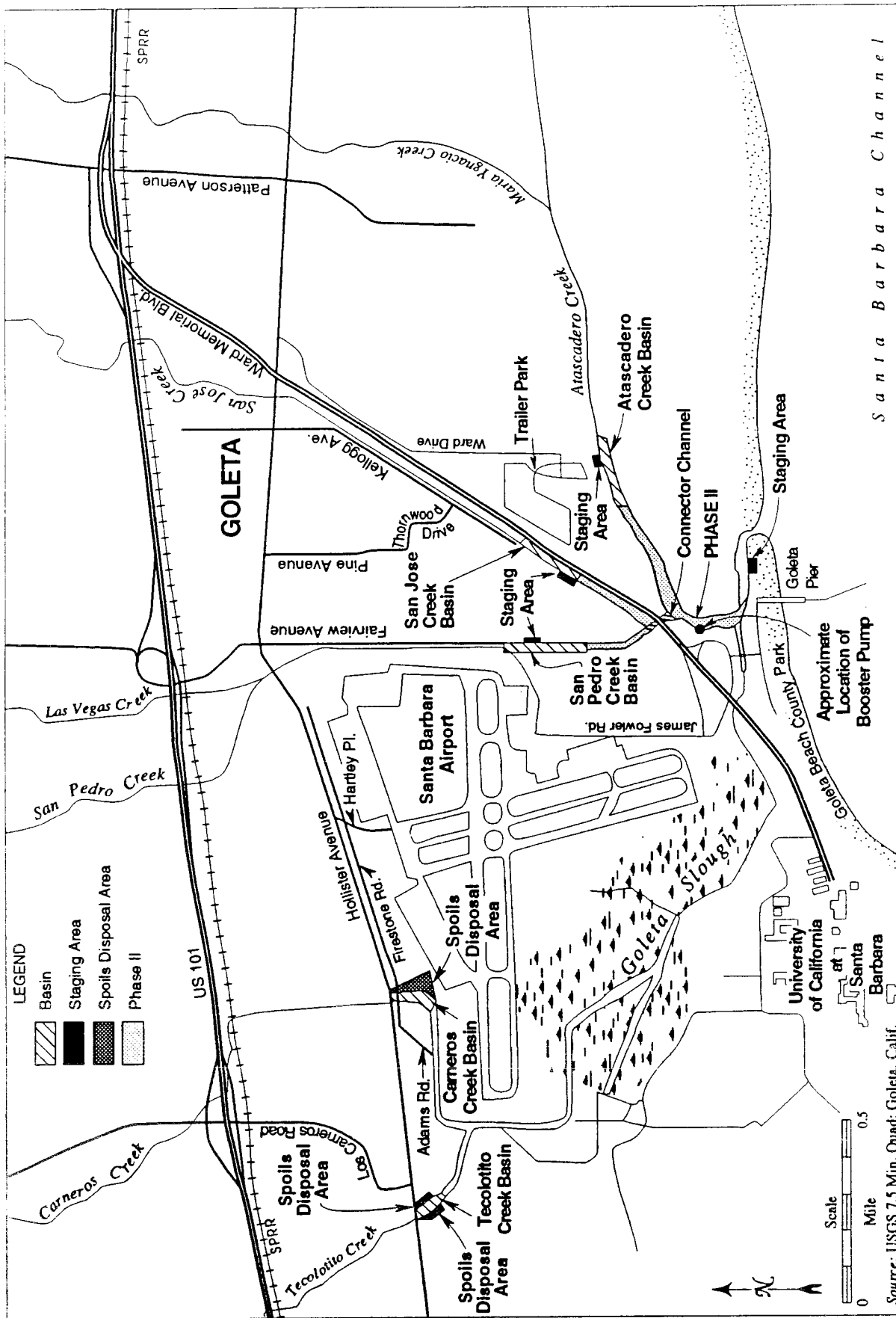
*U.S. Highway 101 (US 101)* is a four- to six-lane freeway serving the coastal area between Los Angeles and San Francisco. It is the principal route between Goleta and the cities of Santa Barbara, Carpinteria and Ventura. The California Department of Transportation (Caltrans) has recently completed the expansion of US 101 from four to six lanes between the signalized cross-town area in Santa Barbara and Fairview Avenue in Goleta.

*Ward Memorial Boulevard (State Route 217)* is a four-lane freeway extending on a northeast to southwest diagonal alignment between US 101 and the University of California, Santa Barbara (UCSB). A fully signalized diamond interchange exists at Hollister Avenue while a combination freeway-to-freeway and local interchange exists at Patterson Avenue and US 101. South of Hollister Avenue Ward Memorial Boulevard carries approximately 18,000 average daily trips (ADT), which increases to approximately 26,000 ADT between Hollister Avenue and US 101.

*Hollister Avenue* is a continuous east-west arterial road serving the Goleta area. Hollister Avenue runs parallel to, and is located just south of, U.S. Highway 101. Hollister Avenue becomes State Street on the eastern end of the corridor and provides direct access to the City of Santa Barbara. It is a four-lane street throughout Goleta, except for short segments on both the eastern and western ends. Traffic operation on the segment between Fairview Avenue and Ward Memorial Boulevard is affected by curb parking and pedestrian activities. The ADT on the western end of the corridor is 6,190, while ADT at the eastern end near State Route 154 is 21,800. Existing levels of service (LOS) at the following Hollister Avenue intersections are LOS A at Hollister/Aero Camino Road; LOS B at Hollister/Los Carneros Road; LOS D at Hollister/Fairview Avenue; LOS A at Hollister/Pine Avenue, and LOS A at Hollister/Kellogg Avenue.

The area-wide importance of Hollister Avenue is indicated by the fact that 14 of the 35 intersections analyzed in the *Goleta Community Plan Final EIR* are located on Hollister Avenue. All but two of the 14 intersections are signalized. The signalized intersections are generally well-spaced, except for the 0.8 mile segment between Fairview Avenue and Ward Drive, where there are six signals.

*Fairview Avenue* is an important north-south arterial road providing access to central Goleta and to the Santa Barbara Municipal Airport (SBMA). The U.S. Highway 101 interchange for this roadway is located about 1.2 miles east of Los Carneros Road. The interchange configuration is



**Figure 4.9-1**  
**LOCATION OF NEARBY ROADWAYS**

unconventional (modified trumpet design), but does include a four-lane overcrossing of U.S. Highway 101. Fairview Avenue is also four lanes wide north of Hollister Avenue. Fairview Avenue between Hollister Avenue and Calle Real is heavily congested. The close proximity of the Calle Real and U.S. Highway 101 northbound ramp intersections and the uncontrolled access along the segment between Hollister Avenue and U.S. Highway 101 limits Fairview Avenue's carrying capacity. This segment carries approximately 26,009 ADT. Fairview Avenue south of Hollister Avenue carries 13,322 ADT. Fairview Avenue trends in a north-south direction south of its intersection with Hollister Avenue, and becomes James Fowler Road near the airport terminal where it trends east-west; it then becomes Moffett Place at a point south of James Fowler Road, and again trends north-south before terminating at the Ward Memorial Boulevard onramp.

*Ward Drive* is a two-lane road trending north-south from Hollister Avenue at the north end, and terminating at Atascadero Creek at the south end; it carries 6,970 ADT south of Hollister Avenue.

*Sandspit Road* is a two-lane road that traverses Goleta Beach Park in an east-west direction.

*Kellogg Avenue* is a collector road trending northeast-southwest on a diagonal alignment from its intersection with Hollister Avenue at the northeast end to its intersection with Thornwood Drive at the southwest end; it carries 5,425 ADT south of Hollister Avenue.

*Thornwood Drive* is a collector road trending northwest-southeast on a diagonal alignment from its northwest terminus where it becomes Pine Avenue to its intersection with Kellogg Avenue at the southeast end; ADT for Thornwood Drive are not available.

*Pine Avenue* is a collector road trending north-south from its southern terminus where it becomes Thornwood Drive to its northern terminus at Hollister Avenue; it carries 5,792 ADT south of Hollister Avenue.

*Placencia Street* is a collector road trending east-west from its intersection with James Fowler Road to its westerly terminus in the nearby residential area, the Placencia Street neighborhood. ADT are not available.

*Unnamed Residential Street* is a local road trending northwest-southeast from its intersection with Placencia Street to its southern terminus along San Pedro Creek. ADT are not available.

*Firestone Street* is a local road running parallel to and immediately south of Hollister Avenue. ADT are not available.

*Hartley Place* is a two-lane road trending north-south from its intersection with Hollister Avenue to its southern terminus on SBMA property. ADT are not available.

*Adams Road* is a local road trending north-south from its intersection with Hollister Avenue to its intersection with Firestone Road. ADT are not available.

#### 4.9.1.2 Atascadero Creek

The main roadway in the project vicinity is Ward Drive, which terminates immediately north of the proposed basin site and is accessed from either Hollister Avenue to the north or the northbound Ward Memorial Boulevard offramp to the northwest. Ward Drive serves commercial uses in the area. The Atascadero Bikeway parallels Atascadero Creek just north of the dredge site and is a Class I bicycle facility, which means that it was designed exclusively for

bicycles with minimum motor vehicle cross-flow. It is heavily used by bicyclists as well as pedestrians.

#### 4.9.1.3 San Pedro Creek

The main roadways in the project vicinity include Fairview Avenue, James Fowler Road, Placencia Street, and an unnamed residential street. Fairview Avenue serves commercial and industrial uses such as the SBMA, and is accessed from Hollister Avenue to the north and Sandspit Road to the south. Fairview Avenue becomes James Fowler Road just north of the proposed dredge site where it is accessed by the unnamed residential street. The unidentified residential street and Placencia Street serve the Placencia Street neighborhood, which is a small residential area located between industrial uses to the east and the proposed dredge site. Class II bikepaths exist on either side of Fairview Avenue near the project site. A Class II bikepath is a clearly marked bicycling right-of-way, which is separated from motor vehicle traffic by signs or a physical barrier. Sandspit Road traverses Goleta Beach Park in an east-west direction.

#### 4.9.1.4 San Jose Creek

The main roadways in the project vicinity include Kellogg Avenue, Thornwood Drive, and Ward Memorial Boulevard. Kellogg Avenue and Thornwood Drive intersect just north of the proposed dredge site; both streets serve commercial and industrial uses south of Hollister Avenue. Kellogg Avenue is accessed from either Hollister Avenue to the north or Thornwood Drive to the south. Thornwood Drive becomes Pine Avenue south of the intersection of Pine Avenue and Hollister Avenue. Ward Memorial Boulevard serves UCSB and parallels the creek immediately east of the proposed dredge site; however, it is fenced and there is no direct access to the site from Ward Memorial Boulevard. There are no other transportation corridors in the project vicinity.

#### 4.9.1.5 Tecolotito Creek

The main roadways in the project vicinity are Hollister Avenue and Los Carneros Road. Hollister Avenue is located immediately north of the proposed dredge site and serves the Goleta's main commercial/retail corridor located north and south of Hollister Avenue. Los Carneros Road is a north-south two- to four-lane road located west of the proposed dredge site, and serves Isla Vista and nearby business parks. It intersects with El Colegio Road in Isla Vista at its southerly terminus and intersects with Cathedral Oaks Road at its northerly terminus. Class II bikepaths exist on either side of Hollister Avenue near the proposed dredge site (see section 4.10, Recreation).

#### 4.9.1.6 Carneros Creek

The main roadways in the project vicinity include Firestone Road, Adams Road, Hartley Place and Hollister Avenue. Firestone Road and Adams Road intersect just west of the proposed dredge site, and serve nearby commercial and SBMA uses; Hollister Avenue is north of the site. Hartley Place also serves nearby SBMA and commercial uses, and intersects with Hollister Avenue and Firestone Road east of the proposed dredge site. Existing traffic along Adams Road, Firestone Road, and Hartley Place mainly serves airport support services and is generally light. The site is located immediately south of Firestone Road.

#### 4.9.1.7 Goleta Beach

The main roadways in the project vicinity include Sandspit Road, Ward Memorial Boulevard, and Moffett Place. The proposed dredge site is located northeast of Sandspit Road in Goleta Slough and just south of Ward Memorial Boulevard. Access to the proposed dredge site is



gained via Sandspit Road in Goleta Beach Park. Sandspit Road is accessed via Moffett Place south of the SBMA. Moffett Place serves the SBMA and Goleta Beach County Park.

Goleta Beach County Park is an intensively-used recreational area. It is a day-use park only, offering picnicking facilities, volleyball courts, horseshoe pits, playground equipment, a snack bar, a restaurant and the Goleta Pier, which is used for boat launching, fishing and strolling. The Atascadero Bikeway passes through the park and provides a bikeway to UCSB from Santa Barbara.

The park provides a total of 580 parking spaces, which are approximately 80 percent full during the summer months. During peak use on summer weekends and holidays the demand for parking is nearly three times the number of available spaces with over 1,800 cars per day visiting the park. This results in long queues of cars waiting to get into the park since no parking is allowed along Moffett Place (personal communication, C. Lund 1993).

According to an agreement between UCSB and the County Park Department, available parking at UCSB may be used by patrons for a fee. Use of the UCSB parking lot is available at all times in return for use of the Goleta Beach parking lot for special events at UCSB. Parking at Goleta Beach County Park is currently free, but the County Park Department has proposed charging a \$3.00 parking fee per vehicle. If approved by the Board of Supervisors, this fee would apply every day from Memorial Day to Labor Day (personal communication, C. Lund 1993).

#### 4.9.2 Environmental Consequences

CEQA Guidelines, Appendix G (I), states that a project will normally have a significant effect on the environment if it will cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. The following criteria are concerned with roadway capacity, and assume that an increase in traffic that creates a need for road improvements is "substantial in relation to the existing traffic load and capacity of the street system." The *Santa Barbara County Thresholds and Guidelines Manual* (1990) states that a significant traffic impact occurs when:

- (a) The addition of project traffic sends at least 5, 10 or 15 trips to an intersection with a level of service (LOS) F, E or D, respectively.
- (b) Project access to a major road or arterial road would require improvements.
- (c) Project adds traffic to a roadway that because of its design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or current use would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceedance of the roadways designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.
- (d) Project traffic would utilize a substantial portion of an intersection (s) capacity where the intersection is currently operating at an acceptable LOS (A-C), but with cumulative traffic would degrade to or approach LOS D or lower.

Construction equipment and activities associated with both Phase I and II would create similar impacts and are discussed together (see Chapter 2.0, Project Description, for a detailed project description). Impacts of ongoing maintenance typically would be comparable to impacts described for the initial desilting of the basins; although if desilting of the creeks were required,

impacts in the vicinity of Goleta Beach County Park could occur as well, comparable to those described below.

#### 4.9.2.1 Proposed Project

##### *Atascadero Creek*

The following equipment would be used: one hydraulic dredge, one booster pump and associated pipeline, one small support boat, three employee vehicles, one loader (Cat 936), one dozer, and four 18-wheel trucks. Construction would require a approximately six weeks for Phase I and a maximum of two and one-half months for Phase II. This is a worst-case estimate, and assumes 10-hour working days; if construction occurred on a 24-hour basis, the duration would be much shorter. An equipment staging area would be located along the northern creek bank and would be immediately adjacent to the Atascadero Creek Bikeway System. Spoils gathered from Atascadero Creek would be discharged by pipeline into the ocean at a point just east of the mouth of Goleta Slough.

The dredge and support boat would access the dredge site via Atascadero Creek, which in turn would be accessed through the Goleta Slough at Goleta Beach Park. The loader and dozer would be transported to the site and would remain there throughout construction, representing two round trips total, while employee commuting represents three round trips per day throughout construction. The 18-wheel trucks would generate a total of 40 round trips, half of which would occur during mobilization at the beginning of construction, and half of which would occur at demobilization at the end of construction. This traffic generation would be short-term, and impacts to roadway capacity would be negligible.

Proposed access for construction vehicles is via Ward Drive from Hollister Avenue. There is no public motor vehicle access to the project site south of the Ward Drive terminus. Construction vehicles could impede use of the bikeway when using the main access point to the dredge site between Ward Drive and the creek, and near the staging area. The 18-wheel trucks would traverse the bikeway during each of the 40 round trips, and would operate in the immediate vicinity of the dredge site and staging area during loading and unloading the pipeline and floats. The bikeway would be temporarily blocked during vehicle crossings. The loader and dozer would operate in the vicinity of the dredge site and staging area but would contribute to congestion only if they crossed the bikeway during construction. Employee vehicles would be parked along Ward Drive and would not contribute to congestion. Due to the heavy use of the bikeway by bicyclists and pedestrians, vehicle crossings represent a potentially significant safety impact (Class II).

##### *San Pedro Creek*

Construction equipment and activities would be the same as discussed above for Atascadero Creek. Duration of construction would be approximately half that for Atascadero Creek due smaller volumes to be dredged. The equipment staging area would be located above the eastern creek bank near the unnamed residential street in the Placencia Street neighborhood.

Traffic generation would be short-term, and impacts to roadway capacity would be negligible.

Proposed access for construction vehicles is via James Fowler Road. The 18-wheel trucks would traverse the bikepath and Placencia Street during each of the 40 round trips. The trucks would operate in the immediate vicinity of the dredge site and staging area during loading and unloading the pipeline and floats. Access to the bikepath and Placencia Street would be impeded during vehicle crossings. Due to the proximity of the Placencia Street neighborhood, vehicle crossings represent a potentially significant safety impact to residents and users of the

bikepath (Class II). The loader and dozer would both enter and exit the site only once, and would also operate in the vicinity of the dredge site and staging area and would not contribute to congestion, since this area is separated from nearby uses by a chain-link fence. Employee vehicles would be parked along James Fowler Road and would not contribute to congestion.

#### *San Jose Creek*

Construction equipment and activities would be the same as discussed above for Atascadero Creek. Duration of construction would be approximately half that for Atascadero Creek, because less dredging would be required. The equipment staging area would be located above the western creek bank near the drive-in theater. Traffic generation would be short-term, and impacts to roadway capacity would be negligible.

Proposed access for construction vehicles is via Kellogg Avenue from either Hollister Avenue or Pine Avenue. Impacts due to construction vehicles accessing the proposed dredge site would be generally similar to those discussed above under Atascadero Creek. The 18-wheel trucks would operate in the immediate vicinity of the dredge site and staging area during loading and unloading the pipeline and floats. Access to the nearby commercial and industrial uses would be potentially somewhat briefly impeded during vehicle crossings, but impacts would be insignificant. Due to the existing commercial and industrial uses, a temporary increase in traffic congestion in the area is not expected to result in impacts to safety. The loader and dozer would both enter and exit the site only once, and would also operate in the vicinity of the dredge site and staging area; their use would not contribute to congestion since this area is not in the immediate vicinity of nearby uses. Employee vehicles would be parked along Kellogg Avenue and would not contribute to congestion.

#### *Tecolotito Creek*

For Tecolotito and Carneros creeks the proposed project consists of dragline desilting rather than use of a hydraulic dredge. The following changes apply to dredging in Tecolotito and Carneros creeks: (1) a dragline crane would be used instead of the hydraulic dredge; (2) the support boat and booster pump would not be required; and (3) additional traffic would be generated from spoils hauling. No equipment staging area would be required for dragline desilting.

Dragline desilting would require a maximum of approximately one month. This is a worst-case estimate, and assumes 10-hour working days. If construction occurred on a 24-hour basis, the duration would be much shorter. During construction, spoils would be deposited alongside the crane.

The dragline crane, loader, and dozer would arrive at the site and remain until construction was complete, resulting in four round trips total. Additionally, three employee commuting trips per day would occur. Traffic generation would be short-term, and impacts to roadway capacity are considered negligible.

Construction vehicles would access both sides of the creek from Hollister Avenue. Construction vehicles could briefly cause congestion along Hollister Avenue; however, a District employee would be present to facilitate the safe entrance and exit of construction vehicles. Due to the small number of vehicle trips involved, impacts are considered adverse but insignificant (Class III).

It is estimated that spoils hauling, which would occur after dredging was complete, would generate a maximum of 50 trips per day. This is a worst-case estimate and is based on the assumption that a maximum of five trucks per hour would be operating at the site, and that

hauling would occur 10 hours per day. The District has indicated that historically spoils have been removed by small contractors requiring only several truckloads each (personal communication, K. Treiberg 1993). Spoils removal would probably be spread out over the course of a year.

Trucks hauling spoils would exit Hollister Avenue at the proposed dredge site to load spoils, and then re-enter Hollister Avenue to transfer spoils off site. Trucks hauling spoils would move slower than existing traffic due to size and weight of the load, and would require additional acceleration time before merging with the general flow of traffic. There is currently no traffic entering the project site from Hollister Avenue, and the project would introduce traffic into an area where no traffic lights or signs exist. An employee of the contractor would be present who would be responsible for facilitating the safe entrance and exit of trucks hauling spoils. Impacts would be adverse but insignificant (Class III).

#### *Carneros Creek*

The proposed project for Carneros Creek is dragline desilting; construction equipment, activities and the duration of construction at the Carneros Creek dredge site would be similar to those described above under Tecolotito Creek. The Carneros Creek dredge site is located immediately south of Hollister Avenue approximately one-half mile east of the Tecolotito Creek dredge site. The spoils disposal area would be located along the eastern creek bank. Project-related traffic generation and impacts for the Carneros Creek site are the same as described above under Tecolotito Creek.

Proposed access for construction vehicles is via Firestone Street from either Adams Road or Hartley Place, which in turn are accessed from Hollister Avenue. ADT are not available for these streets, although observations indicate that traffic is light and limited to vehicles accessing the commercial facilities along Firestone Street. Given the light traffic in this area, it is not likely that construction vehicles would cause congestion along these roads. The loader and dozer would both enter and exit the site only once, and would operate in the vicinity of the dredge site and spoils disposal area, and would not contribute to congestion, since this area is separated from nearby uses by a chain-link fence.

Trucks hauling spoils would use the same roads as construction vehicles. Impacts to these local roads would be insignificant due to the light traffic flow in the area. Impacts to Hollister Avenue would be as described for Tecolotito Creek (Class III).

#### *Goleta Beach*

The equipment staging area would be located in the northeastern portion of the Goleta Beach parking lot, and would remain for the duration of dredging at all five creeks and the slough. Trip generation would be the same as discussed above under Atascadero Creek. Traffic generation would be short-term, and impacts to roadway capacity would be negligible.

Proposed access for construction vehicles would be from Moffett Place via Ward Memorial Boulevard. The loader and dozer would both enter and exit the site only once, and would operate between the dredge site and staging area, and would contribute to congestion in the project vicinity. The 18-wheel trucks would traverse the eastern portion of the park during each round trip, and would operate between the dredge site and staging area during loading and unloading the pipeline and floats. Construction vehicles would cause potential conflicts with bicyclists, joggers, and other recreationists along the bikeway and in the park on a short-term basis. Project-related traffic would represent a potentially significant safety impact during any time of year (Class II). If construction occurred in summer, a larger number of park users would be affected.

Use of the Goleta Beach parking lot for the equipment staging area would reduce available parking for approximately four months during construction. Impacts associated with the loss of parking are addressed in section 4.10, Recreation.

#### 4.9.2.2 Traditional Maintenance

##### *Atascadero Creek*

Equipment and activities for the dragline desilting alternative are the same as described above under section 4.9.2.1 for Tecolotito Creek. Even though only a small number of trips would be associated with construction and spoils hauling trips would be sporadic, potential conflicts with users of the bikepath could be significant. Impacts would be readily mitigable, however (Class II).

##### *San Pedro Creek*

Equipment and activities for this alternative are the same as described above under section 4.9.2.1 for Tecolotito Creek. The limited number of construction vehicles would be unlikely to pose safety impacts to local residents but could potentially conflict with users of the bikepath (Class II). If a large number of spoils hauling trips occurred during a given time, they, too, could create a potentially significant safety impact to users of the bikepath (Class II).

##### *San Jose Creek*

Equipment and activities are the same as described above under Tecolotito Creek, section 4.9.2.1. Due to the existing commercial and industrial uses, a temporary increase in traffic congestion in the area associated with either construction or spoils hauling is not expected to result in potential safety impacts (Class III).

##### *Tecolotito Creek*

Dragline desilting is the proposed project for this site, and is discussed in detail above under section 4.9.2.1, Tecolotito Creek.

##### *Carneros Creek*

Dragline desilting is the proposed project for this site, and is discussed in detail above under section 4.9.2.1, Carneros Creek.

##### *Goleta Beach*

Equipment and activities are the same as that described above under section 4.9.2.1, Tecolotito Creek. Construction vehicles would have only a minor impact on users of Goleta Beach. It is not anticipated that trucks for spoils hauling would be able to access the piles from the park.

#### 4.9.2.3 Discharge Pipelines on the Ground

This alternative would involve placement of the discharge pipe on the ground along the creeks rather than in the water. Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.9.2.1) for all proposed dredge sites. Nevertheless, this alternative would reduce project-generated traffic by 20 round trips since the 18-wheel trucks would haul only the pipeline and not the floats.

#### 4.9.2.4 Beach Deposition

This alternative would involve depositing spoils on the beach near the slough mouth rather than in the ocean. Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.9.2.1) for all proposed dredge sites.

#### 4.9.2.5 Reduced Basin Size

This alternative would involve reduced basin size. Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.9.2.1) for all proposed dredge sites.

#### 4.9.2.6 Increased Basin Size

This alternative would involve increased basin size. Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.9.2.1) for all proposed dredge sites.

#### 4.9.2.7 No Project

No traffic impacts would result from the No-Project Alternative other than those associated with flooding (see section 4.1.2.7).

### 4.9.3 **Cumulative Impacts**

Cumulative projects affecting roadways within the ROI include the Beachside Bar-Cafe expansion and installation of a fire water line (see section 3.5, Projects Considered For Cumulative Analysis, for a detailed discussion of cumulative projects). Although specific information such as trip generation and duration of construction for the cumulative scenario can not be precisely determined, it is assumed that these projects would contribute a substantial number of trips to the region of influence during construction, and it is possible that construction for some of the cumulative projects could coincide with the proposed project. This could increase the potential for safety impacts in the vicinity of Goleta Beach (Class II).

### 4.9.4 **Mitigation Measures**

The following mitigation measure would reduce potential traffic safety impacts of the proposed project and alternatives (except the No-Project Alternative) to insignificance.

1. For all sites with the exception of San Jose Creek, a flagperson shall be designated to stop oncoming vehicular and bicycle traffic and allow the safe passage of construction vehicles.

**Timing:** During activities that could impact bicycle and vehicle traffic.

**Monitoring:** The District Engineer shall assure that this mitigation measure is implemented.

## 4.10 RECREATION

Recreational resources within the project vicinity include Goleta Beach County Park, the Atascadero Creek Bikeway System, Atascadero Creek, bikepaths along Hollister Avenue and other roadways in the project vicinity.

### 4.10.1 Affected Environment

The region of influence for recreational resources includes the areas immediately adjoining the five creek sites and Goleta Beach. Figure 4.10-1 shows the location of existing and proposed bikeways in the vicinity of all the proposed dredge sites, as well as Goleta Beach County Park.

#### 4.10.1.1 Atascadero Creek

The Atascadero Creek Bikeway System parallels Atascadero Creek in the vicinity of the proposed dredge site. It is a Class I bicycling facility designed exclusively for bicyclists, and as such is completely separate from roadways to minimize motor vehicle cross-flow. It originates near the Modoc Road/Hollister Avenue intersection and parallels Atascadero Creek for much of the route before terminating at Goleta Beach County Park. A major spur route leads off the bikeway to northeastern Goleta. The Atascadero Bikeway is a sensitive recreational resource and is used by commuters, recreational cyclists, individuals, and cycling teams training for amateur and professional sporting events, and as a coastal access route to Goleta Beach. It is also used by joggers and other pedestrians. The aesthetic features of Atascadero Creek, such as the riparian vegetation and water surface, provide a natural setting for the bikepath, thus enhancing the recreational experience. The creek itself is used for passive recreation such as walking and birding. Surrounding uses are residential and agricultural.

#### 4.10.1.2 San Pedro Creek

Class II bikepaths exist on either side of James Fowler Road in the vicinity of the proposed dredge site. A Class II bikepath is a designation given to a bicycling right-of-way located alongside a roadway, and separated by signage or some sort of physical barrier between the bikepath and roadway. Proposed bikepath improvements in the project vicinity include construction of a Class II bikepath on south Fairview Avenue, and on Hollister Avenue immediately west of the Hollister Avenue/Fairview Avenue intersection; however, funding is not currently available and construction is not anticipated in the near future (personal communication, C. Gabriel 1993). Although the existing bikepath is considered a sensitive recreational resource, there are no other recreational facilities in the immediate vicinity of the proposed dredge site, and the project vicinity is not considered to be highly sensitive with regard to recreational uses. Surrounding land uses are primarily industrial with a small residential area located west of the proposed dredge site (see section 4.8, Aesthetics).

#### 4.10.1.3 San Jose Creek

The Santa Barbara Twin Screen Drive-in Theater is located immediately west of the proposed dredge site; it is no longer used for movie presentation and is not considered a sensitive recreational resource. Future bikepath improvements in the project vicinity include a proposed Class I bikepath along Kellogg Avenue; however, funding is not currently available and construction is not anticipated in the near future (personal communication, C. Gabriel 1993). There are no recreational facilities in the immediate project vicinity, and surrounding uses are urban, commercial, and industrial (see section 4.8, Aesthetics); therefore, the project vicinity is not considered sensitive with regard to recreational uses.



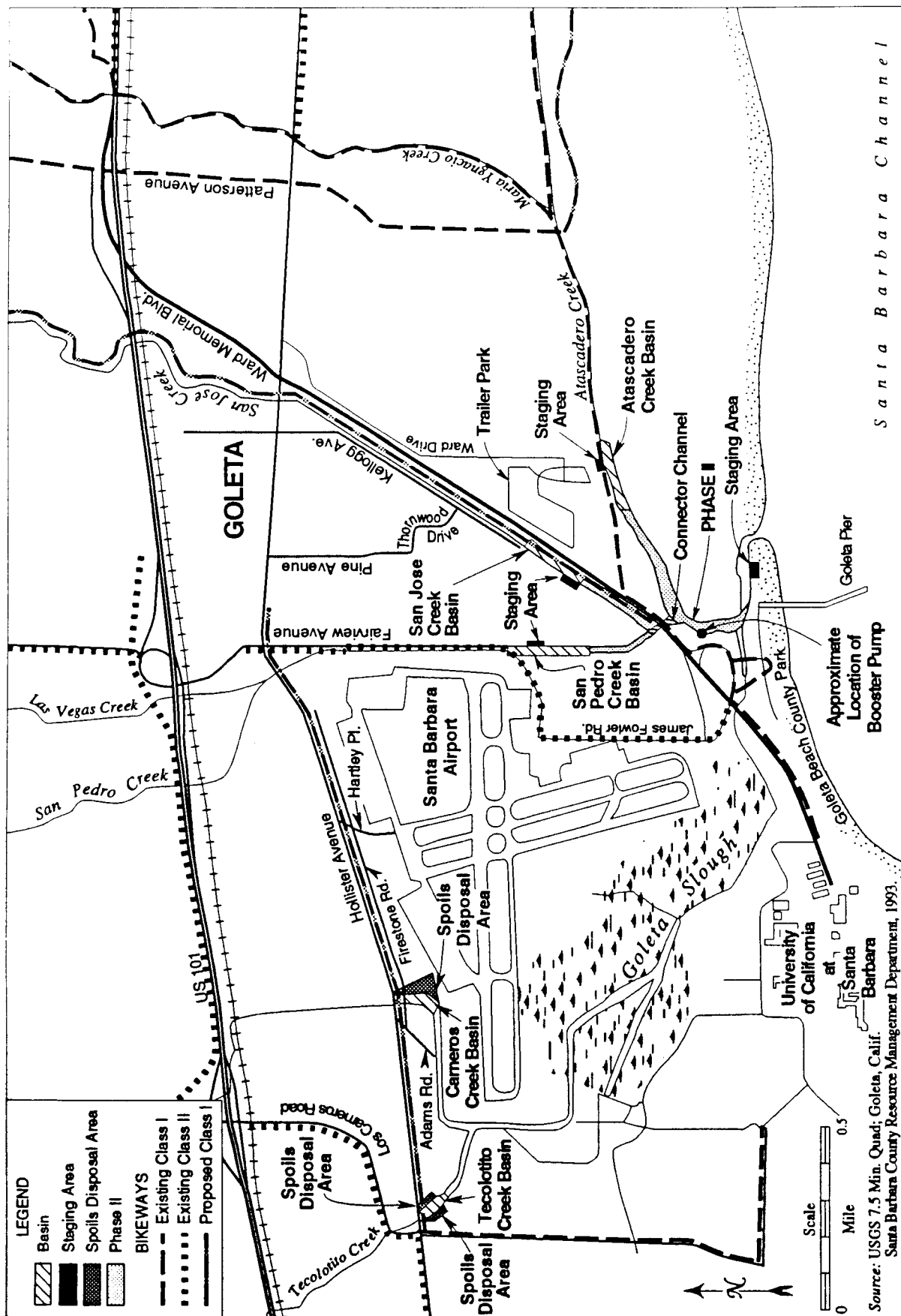


Figure 4.10-1  
LOCATION OF BIKEWAYS

#### 4.10.1.4 Tecolotito Creek

A proposed Class I bikepath is proposed for Hollister Avenue just north of the basin site; however, funding is not currently available, and construction is not anticipated in the near future (personal communication, C. Gabriel 1993). This area is still frequently used by bicyclists, for a existing Class II bikepath is present immediately to the west. Joggers also use the bikepath on Los Carneros Road west of Tecolotito Creek, and occasionally continue along Hollister Avenue. Surrounding uses are urban and industrial (see section 4.8, Aesthetics).

#### 4.10.1.5 Carneros Creek

Bikepath improvements discussed above under section 4.10.1.4, Tecolotito Creek, apply to the Carneros Creek project site, as well. Surrounding uses are urban and industrial (see section 4.8, Aesthetics).

#### 4.10.1.6 Goleta Beach

Goleta Beach County Park is operated by the County Park Department and is located south of the Santa Barbara Municipal Airport (SBMA) on a sand spit of the Goleta Slough. The Atascadero Bikeway passes through the northwest portion of the park and provides a bikepath to UCSB from Santa Barbara. Surrounding uses are open space, industrial, and institutional (see section 4.8, Aesthetics). The park offers the public an experience of being close to an increasingly rare type of habitat in the Goleta Slough Reserve, the coastal marsh and estuary, and provides coastal access to community residents and others. Public access to the immediate slough area is generally prohibited. Access is granted to scientific or recreational users, such as bird watchers and special study groups from UCSB, the Audubon Society, or other groups with a particular ecological interest in the Reserve.

Goleta Beach County Park is a sensitive and intensively used recreational resource and offers picnicking facilities, volleyball courts, horseshoe pits, playground equipment, and a snack bar and restaurant. In addition, there are three group barbecue areas that can accommodate a total of 285 people (County of Santa Barbara Resource Management Department 1991). Water-related activities include swimming, surfing, windsurfing, and use of the Goleta Pier for boat launching, fishing and strolling.

Goleta Beach County Park is a day-use park only, and peak use occurs during summer weekends and holidays. The park provides a total of 580 parking spaces that are generally 80 percent full during the summer months. During peak use the demand for parking is nearly three times the number of available spaces, with over 1,800 cars per day visiting the park. This results in long queues of cars waiting to get in the park since no parking is allowed outside its boundaries along Moffett Place. According to an agreement between UCSB and the County Park Department, available parking at UCSB may be used by park patrons for a fee. The UCSB parking lot is available at all times in return for use of the Goleta Beach parking lot for UCSB special events.

### 4.10.2 **Environmental Consequences**

#### Significance Criteria

CEQA Guidelines, Appendix G (w) state that "a project will normally have a significant effect on the environment if it conflicts with established recreational . . . uses of an area." More specifically, impacts would be significant if recreational activities were precluded or disrupted, if access to recreational resources were restricted, or if the quality of the recreational experience were diminished.

#### 4.10.2.1 Proposed Project

Project-related activities that could affect recreational resources include potential conflicts between construction vehicles and those using nearby recreational facilities (see section 4.9, Traffic/Circulation), removal of parking spaces at Goleta Beach County Park for the staging area, physical damage to the parking lot, diminishing the quality of the recreational experience due to construction activities, and the discharge of spoils into the surf zone. In addition, construction noise and degradation of the aesthetic environment through removal of vegetation could affect recreational resources at all proposed dredge sites; these impacts are addressed in sections 4.6, Noise, and 4.8, Visual Resources. Potential health impacts associated with discharge of organic materials into the surf are addressed in section 4.1, Water Resources/Flooding. Safety impacts to recreational users of the nearby bikepaths are addressed in section 4.9, Traffic/Circulation.

Phases I and II would have comparable recreational impacts and are not addressed separately. Impacts of ongoing maintenance would be comparable to Phase I and II impacts described below, although if only the basins were desilted, impacts would be of a shorter duration.

Dredging 24 hours a day would be preferable to 10 hours a day, since the period of impact would be shortened and since the recreational facilities in the area are primarily used during the day and would not be adversely impacted by nighttime activities.

#### *Atascadero Creek*

Construction equipment includes a hydraulic dredge, booster pump and pipeline, one small support boat, three employee vehicles, a loader (Cat 936) and dozer, and 18-wheel trucks for transporting the pipeline and floats. Construction would require approximately six weeks for Phase I and two and one-half months for Phase II. This is a worst-case estimate, and assumes 10-hour working days; if construction occurred on a 24-hour basis, the duration would be much shorter. An equipment staging area would be located along the northern creek bank and would be immediately adjacent to the Atascadero Creek Bikeway System.

The dredge and support boat likely would be launched in the Goleta Slough at Goleta Beach County Park and would work upstream. Other equipment would access the site via Ward Drive. Potential conflicts would occur between construction vehicles and bikeway users at the main access point between Ward Drive and the creek, and near the staging area. The 18-wheel trucks would traverse the bikeway during each of 40 round trips, and they would operate in the immediate vicinity of the dredge site and staging area during loading and unloading the pipeline and floats. The loader and dozer would operate in the vicinity of the dredge site and staging area and would contribute to congestion. The bikeway is heavily used by bicyclists, pedestrians and others, and temporary blockage of the bikeway would result from construction vehicle crossings. This impediment to use of the bikeway represents a potentially adverse but insignificant recreational impact (Class III) because delays would be brief.

There is no existing public motor vehicle access to Atascadero Creek south of Ward Drive, and the bikeway provides users with a relatively quiet, natural recreational experience in an otherwise urban setting. Construction activities would be incompatible with existing recreational uses of the bikeway and Atascadero Creek, and would preclude use of the creek in the immediate vicinity of the dredge equipment for the duration of construction. Project incompatibility with existing recreational uses of the bikepath and creek would be a potentially adverse but insignificant impact (Class III) due the short-term nature of the impacts (users of the bikeway would pass by quickly, and dredging would occur on a temporary basis only).

### *San Pedro Creek*

Construction equipment, activities, and impacts would be as described above under Atascadero Creek. Duration of construction would be slightly shorter than in Atascadero Creek due to the fact that less dredging would be involved. The equipment staging area would be located along the eastern creek bank.

As described above, the dredge and support boat likely would be launched in the mouth of the slough and would work upstream. All other equipment would access the site via James Fowler Road. Potential conflicts would occur between construction vehicles and Class II bikepath users at the main access point between James Fowler Road and the creek. Temporary closures of the bikepath would result from construction vehicle crossings; this would represent an adverse but insignificant recreational impact (Class III), because access would only be restricted temporarily.

### *San Jose Creek*

Since there are no recreational resources in the immediate project vicinity, no impacts would occur.

### *Tecolotito Creek*

For Tecolotito and Carneros creeks the proposed project consists of dragline desilting rather than use of a hydraulic dredge. Dragline desilting would require a approximately one month. This is a worst-case estimate and assumes 10-hour working days; if construction occurred on a 24-hour basis, the duration would be much shorter. During construction, spoils would be deposited alongside the crane, and would be removed on an as-needed basis by members of the public; e.g., contractors who require fill dirt for construction projects.

Very few trips would be associated with basin desilting. Any restrictions on use Hollister Avenue by bicyclists would be very short-term and insignificant (Class III).

The primary impacts to recreational resources would be from vehicular trips associated with construction and spoils hauling. Spoils hauling would occur periodically over the course of a year. Any blockages of Hollister Avenue would be short-term and sporadic. Impacts to bicyclists would be potentially adverse but insignificant (Class III).

### *Carneros Creek*

The proposed project, including construction equipment, activities, approximate duration of construction and impacts are the same as described above under Tecolotito Creek. Proposed access would be from Firestone Street via either Adams Road or Hartley Place, which in turn are accessed from Hollister Avenue. Impacts to bicyclists along Hollister Avenue would be as described for Tecolotito Creek.

### *Goleta Beach*

Construction equipment and activities would be comparable to those described above under Atascadero Creek. The equipment staging area would also be approximately 20,000 square feet, and would be located in the northeastern portion of the Goleta Beach parking lot.

The dredge and support boat would likely access the creeks to be dredged via Goleta Slough from Goleta Beach County Park. All other equipment would access the site along the Atascadero Bikeway from the entrance bridge to Goleta Beach County Park. Temporary traffic congestion could occur, causing potential conflicts between construction vehicles, bikeway users,

and park patrons at the main access point between the park entrance and Moffett Place, along the bikeway, and near the staging area in the park. The 18-wheel trucks would traverse the bikepath while entering the park during each of the approximately 40 round trips required for laying and removing of the pipeline and floats. They would temporarily restrict passage; impacts concerning access are considered potentially adverse but insignificant (Class III).

There would be a short-term loss of available parking due to use of the Goleta Beach parking lot during construction. Employee vehicles would require three spaces, and the staging area would require approximately 20,000 square feet, which represents a potential loss of approximately 167 parking spaces. This temporary loss of parking spaces represents approximately 26 percent of the total number of available parking spaces. Overall availability of parking spaces during summer is approximately 80 percent (personal communication, C. Lund 1993). Therefore, if construction occurred during summer, it is likely that there would not be enough spaces to accommodate all park patrons. Impacts due to the loss of parking spaces would be adverse but insignificant (Class III), because parking is available at UCSB under a previous agreement with the Park Department. If construction occurred from November to March, the park would likely have enough available spaces to accommodate its patrons.

Construction equipment could damage the surface of the parking lot, since it is not designed for such use. Impacts would be significant (Class II).

Spoils from Atascadero, San Pedro, and San Jose creeks would be discharged by pipeline just offshore at a point approximately 500 feet east of the slough mouth. The pipeline would be floated from Atascadero, San Pedro, and San Jose creeks and would traverse the beach to the discharge point in the ocean. The pipeline would be a maximum diameter of 12 inches and is not expected to block access to the sandy beach area east of the park to park patrons or handicapped persons.

The pipeline would be moved several hundred feet every few days; however, the discharge point would remain at least 300 feet east of the parking lot. As described in section 4.1, Water Resources, under normal conditions, the discharge plume would remain approximately 2,000 feet east of the Goleta Pier and the section of the beach that receives the heaviest use. The plume would extend approximately 1,000 feet offshore, and would remain for the duration of dredging at the three creeks. As indicated on Figure 4.1-9, the plume would be considerably smaller than what would be expected from a major winter storm.

Under unusual weather conditions, the plume could conceivably move toward the pier; this is unlikely, however, and by the time the plume reached this point, only coarse sediments would remain that would drop quickly to the bottom. It is not likely that the plume would have a substantial impact on the presence of fish in the area; therefore, impacts to fishing on the Goleta Pier and along Goleta Beach are expected to be insignificant.

Swimming and general use of the beach in the immediate vicinity of the discharge point would be made less desirable due to the presence of the plume. Increased turbidity in the surrounding waters would be comparable to turbidity generated by winter storms. The degradation of this area would be short-term and confined to a relatively small area (Class III).

Construction activities would temporarily alter the recreational experience of individuals or groups who are in the area to observe birds and other wildlife, since some would leave the area during construction, while others could be attracted by the activity (see section 4.4, Biological Resources). Impacts would be insignificant, and in the long-term would be beneficial, since more wetland habitat would be created to attract birds and other wildlife (Class IV). The project would also result in a small increase in the size of Goleta Beach (Class IV).

Maintenance activities would be incompatible with existing recreational uses due to project-related noise, dust, and generally industrial character. Impacts would be considered significant, particularly if maintenance occurred during summer months when peak use occurs (Class II).

#### 4.10.2.2 Traditional Maintenance

Impacts for Tecolotito, Carneros, and San Jose creeks would be as described for the proposed project.

As described for Tecolotito Creek above, very few construction-related trips would be required for this alternative, and impacts associated with spoils hauling would be sporadic and spread out over the course of a year. Use of the existing and proposed bikepaths in the vicinity of Atascadero and San Pedro, Tecolotito, and Carneros creeks would be restricted only briefly (Class III).

Use of Atascadero Creek would be restricted, as described for the proposed project, during the period of activity. Impacts would be short-term and insignificant (Class III).

No staging area would be required at Goleta Beach; thus, no parking spaces would be removed. Potential conflicts between recreational and construction vehicles would be minimized since limited equipment would be required. Impacts associated with the dredge plume would not occur. Impacts to birdwatchers and educational users of the slough would be as described for the proposed project (short-term Class III and long-term Class IV).

#### 4.10.2.3 Beach Deposition

This alternative involves depositing spoils on the beach near the slough mouth rather than in the ocean. Impacts would be comparable to the proposed project with the following exception. Stockpiled spoils would be located along the beach east of the slough mouth, and would be approximately 3 feet high, 1,500 feet long, and would extend the width of the beach. Compaction could prove difficult and the sediments could remain soft, at least in the short-term, making it harder for beachgoers to access the eastern portions of Goleta Beach. Additionally, the spoils would contain organic material and would emit an unpleasant odor, and they would be much darker than normal beach sand. The quality of the recreational experience would be greatly diminished if not precluded, and impacts would be significant and unmitigable (Class I).

Ultimately, this alternative would create a larger beach, which would prove a beneficial impact (Class IV).

#### 4.10.2.4 Reduced Basin Size

Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.10.2.1) for all proposed dredge sites. Short-term impacts would be incrementally reduced due to the slightly shorter construction period; however, since maintenance would be required more frequently, overall impacts would be the same.

#### 4.10.2.5 Increased Basin Size

Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.10.2.1) for all proposed dredge sites. Short-term impacts would be incrementally increased due to the slightly longer construction period; however, since less maintenance would be required, overall impacts would be the same.

#### 4.10.2.6 Discharge Pipelines on the Ground

This alternative would involve placement of the discharge pipe on the ground adjacent to the creeks rather than in the water. Equipment, construction activities, the duration of construction, and associated impacts for this alternative would be essentially the same as described above under the proposed project (section 4.10.2.1) for all proposed dredge sites. This alternative would, however, reduce project-generated traffic by 20 round trips since the 18-wheel trucks would haul only the pipeline and not the floats. This would result in an incremental decrease in recreational impacts but would not affect impact classifications.

#### 4.10.2.7 No-Project Alternative

No impacts to recreational resources would result from this alternative.

#### 4.10.3 Cumulative Impacts

Cumulative projects that could potentially affect recreational resources within the ROI include the Beach Nourishment Demonstration project that has identified Goleta Beach County Park as a potential receiver site. The EIR/EA prepared for this project found significant recreational impacts resulting from the closure of a portion of the nearshore area west of the pier (Chambers Group, Inc. 1992). Indirect Class III impacts were found for onshore areas. If the proposed project or any of its alternatives took place concurrently, impacts to recreational resources in the vicinity of Goleta Beach would be exacerbated. Cumulative impacts would be significant.

The Beachside Bar-Cafe expansion and installation of a fire water line could also potentially occur at the same time as the proposed project, although it is likely that they would be completed prior to its onset. Traffic and other impacts associated with these projects could, in combination with the proposed project or its alternatives substantially diminish the quality of the recreational experience in the vicinity of Goleta Beach County Park. Impacts would be short-term but significant.

#### 4.10.4 Mitigation Measures

The following mitigation measure would reduce impacts associated with potential damage to the Goleta Beach parking lot to insignificance. This applies to the proposed project and all alternatives except Traditional Maintenance and No Project.

1. The District shall be responsible for repairing the portion of the parking lot impacted by maintenance activities to its current standard or to a standard agreed to by both the County Park Department and the District. Repairs shall be begun within two weeks of the termination of maintenance activities.

**Timing:** District and Parks Department staff shall inspect the parking lot prior to and after District activities to determine the extent of damage caused by District activities.

**Monitoring:** The District Engineer shall conduct the inspection with Parks Department staff.

The following mitigation measure would reduce impacts associated with incompatibility between recreational uses of Goleta Beach and maintenance activities to insignificance, because the beach receives limited use on weekdays from early November to mid-April. This measure does not apply to maintenance activities at Tecolotito and Carneros basins.



2. The District shall limit maintenance activities in the vicinity of Goleta Beach to the period between early November and mid-April.

**Timing:** Conduct dredging between November and April.

**Monitoring:** District Engineer is responsible for scheduling.



## **5.0 LAND USE COMPATIBILITY/CONSISTENCY WITH ADOPTED PLANS AND POLICIES**

The following discussion is pursuant to CEQA Guidelines subsection 15125(b) which states, "the EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans." Relevant goals and policies from the elements of the Santa Barbara County Comprehensive Plan, Santa Barbara County Coastal Plan, City of Santa Barbara Coastal Plan, Airport and Goleta Slough, City of Santa Barbara Coastal Plan, and City of Santa Barbara Conservation Element are summarized below and are followed by comments as to the potential consistency or inconsistency of the proposed project and its alternatives. This is only a preliminary discussion based on findings in the EIR/EA, and the final determination of consistency with existing plans and policies is to be made by the appropriate decisionmakers.

Additionally, the policies of the Goleta Community Plan are considered. The plan was adopted on June 20, 1993 by the County Board of Supervisors; however, the portions relating to the Coastal Zone have yet to be adopted by the Coastal Commission. It is anticipated that the Coastal Commission will consider this plan in the winter of 1994. Since the project is in the Coastal Zone, the discussion of the Goleta Community Plan is tentative and for informational purposes only.

If a specific project alternative varies in terms of policy consistency from the other alternatives or the proposed project, this is identified in the discussion below. Otherwise "the project" should be thought to include the proposed project as well as its alternatives.

### **5.1 SANTA BARBARA COUNTY AND CITY LAND USE AND ZONING DESIGNATIONS**

#### **5.1.1 Zoning Designations**

The project area is located within the Coastal Zone on city and county-owned open space and flood control easements. The affected portions of Atascadero, San Pedro, and San Jose creeks are in Santa Barbara County.

The Atascadero Creek basin site is zoned REC (Recreation District). The purpose of this district is to provide open space for various forms of outdoor recreation of either a public or private nature. The intent is to encourage outdoor recreational uses which will protect and enhance areas which have both active and passive recreational potential because of their beauty and natural features. Sediment basins are not specifically identified as permitted uses in this zone, although their presence and continued maintenance (along with maintenance of the creek channels) would prevent the replacement of wetland areas with upland areas and would in fact protect and enhance the slough over the long term.

The San Pedro Creek basin is zoned PU (Public Utilities). The purpose of this district is to provide areas for the facilities of a public utility or public service entity. Sediment basins are not specifically identified as permitted uses in this zone.

Atascadero and San Pedro creeks have an Environmentally Sensitive Habitat (ESH) overlay. The purpose of this overlay district is to protect and preserve areas in which plant or animal life or their habitats are either rare or especially valuable because of their role in the ecosystem and which could be easily disturbed or degraded by human activities and development. The intent of this overlay district is to ensure that all development in such areas is designed and carried out in a manner that will provide maximum protection to sensitive habitat areas. Within the ESH Overlay District, all uses of land or water shall comply with the regulations of the base zone

district. In addition, such uses must comply with the additional regulations of the ESH Overlay District before the issuance of a coastal development permit under Sec. 35-169. Prior to issuance of a coastal development permit for any development within in the ESH Overlay District, a finding shall be made that the proposed development meets all applicable development standards in Secs. 35-97.8. through 35-97.19.

The proposed project would be potentially consistent with the ESH overlay, since it would protect the open water/salt marsh habitat comprising the slough, which supports a diversity of plant and animal life, including threatened and endangered species.

San Jose Creek basin is zoned M-1 (Light Industry) with a Flood Hazard Overlay. The purpose of this district is to provide areas exclusively for light industrial uses. Sediment basins are not specifically identified as permitted uses in this zone, although they would reduce the potential for flooding.

The Tecolotito and Carneros basins are within the Santa Barbara city limits. The Carneros basin is in the A-F (Airport Facilities) zone. This is defined as an area in the immediate vicinity of flight activities, which is intended for uses which are integral and necessary parts of airport and aircraft and/or airport activities. Uses not related to aircraft and/or airport activities are excluded; height limit is 45 feet.

The area adjacent to Carneros Creek where spoils would be stockpiled lies within the A-C (Airport Commercial) Zone. This is an area for low intensity commercial operations; general retail and residential uses are specifically prohibited; uses not specifically prohibited can be allowed if they meet performance and development standards. The height limit is 45 feet.

The Tecolotito basin is zoned G-S-R (Goleta Slough Reserve) Zone. This zone is established in order to protect, preserve, and maintain the environmentally sensitive habitat areas of the Goleta Slough for the benefit and enjoyment of future generations. The intent of this zone is to ensure that any development in or adjacent to any wetland area is designed to preserve the wetland as it exists or improve the habitat values of the Goleta Slough Reserve Zone. Permitted uses include flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development or development where the primary function is the improvement of fish and wildlife habitat. The proposed project would be potentially consistent with this description of flood control projects.

Flood control maintenance activities would be allowed in the above zoning districts with the permits identified in section 3.3.6.

#### **5.1.2 Comprehensive Plan Designation**

The Atascadero Creek basin area is designated Public Utilities (UT), as is the San Pedro basin area. The UT designation indicates an area designed for the facilities and service of a public utility or public service entity. The San Jose basin is designated General Industrial. This designation accommodates all industrial uses.

The Tecolotito Creek basin is designated Recreational Open Space, and as such its use is intended to be restricted to educational and scientific activities consistent with maintaining the Slough's fragile environmental nature.

The Carneros Creek basin is designated Major Public and Institution. Land uses permitted within this designation are those allowed within the A-F, A-C, and A-I (Airport Industrial zoning classifications, including low intensity commercial and light industrial uses).

### 5.1.3 Compatibility with Surrounding Land Uses

Land uses surrounding the Goleta Slough include the Santa Barbara Airport to the north and east, the University of California at Santa Barbara to the southwest, Goleta Beach County Park to the south, residential areas to the east, and open space to the west. The portion of the slough designated Recreational Open Space, which includes the Tecolotito Basin, was established as part of the State Ecological Reserve System in 1987. The reserve extends roughly from the area west of the runways from Hollister Avenue to the southern boundary of the airport. The system is administered by the California Department of Fish and Game (CDFG) and was established for the purpose of protecting rare or endangered species or endangered native plant, wildlife, or aquatic organisms, and specialized habitat types.

Whether a project is considered a potentially compatible land use is based on impacts associated with a variety of resources, including recreation, aesthetics, traffic/circulation, risk of upset, noise, biology, air quality, and water resources/flooding. As described in Chapter 4 of this EIR/EA, the project and its alternatives would create short-term significant impacts to (1) recreational use of nearby bikepaths and Goleta Beach; (2) aesthetic qualities of Atascadero Creek and Goleta Beach; (3) traffic safety due to conflicts with bicyclists and other vehicles; (4) public safety, due to the potential for pipeline collapse in Atascadero Creek; (4) the noise environment at nearby residences; (5) raptors, herons, and other species in an area that is intended to be a reserve for wildlife; and (6) air quality, due to exceedances of the RMD 3-month NO<sub>x</sub> threshold. Additionally, the Traditional Maintenance alternative would cause unavoidable significant noise impacts at residences near Atascadero Creek.

Impacts that would or could extend beyond the period of dredging include loss of aquatic organisms, vegetation, or birds from a large spill of fuel or hydraulic fluid; a potential violation of cultural values associated with prehistoric sites, if those sites cannot be feasibly avoided through redesign; loss of wetland/riparian vegetation in San Jose Creek basin; and the introduction of fecal coliform bacteria into ocean waters used for water-contact sports and shellfish harvesting. In addition, the Traditional Maintenance alternative would result in the disturbance of 29 acres of upland habitat and turbidity effects on aquatic organisms.

All of the above impacts could be mitigated to insignificance, with the exception of air quality impacts associated with Phase II dredging, biology impacts associated with accidental spills, short-term noise exceedances at the Goleta Beach ranger's residence (all alternatives except Traditional Maintenance) and at the mobile home park near Atascadero Creek (Traditional Maintenance only), potential impacts to cultural values, and short-term degradation of the aesthetic environment at Goleta Beach and Atascadero and San Pedro creeks.

The only long-term potential impacts that could not be effectively mitigated are accidental spills that would adversely affect aquatic organisms, fish, and birds and the violation of cultural values.

The project and its alternatives would have a number of long-term beneficial impacts, including the reduction of flooding in the lower Goleta Valley, increased tidal prism, beach nourishment (except Traditional Maintenance), and preservation of the salt marsh habitat of the slough. Additionally, increased opportunities would be available for the viewing of birds and other wildlife in the slough.

The No-Project alternative, on the other hand, would result in continued infilling of the slough, converting it to upland habitat; it would also increase flooding in the lower Goleta Valley, with its attendant risks.

It is concluded that the project would result in short-term incompatibilities with surrounding land uses, but that over the long-term, the project and its alternatives (with the exception of the

No-Project alternative) would be considered compatible with surrounding land uses, for the latter would receive flood protection and the inherent qualities of the slough would be preserved.

The project is also considered compatible with the designation of a large portion of the slough as an ecological reserve. The proposed project would have potential short-term adverse but insignificant impacts on the wildlife and vegetation in the immediate vicinity of Tecolotito Creek. The other creeks are located outside the reserve and impacts are expected to be localized, although significant impacts could occur at any of the project sites if fuel or hydraulic fluid accidentally spilled in the creeks. The proposed project would be potentially consistent with the goals of the reserve, for it would prevent infilling of the slough and would preserve and actually improve habitat.

## **5.2 SANTA BARBARA COUNTY COMPREHENSIVE PLAN**

The following policies apply to maintenance activities in Atascadero, San Jose, and San Pedro creeks. Both Comprehensive Plan policies and Coastal Zone policies (see section 5.3) apply to property within the Coastal Zone. Where there is a conflict, policies of the Local Coastal Plan take precedence over those of the Comprehensive Plan.

### **5.2.1 Land Use Element**

The overall intent of this element is to "interrelate all of the different factors that affect population growth, urban development and open land preservation" (p. 9). This subsection will first address the general policies of the Land Use Element and then the applicable goals for the Goleta Valley.

#### **Land Use Development Policies**

##### *Hillside and Watershed Protection Policies*

###### *Policy No. 1*

*Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.*

###### *Policy No. 2*

*All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, erosion, or other hazards shall remain in open space.*

The proposed basin sizes were intended to provide a balance between accommodating a reasonable amount of sediments, minimizing the area disturbed, and minimizing the frequency of maintenance, while retaining the natural widths of the creeks and ensuring that sediments would be compatible with the receiving beach. Reducing basin size and increasing basin size have been considered in this EIR/EA. The former would provide somewhat less flood protection than the proposed project, but differences would not be substantial. Selecting the reduced basin size alternative or the proposed project would be potentially consistent with these policies.

#### *Policy No. 5*

*Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized as rapidly as possible with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.*

The basin and channel slopes have been engineered to minimize the potential for erosion. The project would be potentially consistent with this policy if this measure were implemented.

#### Streams and Creeks Policies

##### *Policy No. 1*

*All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.*

The project would actually reduce sedimentation in the slough. In addition, the District has adopted Standard Maintenance Practices that have been approved by the Board of Supervisors that are intended to minimize impacts such as those described. These practices would be implemented for the proposed project; therefore, it would be potentially consistent with this policy.

##### *Policy No. 7*

*Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.*

There is a potential for such accidental discharges to occur, but given the implementation of District Standard Maintenance Practices and practices described in this EIR/EA, the project would be potentially consistent with this policy.

#### Historical and Archaeological Sites Policies

##### *Policy No. 1*

*All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.*

The project could impact potentially significant archaeological resources (SBa-45 and Locus 2). Given the implementation of mitigation measures described in this EIR/EA, the project would be potentially consistent with this policy.

##### *Policy No. 3*

*When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.*



As described above, the project could impact potentially significant archaeological resources. The mitigations identified in this EIR/EA have been designed with the guidelines identified in the above policy. Implementation of these measures would make the project potentially consistent with this policy.

#### *Policy No. 5*

*Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.*

Native Americans have been consulted in the course of preparing this EIR/EA. Thus, the project is potentially consistent with this policy.

#### Area/Community Goals

##### *Goleta Valley*

*Water areas and the surrounding habitats that have been damaged by pollution and artificial stream channelization should be restored to their natural condition whenever practical.*

The affected creeks have all to some extent been artificially channelized. Restoring them to their natural condition would not be practical given development in the surrounding area and flood control considerations. The project is potentially consistent with this policy.

#### Air Quality

*A prime consideration in determining the land use should be air quality. Present air quality should not be degraded.*

Both phases I and II of the increased basin size alternative would result in Class I air quality impacts. Impacts associated with Phase I of the proposed project, beach deposition, reduced basin size, and placing discharge pipelines on the ground alternatives could be mitigated to insignificance through electrification of the booster pump and retarding the engine timing and would be potentially consistent with this policy. Phase II of the above alternatives would result in temporary, unavoidable exceedances of the County 3-month NO<sub>x</sub> threshold and would be potentially inconsistent with this policy. Impacts associated with the traditional maintenance alternative would be adverse but insignificant. This alternative would be potentially consistent with this policy. Impacts associated with ongoing maintenance would be potentially consistent with this policy, given restrictions on dredged volumes identified in this EIR/EA.

#### Land Use Policy

*Whenever possible, natural stream channels should be maintained in an undisturbed state in order to minimize destructive stream velocities, enhance wildlife passageways, and provide natural greenbelts.*

The affected stream channels have been routinely maintained over a period of 20 years and thus cannot be considered to be undisturbed. The project would provide flood control benefits, and would not restrict wildlife passageways. They would provide greenbelts to an extent, for the stream channels would revegetate between maintenance periods. The project would be potentially consistent with this policy.

*Encouragement should be given to the preservation of archaeological resources and sites reflecting the County's Indian, Mexican, Spanish, and early California cultural and historical heritage, in both public and privately owned open space.*

The project could adversely impact potentially significant archaeological sites. The EIR/EA recommends avoidance of these sites, and the District has indicated that avoidance is feasible. With adoption of this mitigation, the project would be potentially consistent with this policy.

*Active flood control should be provided to handle excess runoff within urban areas and to maximize groundwater recharge.*

One of the main objectives of this project is to minimize flooding in the surrounding area. The project is potentially consistent with this policy.

*Alteration of topography, vegetation, and biological communities should be regulated in order to minimize the destruction of natural habitats.*

The project would result in the loss of wetland/riparian vegetation in San Jose Creek basin. This impact could be mitigated to insignificance through habitat restoration/enhancement along the creek banks. If this measure were implemented, the project would be potentially consistent with this policy.

### **5.2.2 Noise Element**

#### *Policy No. 1*

*In the planning of land use, 65 dB day-night average sound level ( $L_{dn}$ ) should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.*

The project would cause short-term exceedances of this threshold at residences near Atascadero Creek and Goleta Beach. Impacts would be minimized by limiting construction to day-time hours; however, impacts at Goleta Beach (all alternatives except Traditional Maintenance) and near Atascadero Creek (Traditional Maintenance only) would remain significant. Impacts would be significant only when dredging occurred in the Atascadero Creek basin and in the lower reaches of the creeks. The project would be potentially inconsistent with this policy, but only on a short-term basis.

### **5.2.3 Conservation Element**

#### Recommendations

*Sloughs and Closed Bays (Goleta, Devereux, and Carpinteria Sloughs)*

*Traffic should be minimized, and no reduction in the size of the sloughs should be contemplated.*

The project would help maintain the size of the slough. Without the proposed removal of sediments, upland area would replace the wetlands that now exist. The project would be potentially consistent with this recommendation.

#### *Clapper Rail*

*If these birds are to survive in Santa Barbara County, every effort should be made to preserve the size and quality of the three existing South Coast sloughs (Goleta, Devereux, and Carpinteria).*

The project would help maintain the size and quality of the slough. Without the proposed removal of sediments, upland area would replace the wetlands that now exist and the tidal prism would be increased. The project would be potentially consistent with this recommendation.

#### *Savannah Sparrow, Belding's Race*

*To preserve this bird, strict conservation measures must be applied to South Coast sloughs.*

The project would create adverse but insignificant impacts to Belding's savannah sparrows. Few individuals would be affected, and impacts would be short-term. The project would be potentially consistent with this recommendation.

#### **5.2.4 Seismic Safety Element**

##### Recommendation

*Where investigations indicate the desirability and feasibility of additional flood control works, these projects should be constructed as soon as possible.*

District investigations have indicated that the project is both desirable and technically feasible. Thus, the project is potentially consistent with this recommendation.

#### **5.2.5 Environmental Resources Management Element (ERME)**

*All five basin sites are located in areas designated as "Airport Hazard and Noise, Significant Biological Value." The area around Goleta Beach is designated as "Park/Recreation Area."*

Existing airport hazards and noise would not adversely impact the proposed project. The project would have the potential to adversely affect biological resources, however. Most impacts could be mitigated to insignificance given the implementation of the measures proposed in this EIR/EA. However, potential impacts to aquatic species would be unavoidable in the event of a large fuel spill. The project would be potentially inconsistent with the "Significant Biological Value" designation. The project would also create significant short-term impacts to recreational resources in the vicinity of Goleta Beach.

#### **5.2.6 Air Quality Attainment Plan**

To be consistent with the Santa Barbara County Air Quality Attainment Plan (AQAP), the project must conform to emissions growth factors identified in the AQAP. Implementation of emission control measures identified in section 4.2.4.1 would ensure project consistency with the AQAP.

### **5.3 SANTA BARBARA COUNTY COASTAL PLAN**

The following policies apply to maintenance activities in Atascadero, San Jose, and San Pedro creeks.

#### **5.3.1 Hazards**

##### **5.3.1.1 Hillside and Watershed Protection**

Policies 3-13, 3-14, and 3-17 are identical to those discussed under the Hillside and Watershed Protection Policies subsection of section 5.2.1.1.

### 5.3.1.2 Environmentally Sensitive Habitat Areas

#### **Policy 9-1**

*Prior to the issuance of a development permit, all projects on parcels shown on the land use plan and/or resource maps with a Habitat Area overlay designation or within 250 feet of such designation or projects affecting an environmentally sensitive habitat area shall be found to be in conformity with the applicable habitat protection policies of the land use plan. All development plans, grading plans, etc. shall show the precise location of the habitats potentially affected by the proposed project. Projects which could adversely impact an environmentally sensitive habitat area may be subject to a site inspection by a qualified biologist to be selected jointly by the County and the applicant.*

The District would be required to comply with this policy. The mitigations identified in this EIR/EA are intended to bring the project into conformity with the habitat protection policies. The project area has already been inspected by a qualified biologist in the course of preparing this document. Additionally, the District has two qualified biologists who would monitor the project while dredging/desilting occurred.

The following policies apply specifically to the Goleta Slough.

#### **Policy 9-6**

*All diking, dredging and filling activities shall conform to the provisions of Sections 30233 and 30607.1 of the Coastal Act. Dredging, when consistent with these provisions and where necessary for the maintenance of the tidal flow and continued viability of the wetland habitat or for flood control purposes, shall be subject to the following conditions:*

- a. Dredging shall be prohibited in breeding and nursery areas and during periods of fish migration and spawning.*
- b. Dredging shall be limited to the smallest area feasible.*
- c. Designs for dredging and excavation projects shall include protective measures such as silt curtains, diaphragms, and weirs to protect water quality in adjacent areas during construction by preventing the discharge of refuse, petroleum spills, and unnecessary dispersal of silt materials. During permitted dredging operations, dredge spoils may only be temporarily stored on existing dikes or on designated spoil storage areas, except in the Atascadero Creek area (including San Jose and San Pedro Creeks) where spoils may be stored on existing storage areas as delineated on the Spoil Storage Map, dated February 1981. (Projects which result in discharge of water into a wetland require a permit from the Regional Water Quality Control Board.)*

The District would be required to comply with this policy through mitigation measures as noted in this EIR/EA. The Biological Resources section of this EIR/EA identified suitable periods for dredging that would minimize impacts to wildlife, and a District biologist would monitor construction to ensure that impacts would be mitigated effectively. The stockpiling of spoils would be part of the Traditional Maintenance alternative and would be potentially consistent with this policy. Mitigations recommended in this EIR/EA identify such measures as silt curtains to protect water quality. The proposed basin sizes were intended to provide a balance between accommodating a reasonable amount of sediments, minimizing the area disturbed, and minimizing the frequency of maintenance, while retaining the natural widths of the creeks and ensuring that sediments would be compatible with the receiving beach. Reducing basin size and increasing basin size have been considered in this EIR/EA. The Reduced Basin Size alternative would provide somewhat less flood protection than the proposed project, but differences would

not be substantial. The reduced basin size affects a lesser area, but maintenance would be required more frequently. Thus, the magnitude of impact would have to be weighed against the frequency of the impact. Selecting the proposed project or reduced basin size alternative would be potentially consistent with this policy. The Increased Basin Size alternative would be potentially inconsistent with this policy, because it clearly does not limit dredging to the smallest area feasible.

*Policy 9-7*

*Dredge spoils shall not be deposited permanently in areas subject to tidal influence or in areas where public access would be significantly adversely affected. When feasible, spoils should be deposited in the littoral drift, except when contaminants would adversely affect water quality or marine habitats, or on the beach.*

Under the Traditional Maintenance alternative, dredge spoils would be placed along the creek banks and as such would not be subject to tidal influence; public access would not be significantly affected. The spoils would not be placed along creek banks permanently. They would be available for removal by the public and historically have been removed within about one year, although given the volume of sediments that would be deposited and recent declines in construction activity, it is not known how long they would remain. The proposed project would dispose of spoils in the littoral zone, although an alternative method under consideration is deposition directly on the beach. Either alternative would result in comparable water quality impacts. No contaminants have been identified that would adversely impact water quality, with the potential exception of fecal coliform. The EIR/EA recommends monitoring of fecal coliform levels before and during dredging to assess whether they would violate current water quality standards (there are no existing standards for fecal coliform in sediments). If careful monitoring procedures are followed, the project would be potentially consistent with this policy.

*Policy 9-12*

*Wetland sandbars may be dredged, when permitted pursuant to Policy 9-6 above, and when necessary for maintenance of tidal flow to ensure the continued biological productivity of the wetland.*

The District would continue to periodically open the mouth of the slough, as needed. The proposed project would be potentially consistent with this policy.

*Policy 9-37*

*The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity and water quality of streams:*

- (a) soil type and stability of stream corridors;*
- (b) how surface water filters into the ground;*
- (c) slope of the land on either side of the stream; and*
- (d) location of the 100-year flood plain boundary.*

*Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.*

The proposed project would not remove riparian vegetation from the buffer, since existing access roads would be used and equipment would be located in already disturbed areas dominated by weedy species. Water quality would be improved, since sedimentation would be reduced, and biological productivity would increase as a result of the proposed project. The Traditional Maintenance alternative would stockpile sediments along creek banks, disturbing vegetation in the area required as a buffer by this policy. Therefore, the Traditional Maintenance alternative is potentially inconsistent with this policy. The proposed project and other alternatives are potentially consistent.

#### *Policy 9-38*

*No structures shall be located within the stream corridor except . . . flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges . . . may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible.*

The project would provide needed flood control protection and would improve fish and wildlife habitat. Mitigation measures to reduce significant impacts and adverse but insignificant impacts have been incorporated into this EIR/EA. The project is potentially consistent with this policy.

#### *Policy 9-40*

*All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for the construction of uses specified in Policy 9-38*

Per the discussion under Policy 9-38 immediately above, the project would be potentially consistent with this policy.

#### *Policy 9-41*

*All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.*

The project would actually reduce sedimentation in the slough. In addition, the District has adopted Standard Maintenance Practices that have been approved by the Board of Supervisors that are intended to minimize impacts such as those described. These practices would be implemented for the proposed project; therefore, it would be potentially consistent with this policy.

#### *Policy 9-43*

*Other than projects that are currently approved and/or funded, no further concrete channelization or other major alterations of streams in the coastal zone shall be permitted unless consistent with the provisions of Section 30236 of the Coastal Act.*

*Section 30236. Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible and be limited to (1) necessary water supply*

*projects; (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; or (3) developments where the primary function is the improvement of fish and wildlife habitat.*

The project would provide needed flood control protection and would improve fish and wildlife habitat. Mitigation measures to reduce significant impacts and adverse but insignificant impacts have been incorporated into this EIR/EA. The project is potentially consistent with this policy.

#### 5.3.1.3 Archaeological and Historical Resources

##### *Policy 10-1*

*All available measures, including purchase, tax relief, purchase of development rights, etc., shall be explored to avoid development on significant historic, prehistoric, archaeological, and other classes of cultural sites.*

The project has the potential to impact significant archaeological resources (SBa-45 and Locus 2). Given the implementation of mitigation measures described in this EIR/EA, the project would be potentially consistent with this policy.

##### *Policy 10-2*

*When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to cultural sites, if possible.*

The EIR/EA has recommended avoidance of the potentially significant archaeology sites that could be impacted by the project, and the District has indicated that avoidance is feasible. With adoption of this measure, the project would be potentially consistent with this policy.

##### *Policy 10-3*

*When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.*

As described above, the project has the potential to impact significant archaeological resources. The mitigations identified in this EIR/EA have been designed in accordance with the guidelines identified in Policy 10-3. Implementation of these measures would make the project potentially consistent with this policy.

##### *Policy 10-5*

*Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.*

Native Americans have been consulted in the course of preparing this EIR/EA. Thus, the project is potentially consistent with this policy.

#### **5.4 CITY OF SANTA BARBARA COASTAL PLAN, AIRPORT AND GOLETA SLOUGH**

The following policies apply directly to the Goleta Slough.



*The Goleta Slough shall be preserved and restored as a coastal wetland system.*

The Implementation Strategies for this policy call for developing a master plan for the ecological management of the slough, which should provide for maintenance of wetlands by natural physical and biological actions as much as possible. The project is potentially consistent with this policy, because not maintaining the basins and creeks would result in the loss of open water, tidally influenced habitat and continually increased sedimentation.

*The habitats of rare and endangered species shall be preserved.*

No habitats of rare and endangered species would be lost from the vicinity of Tecolotito and Carneros basins.

#### *Policy C-5*

*Reduce the flow of sediment into the slough to the minimum compatible with maintenance of the marshland.*

*Actions: Take steps to ensure that the ongoing sedimentation removal program of the Santa Barbara Flood Control District at the Tecolotito and Carneros Creek settlement basins just south of Hollister Avenue continues on a regular basis.*

The project would be potentially consistent with this policy and the recommended action.

#### *Policy C-6*

*Tidal action should be maintained in a manner which would maintain optimum populations of marine organisms.*

*Actions: The City shall work with the managing agency to ensure that sediment build-up in channels is removed as needed to allow for the optimal populations of marine organisms.*

The project would be potentially consistent with this policy and the recommended action.

#### *Policy C-7*

*Any on-going activities of special districts such as Flood Control or Mosquito Abatement, etc., which constitutes development as defined in the Coastal Act shall be reviewed for approval by the City and must receive a Coastal Development Permit (or its equivalent) prior to commencement of activities.*

The project would be potentially consistent with this policy.

#### *Policy C-8*

*No uses incompatible with the protection and maintenance of the wetland habitat and open space character will be allowed in areas under City jurisdiction.*

The proposed project is potentially consistent with this policy, because it would protect and maintain the wetland habitat of the Goleta Slough. The stockpiling of spoils along the basins in Tecolotito and Carneros creeks would have only limited visibility from public areas (e.g., Hollister Avenue), are located on the edge of the slough, and affect only a relatively small portion of the slough. Therefore, they would not substantially alter the open space character of the slough.

## Policy C-9

*Any development approved within or adjacent to the wetland areas identified on the habitat map shall have been found to be consistent with PRC's 30233, 30230, 30231 and 30706.1. Within the sensitive habitat areas, the approval of any restoration project which contains project elements which are not specifically permitted under PRC 30233 shall occur only after the State Department of Fish and Game makes the finding, under section 30411, that the wetland is so severely degraded that major restoration which might include other uses not specifically permitted under 30233 is necessary and will have the primary effect of restoring the degraded area.*

The sections of the PRC identified in this policy are intended to preserve wetlands and other biological resources. Specifically, PRC 30233 requires limits on "diking, dredging, filling of all coastal waters, especially wetlands" and controlling spoils disposal. The proposed project would be potentially consistent with this policy. A limited amount of desilting would occur, but it would be limited to the basins and would act to preserve the salt marsh habitat of the slough. It would also restore open water habitat.

### General Policy Evaluation

*By decreasing the rate of infill, the siltation basins in Tecolotito and Cameros Creeks immediately south of Hollister Avenue, have enhanced the wetland and contributed toward lengthening the life of the slough.*

The proposed project would continue the presence of the siltation basins.

## 5.5 CITY OF SANTA BARBARA COASTAL PLAN

### Policies

#### General Biotic Resources

##### Policy 6.1

*The City through ordinance, resolutions, and development controls shall protect, preserve, and where feasible restore the biotic communities designated in the City's Conservation Element of the General Plan and any future annexations to the City, consistent with PRC Section 30240.*

The proposed project would be potentially consistent with the goals identified in this policy, for it would maintain the salt marsh habitat of the slough. With the exception of potential spills that could adversely affect water and biological resources, short-term impacts from construction are considered insignificant and outweighed by the long-term benefits.

##### Policy 6.2

*The City will support and encourage the enforcement of all laws enacted for the purposes of preserving and protecting marine resources, maintaining optimum populations of marine organisms, and maintaining the quality of the marine environment for the protection of human health.*

The proposed project would be potentially consistent with the goals identified in this policy, for it would maintain the salt marsh habitat of the slough. With the exception of potential spills that could adversely affect water and biological resources, short-term impacts from construction are considered insignificant and outweighed by the long-term benefits.

## Creek Environments

### *Policy 6.8*

*The riparian resources, biological productivity, and water quality of the City's coastal zone creeks shall be maintained, preserved, enhanced, and where feasible, restored.*

The proposed project would be potentially consistent with this policy. With the exception of potential spills adversely affect water and biological resources, short-term impacts from construction were considered insignificant and outweighed by the long-term benefits. The creeks would infill without the proposed maintenance activities, and riparian resources would be lost. Biological productivity would also be enhanced, due to reduced water velocity in the basins during storm runoff.

### *Policy 6.9*

*The City shall support the programs, plans, and policies of all governmental agencies, including those of the Regional Water Quality Control Board with respect to best management practices for Santa Barbara's watersheds and urban areas.*

City support of the proposed project would be potentially consistent with this policy.

### *Policy 6.11*

*Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) Necessary water supply projects, (2) Flood control projects where no other water method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) Developments where the primary function is the improvement of fish and wildlife habitat.*

The proposed project is a necessary flood control project and would be potentially consistent with this policy given the adoption of mitigation measures recommended in this EIR/EA.

## Visual Resources

### *Policy 9.1*

*The existing views to, from, and along the ocean and scenic coastal areas shall be protected, preserved, and enhanced. This may be accomplished by one or more of the following:*

- (a) Acquisition of land for parks and open space;*
- (b) Requiring view easements or corridors in new developments;*
- (c) Specific development restrictions such as additional height limits, building orientation, and setback requirements for development;*
- (d) Developing a system to evaluate view impairment of new development in the review process.*

### *Actions*

- *Explore Federal, State, and local funding sources for park and open space acquisition.*

- *Delineate view corridor locations on new construction/development plans by additional building limits, building orientation, and setback requirements.*
- *Establish standards of acceptable view protection to be utilized by developers, City staff, and discretionary bodies to ascertain a project's height, setback, and clustering of buildings.*

The Goleta Slough may be considered a scenic coastal resource. However, the basins have only limited visibility from public viewpoints, and this EIR/EA concluded that the visual impacts at Tecolotito and Carneros creeks would be insignificant. Therefore, the project is considered potentially consistent with this policy.

## 5.6 CITY OF SANTA BARBARA CONSERVATION ELEMENT

### Visual Resources

#### Goals

*Restore where feasible, maintain, enhance, and manage the creekside environments within the City as visual amenities, where consistent with sound flood control management and soil conservation techniques.*

The proposed project would be potentially consistent with this policy. The visual qualities of the creeks in the vicinity of the basins could be enhanced by the project if the recommended mitigation measures pertaining to revegetation are implemented; additionally, the basins constitute sound flood control management and would preserve the downstream portions of the creeks from sedimentation.

*Protect significant open space areas from the type of development which would degrade the City's visual resources.*

The Goleta Slough may be considered a scenic coastal resource. However, the basins have only limited visibility from public viewpoints, and this EIR/EA concluded that the visual impacts at Tecolotito and Carneros creeks would be insignificant. The proposed project would be potentially consistent with this policy.

#### Policies

##### *Policy 1.0*

*Development adjacent to creeks shall not degrade the creeks or their riparian environments.*

The proposed project would be potentially consistent with this policy. With the exception of potential spills that could adversely affect water and biological resources, short-term impacts from construction were considered insignificant and outweighed by the long-term benefits. The creeks would infill without the proposed maintenance activities, and riparian resources would be lost. Biological productivity would also be enhanced, due to reduced water velocity in the basins during storm runoff.

##### *Policy 3.0*

*New development shall not obstruct scenic view corridors, including those of ocean and lower elevations of the City viewed respectively from the shoreline and upper foothills, and of the upper foothills and mountains viewed respectively from the beach and lower elevations of the City.*

The proposed project would not be visible from either the ocean or the foothills. It would have limited visibility from Hollister Avenue, which is not considered a scenic corridor. Therefore, the project is potentially consistent with this policy.

*Significant open space areas should be protected to preserve the City's visual resources from degradation.*

The Goleta Slough may be considered a significant open space area. However, the basins have only limited visibility from Hollister Avenue and this EIR/EA concluded that the visual impacts at Tecolotito and Carneros creeks would be insignificant.

## **Biological Resources**

### Subgoals

*Maintain, protect, and enhance marine resources within the City boundaries.*

The project would be potentially consistent with this policy. With the exception of potential spills adversely affect water and biological resources, short-term impacts from construction were considered insignificant and outweighed by the long-term benefits. The creeks would infill without the proposed maintenance activities, and riparian resources would be lost. Biological productivity would also be enhanced, due to reduced water velocity in the basins during storm runoff.

*Increase public understanding of the relationship between the maintenance of the City ecosystem and the welfare of the general public.*

The proposed project would not contribute to increased public understanding of the issues identified in this policy and is potentially inconsistent with this goal.

### Implementing Strategies

3.0        *Goleta Slough shall be preserved and restored as a coastal wetland ecosystem.*

5.0        *The habitats of rare and endangered species shall be preserved.*

6.0        *Intertidal and marine resources shall be maintained or enhanced.*

The specific implementing strategies identified under 3.0, 5.0, and 6.0 above do not apply directly to the proposed flood control project. The project would, however, be potentially consistent with the more general goals outlined above. The project would contribute to the preservation of Goleta Slough through reduction in infilling and would improve the quality of the habitat over current levels, habitats of rare and endangered species would be lost, and intertidal resources would be enhanced.

## **Drainage and Flood Control**

### Policies

#### *Policy 2.0*

*Floodplain management programs shall be implemented through the Building Officer of the Division of Land Use Controls and the Flood Control Division.*

The proposed project would be potentially consistent with this policy, since it is a project of the County Flood Control Division.

*Policy 3.0*

*Hazard reduction programs shall be implemented in urban sections of the City already built in hazardous flood-prone areas.*

The project would reduce the flood hazard at the Santa Barbara Airport and the surrounding area. Therefore, it is potentially consistent with this policy.

*Policy 4.0*

*Goals and policies of this element are interrelated with those of the Safety and Open Space Element and shall be considered together in land use planning decisions.*

Relevant policies have been considered in this document; thus, the project is potentially consistent with this policy.

Implementing Strategies

*3.3 Undertake flood control work projects as rapidly as possible where necessary to protect existing structures.*

The proposed project would be potentially consistent with this implementing strategy.

*4.1 Encourage the use of natural building materials for flood control channels such as stone, heavy timber, erosion control shrubs, and wire revetment with plantings of native or naturalized flora wherever they provide a comparable degree of flood protection.*

The proposed project would be potentially consistent with this project, for the basins would not require reinforcing with man-made materials.

**5.7 GOLETA COMMUNITY PLAN**

The following discussion addresses both objectives and policies that are relevant to the proposed project, as well as development standards (DevStd). The latter are measures that should be incorporated into development projects to provide consistency with specific policies of the Community Plan.

**Air Quality**

Policy AQ-GV-1

*The County shall impose appropriate restrictions and control measures upon construction activities associated with each future development project, in order to avoid significant deterioration of air quality.*

The following development standard applies to this policy.

*DevStd AQ-GV-1.1 Future project construction should follow all requirements of the SBCAPCD, and should institute Best Available Control Technology (BACT) where necessary to reduce emissions below APCD thresholds.*

Standard APCD mitigation measures have been included in the Air Quality section of this document. Additionally, maintaining equipment in proper operating condition, use of two-degree injection timing retard on diesel equipment, use of high pressure fuel injectors, when feasible, and electrifying the booster pump have been identified as mitigations to further reduce NO<sub>x</sub> emissions. This would be considered BACT. If the measures recommended in this EIR/EA are adopted, the project would be potentially consistent with the above policy and development standard.

*DevStd AQ-GV-1.2. Project construction shall minimize the generation of pollution and fugitive dust during construction.*

See the discussion under DevStd AQ-GV-1.1.

#### Policy AQ-GV-5

*The County shall require the use of techniques designed to conserve energy and minimize pollution.*

See the discussion under DevStd AQ-GV-1.1.

### **Biologic Habitats**

#### Objective BIO-GV

*Through the adoption of this Plan, the County shall adhere to and incorporate the following priorities for the protection of biological resources:*

1. *Preservation of existing resource values;*
2. *Maintenance of habitat continuity and habitat inter-relationships;*
3. *Long-term protection of regional ecosystems;*
4. *Establishment and enlargement of ecological preserves;*
5. *Protection of critical habitats for endangered, threatened, and sensitive biota;*
6. *Enhancement or restoration of degraded habitats; and*
7. *Active management of preserves and conservation easements.*

The project would be potentially consistent with this policy, for it would retain the slough as a salt water marsh by preventing its infilling.

#### Policy BIO-GV-2

*Environmentally Sensitive Habitat (ESH) areas and Riparian Corridors within the Goleta Planning Area shall be protected, and where feasible and appropriate, enhanced.*

All project sites have been designated as ESH areas in this plan. The project would create significant impacts to biological resources, including loss of habitat, but with the exception of the potential for accidental spills to adversely effect aquatic organisms, vegetation, and birds, all impacts are mitigable. The project would have the long-term benefit of reducing siltation in the creeks, thus protecting them from conversion to upland habitat.



## **Flooding and Drainage**

### **Policy FLD-GV-3**

*All County flood control activities (including dredging) shall be conducted in a manner which maintains and enhances coastal sand supply consistent with protection of other resources.*

The following is intended to be a one-time action that carries out the above policy.

*Action FLD-GV-3.1. In order to minimize habitat disruption and enhance sand supply, the County Flood Control District shall pursue purchase of a dredge and installation of a permanent sand transport system from the Goleta Slough system to Goleta Beach.*

This Program EIR/EA is intended to identify the potential impacts associated with various alternative methods of maintaining the creeks leading into Goleta Slough. The goal is to select an appropriate method that would be considered a permanent means of maintaining the creeks. The proposed project includes dredging and conveying the dredged sediments from Atascadero, San Jose, and San Pedro creeks to Goleta Beach. Disposing of sediments from Carneros and Tecolotito creeks at Goleta Beach was dismissed as infeasible for economic and technical reasons (see section 2.5.1). The District is considering purchasing a dredge (see section 2.6) but would prefer to contract dredging for at least the first year in order to gain experience. The project would be potentially consistent with this alternative.

## **History and Archaeology**

### **Policy HA-GV-1**

*Significant cultural, archaeological, and historical resources in the Goleta area shall be protected and preserved to the maximum extent feasible.*

The following action item and development standard apply to this policy.

*Action HA-GV-1.2. If avoidance of impacts or capping within an archaeological site is not feasible, the significance of the site shall be assessed pursuant to County Regulations Concerning Heritage Resource Studies. If the site is found to be significant, impacts to the archaeological site shall be mitigated pursuant to County Regulations Governing Archaeological and Historical Projects.*

These recommendations have been incorporated as mitigation measures in this EIR/EA. If they are implemented, the project would be potentially consistent with the above action item and policy.

*DevStd HA-GV-1.3. Any archaeological site and 50-foot buffer area shall be temporarily fenced with chain link or other structurally sound material in the event of proposed construction within 100 feet of a sensitive area.*

A 25-foot buffer has been recommended as adequate to protect cultural resources for this particular project given the nature of the activities. The project would be potentially consistent with this development standard and the above policy.

## Noise

### Policy N-GV-1

*Interior noise-sensitive uses (e.g., residential and lodging facilities, educational facilities, public meeting places and others specified in the Noise Element) shall be protected to minimize significant noise impacts.*

The project would create short-term noise impacts at residences near Atascadero Creek and Goleta Beach. The project would be potentially inconsistent with this policy, but only when activities occurred in the immediate vicinity of the residential areas.



## **6.0 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

The proposed project would create short-term significant unmitigable impacts to a number of resources, including air quality (Phase II NO<sub>x</sub> emissions only); noise (excessive levels at the Goleta Beach ranger's residence); and aesthetics (impacts at Atascadero Creek and Goleta Beach). Potentially significant long-term unmitigable impacts were identified for cultural resources (potential violation of cultural values if Locus 2 and SBA-45 cannot be feasibly avoided) and for biological resources resulting from accidental spills.

Potentially significant but mitigable impacts were identified for water resources (fecal coliform could be introduced into the ocean); air quality (exceedance of NO<sub>x</sub> emission threshold); biological resources (loss of riparian/wetland vegetation, and disturbance of perching, nesting, and breeding areas); risk of upset (potential undermining of pilings supporting a gas pipeline); noise (excessive levels at residential areas); cultural resources (encroachment on potentially significant archaeology sites); recreational resources (damage to surface of Goleta Beach parking lot and incompatibility with recreational use of Goleta Beach); and traffic safety impacts. These impacts could be mitigated to insignificance, with the exception of emissions. With the exception of impacts to cultural resources, all others would be short-term.

A detailed discussion of the differences between alternatives is presented in sections 1.2 and 1.3. For purposes of this discussion, impacts of the other dredging/desilting alternatives would not differ substantively, with the following exceptions:

1. Beach deposition would create a significant impact on recreation use of Goleta Beach and aesthetics until the dredged sediments were washed away.
2. Traditional maintenance would have no beach nourishment component and stockpiling spoils would have adverse aesthetic impacts until they were removed. It would also increase biological impacts, although no significant air quality impacts would occur.
3. Placing discharge pipelines on the ground would increase the potential for disturbance to biological resources.
4. The Increased Basin Size alternative would have significant unmitigable air quality impacts for Phase I and Phase II.

Beneficial impacts would be long-term and would result from each of the alternatives (except No-Project and where otherwise indicated). They include a substantial reduction in flooding in the lower Goleta Valley, increasing the tidal prism, beach nourishment (this does not apply to traditional maintenance), preventing the infilling of the slough, thereby restoring open water, tidally influenced aquatic habitat, and increasing opportunities to view wildlife. Beneficial impacts related to flooding are considered particularly important, since floods could have substantial repercussions throughout the lower Goleta Valley. Also of key importance is the retention of the tidally influenced habitat of the slough, especially since this type of habitat is rapidly declining.

The No-Project alternative would have comparatively minor benefits, limited primarily to allowing flooding to reach otherwise isolated areas of the slough and preserving cultural resources through infilling. Flooding impacts would be substantial, however, and could cause

considerable damage to public property and public safety. Additionally, infilling of the slough would continue.

## **7.0 GROWTH-INDUCING IMPACTS**

The project would have no growth-inducing impacts.





## **8.0 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

The proposed project and its alternatives (with the exception of No-Project) would result in the following irreversible or ir retrievable effects. The discussion includes both long-term and short-term commitments of resources.

- Short-term impacts to local and regional air quality.
- Fossil fuels (diesel and gasoline) would be used by construction vehicles.
- The project could impact two potentially significant archaeology sites during dredging.
- Short-term noise impacts to residents and Goleta Beach patrons.
- Short-term reduction of the quality of the recreational experience at Goleta Beach.
- Short-term degradation of the aesthetic resources of the project area.
- Potential introduction of fecal coliform bacteria into the ocean.
- Introduction of a dredge plume into the waters of Goleta Bay.



## 9.0 BENEFICIAL IMPACTS

The proposed project and its alternatives (with the exception of the No-Project alternative) would have the following beneficial impacts:

- Flooding would be reduced in the lower Goleta Valley. If flooding occurred, the airport could be closed, as could Goleta Beach County Park. Local roads and bikepaths could be submerged, as could residential, commercial, industrial, and agricultural uses. Impacts of flooding would be costly, disruptive, and could have serious public safety repercussions.
- The tidal prism would be increased, thus facilitating the exchange of water in the slough.
- The Goleta Slough is one of the last remaining salt marshes in the Santa Barbara area. Without continued removal of the sediments from the five creeks leading into the slough, the salt marsh habitat would gradually be replaced with upland habitat. Maintenance of the silt basins in all five creeks would minimize the deposition of sediments in the slough resulting from soil disturbances in the watershed and would in effect preserve the salt marsh habitat. Removal of accumulated sediments in the channels of San Pedro, San Jose, and Atascadero creeks, as well as in the Goleta Slough channel from these creeks to the slough mouth would have a key long-term beneficial impact through restoration of open water, tidally influenced aquatic habitat for invertebrates, fish, and birds.
- A larger beach would be created at the heavily used Goleta Beach County Park. The beach is currently quite narrow, and beach nourishment would enhance recreational opportunities.
- Other recreational opportunities would be enhanced in the long-term, since restoring the habitat described above would attract wildlife which may have left the area due to increased sedimentation.



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## 11.0 PERSONS AND AGENCIES CONTACTED

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Ruiz, John. 1993.

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B.S., Chemical Engineering, Massachusetts Institute of Technology, 1968  
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Years of Experience: 21
- David Stone, Planner, SAIC  
B.A., Anthropology, University of California, Santa Cruz (1978)  
M.A., Anthropology, University of California, Santa Barbara (1984)  
Years of Experience: 1
- Eric Tambini, Geologist, SAIC  
B.A., Geological Sciences, University of California, Santa Barbara, 1984  
Certificate in Hazardous Waste Management, 1992  
Years of Experience: 7
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B.A., Zoology, University of Missouri, 1967  
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B.A., Anthropology, Pomona College, Claremont, 1975

M.A., Anthropology, University of California, Santa Barbara, 1978

Ph.D., Applied Anthropology, University of California, Santa Barbara, 1981

Years of Experience: 12

**APPENDIX A**

**INITIAL STUDY**







# County of Santa Barbara

## RESOURCE MANAGEMENT DEPARTMENT

John Patton, Director

### Initial Study Finding

Karl Treiberg  
Santa Barbara County Flood Control Dist.  
123 E. Anapamu St.  
Santa Barbara, CA 93101

Case #	<u>92-CP-28</u>
DER Log #	<u>7119</u>
Date	<u>8-18-92</u>

Dear Applicant:

The Environmental Review Division of the Resource Management Department:

- ☐ Finds with certainty that the proposed project will not have a significant impact on the environment and that a 15061 should be prepared.
- ☐ Finds that the proposed project will not have a significant effect on the environment and, therefore, recommends that an ND be prepared.  
☐ With Public Hearing ☐ Without Public Hearing
- ☒ Finds that the proposed project may have a significant effect on the environment, and recommends that an EIR be prepared by a private environmental consultant.
- ☐ Finds that from existing documents (previous EIR's, etc.) that an addendum (containing updated and site-specific information, etc.) 15162/15163/15164 should be prepared.  
Previous document: \_\_\_\_\_  
☒ With Public Hearing ☐ Without Public Hearing

Please be aware that complex NDs may be contracted out to a private consultant at the department's discretion (see attached citation from County Applicant/ Consultant Procedures Manual). Contracted out NDs can avoid three to four weeks of processing time at an equitable cost.

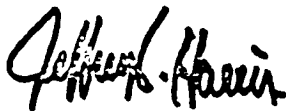
Upon completion of the draft document you will be notified. Comments are also solicited from the public at large, the adjacent property owners and other County departments. The document is revised based upon these comments and on testimony from a public hearing; if required. Upon completion of the document it is forwarded to the appropriate decision-making body for its consideration. This determination is not to be interpreted as either approving or disapproving your project.

123 E. Anapamu Street, Santa Barbara, CA 93101  
PHONE (805) 568-2000 FAX (805) 568-2030

Should you receive a finding requiring preparation of an EIR, you are invited to discuss the issues of concern identified in the enclosed Initial Study if you believe the conclusions are based on inaccurate information. An appointment must be made within 5 working days from the receipt of this letter on condition of signing a 15 day extension of time for preparation of the Initial Study (see attached citation from County CEQA Guidelines for details).

Should you have any questions regarding your project, please contact  
of my staff at (805) 568-2020.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey T. Harris".

Jeffrey T. Harris, Deputy Director  
Division of Environmental Review & Compliance

PROTOS\1\_SFNDG.DOC  
Attachments

cc: Case Management System; Richard Corral

DIVISION OF ENVIRONMENTAL REVIEW

INITIAL STUDY

92-CP-28

Flood Control District Goleta Slough Maintenance

INSTRUCTIONS:

This questionnaire is to be completed for all non-exempt projects requiring environmental review under the California Environmental Quality Act (CEQA) and the County of Santa Barbara CEQA Guidelines. All questions should be answered.

Clarification or supporting information should be provided for each issue area. Extra pages should be attached if necessary.

(Form Revised 11/91)

COUNTY OF SANTA BARBARA  
DIVISION OF ENVIRONMENTAL REVIEW  
STAFF INITIAL STUDY CHECKLIST & REPORT

I. PROJECT INFORMATION:

APPLICANT NAME AND ADDRESS:

Karl Treiberg  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, California, 93101

LEAD DEPT. #  
92-CP-28

DER LOG #  
7119

ASSESSOR'S PARCEL # 71-190-17,28,30

71-200-8,11,12,13,22,23,24,25  
73-080-37

ACREAGE: ~15

PREVIOUS ENVIRONMENTAL DOC'S: 90-EIR-07 (Flood Control Creek Maintenance Program)

SUPERVISORIAL DISTRICT: 2 & 3

COMPREHENSIVE PLAN LAND USE DESIGNATION: A-I-10, UT

ZONING DISTRICT: Coastal Zone - Public or Private Recreation/Open Space  
- Environmentally Sensitive Habitat

PROJECT LOCATION: The project area is located within the Goleta Slough in Santa Barbara County.

PROJECT DESCRIPTION:

STATE REVIEW REQUIRED X

BACKGROUND:

The Santa Barbara County Flood Control District (District) has routinely maintained the creeks that flow through the Goleta Slough for over 20 years. Maintenance activities involve the removal of sediment from the creeks or from silt basins in the creeks as well as maintaining an opening at the mouth of the slough. Due to many factors, silt and sediments are constantly being deposited in each of the 5 creeks that feed the slough. Removal of these sediments is vital to the slough's existence. In addition, removing sediments from specific sections of the creeks increases their capacity to convey flood flows. Failure to remove sediments could result in significant inundation to large areas adjacent to the slough including commercial areas, residential areas, and the airport. An additional benefit associated with dredging sediment from the slough is the increased tidal prism, or area flushed by daily tides, that results from dredging activities. A large tidal prism is essential in order to maintain a healthy exchange of water through the slough.

Traditional Maintenance:

Removal of sediments from all the creeks and basins has traditionally been done with a dragline. A crane rigged as a dragline works from the sides of the creeks or basins depositing the spoils adjacent to them or in designated spoils pile area not far from the sites being desilted. The spoils are made available to the public and are typically removed within one year, although there is currently 60,000 C.Y. of

salt laden sediments on the Gas Co. property adjacent to the slough. Dragline desilting is dictated by need with each creek or basin requiring maintenance approximately every 3-5 years. The dragline method will remain the preferred practice for the Tecolotito and Carneros silt basins since they were designed to be maintained in this manner and since hydraulic dredging in these basins would be too disruptive to the slough.

#### Hydraulic Dredging:

Environmental impacts associated with dragline desilting have led to the search for a less harmful maintenance technique. The Flood Control District has investigated the possibility of dredging by use of a floating hydraulic dredge. The floating dredge could be placed in the slough by a crane or could be launched down a ramp into the slough by a truck. The dredge would be used to desilt the tidally influenced portions of Atascadero Creek, San Jose Creek, and San Pedro Creek. Overexcavating an in-stream basin for each of the creeks would limit environmental impacts to a short reach of each creek. A ten or twelve inch pipe attached to the dredge would be floated towards the mouth of the slough with the discharge point approximately 500 feet east of the slough mouth. With the discharge point east of the mouth of the slough and directly in the surf zone the spoils would be less likely to close the slough mouth.

Although a specific dredge has not been chosen at this time, the type of hydraulic dredge that could adequately desilt Goleta Slough would be similar to the Ellicott 270/370 dragon series. This type of dredge runs on diesel and is capable of moving approximately 100 C.Y. of silt per hour. Due to the distance from the in-stream basins to the mouth of the slough a booster pump would be required to maintain 100 C.Y. of discharge. There are several booster pumps available that could be floated like the dredge or stationed on the bank of the slough approximately 3000 feet from the in-stream basins. Either 10" or 12" pipe would be used depending on the size of the dredge. The pipe could be placed along the ground, bottom of the channels or floated in the channels.

Dimensions of the in-stream basins would be as follows:

Atascadero - 90' wide x 9' deep x 1,000' long. This would provide approximately 30,000 C.Y. of storage and would have a pump length of 4,500' to 3,830' to the mouth of the slough.

San Jose - 70' wide x 9' deep x 850' long. This would provide approximately 20,000 C.Y. of storage and would have a pump length of 4,500' to 3,650' to the mouth of the slough.

San Pedro - 50' wide x 9' deep x 1,200' long. This would provide approximately 20,000 C.Y. of storage and would have a pump length of 5,900' to 4,700' to the mouth of the slough.

Currently the in-stream basins are silted in as are some of the channels downstream from the basins. Approximately 100,000 C.Y. of sediment could be removed from Atascadero, San Jose and San Pedro Creeks to reestablish the creeks to their pre-1989 capacity. As the creeks receive sediment at different rates due to many factors (i.e. Painted Cave Fire and upstream agricultural practices) it is not expected that all the creeks would require desilting of the entire in-stream basins every year. Under normal circumstances, only a portion of each creek is expected to require annual desilting.

#### Mouth Opening:

The District routinely opens the mouth of the slough 1 - 3 times a year. This is done with a bulldozer and an excavator. At the lowest tide after the mouth closes, a trench is dug from the ocean toward the slough. Trenching occurs as close to low tide as possible, enabling the channel to scour deeper and keep the mouth of the slough open longer. The trench is dug just east of the parking lot with excess sand being piled to the east of the opening. With the discharge point of the hydraulic dredge in the surf zone and at least 500 feet to the east of the mouth of the slough, the slough mouth is not expected to close more frequently than it currently does. Since the dredge will restore the lost tidal prism in the slough, the mouth may even stay open longer than it currently does. The maximum daily discharge (~800 C.Y.) from the dredge should be easily absorbed into the littoral cell since it will be discharged into the surf zone.

#### Costs:

The cost of the Ellicot dredge with pipe and booster pump would be close to \$400,000. Exact operating costs are unknown at this time, but are expected to be at least \$150/hr. (fuel, operator, support skiff). If the dredge removed 30,000 C.Y. of material in an average year it would take approximately 300 hours of dredging with an operating cost of approximately \$45,000. Costs could be offset by grants and through leasing out the dredge during down time. The dredge could be transported by truck and could be used in Carpinteria Slough as well, though this is not part of the project description and would be addressed in a separate document.

#### II. ENVIRONMENTAL SETTING (include general site setting, slope, vegetation, surrounding land uses, and existing structures):

The Goleta Slough is the drainage basin for five creeks which originate on the southern slope of the Santa Ynez Mountains: Atascadero Creek, San Jose Creek, San Pedro Creek, Carneros Creek, and Tecolotito creek.

The Goleta Slough was a large harbor prior to 1860. In 1861, a large flood with resulting siltation filled much of the harbor and created a shallow lagoon. Progressive sedimentation gradually transformed the lagoon into a coastal salt marsh which has since been greatly reduced in size by further siltation, airport and road landfills, and construction of drainage works. The current slough area occupies less than 40% of its pre-World War II range. (1, p. 11-12)

Despite its declining size, the 360 acre Goleta Slough is an important resource since it is one of the few publicly owned coastal salt marshes in southern California. The main body of the Slough (about 300 acres) is owned by the city of Santa Barbara, while the remaining 60 acres belong to the University of California.

The land and water of the Goleta Slough are important sources of food and shelter for wildlife. A primary value of the slough is its use as a wintering ground by migrating shorebirds such as plovers, sandpipers, willets, curlews, killdeer, heron, egrets, and the endangered light-footed clapper rail. Also using the slough as a wintering ground are a host of waterfowl species including the pintail, widgeon, green-winged teal, mallard, and cinnamon teal. As well as its use by migrating birds, the slough is a year-round residence for at least 26 other bird species. The

slough is also a vital foraging ground for important raptors such as the peregrine falcon, white-tailed kite, osprey, and red-shouldered hawk. Mammals known to inhabit the slough include the black-tailed jackrabbit, brush rabbit, striped skunk, spotted skunk, long-tailed weasel, Virginia opossum, raccoon, and several species of mice and shrews. (1, p.17-19)

Vegetation in the Goleta Slough is dominated by salt tolerant species such as perennial pickleweed, which comprises about 90% of the slough's vegetative cover. In addition to salt tolerant species, several small areas of the slough support freshwater marsh vegetation. (1, p.16)

Land uses surrounding the Goleta Slough include the Santa Barbara Airport to the north, UC Santa Barbara to the southwest, Goleta Beach County Park to the south, residential areas to the east, and open space to the west.



### III. Potentially Significant Effects Checklist

The following checklist indicates the potential level of impact and is abbreviated as follows:

Known Sig.: Known significant environmental impacts.

Unknwn Poten. Sig.: Unknown potentially significant impacts which need further review to determine significance level.

Poten. Sig. and Mitig.: Potentially significant impacts which can be mitigated to less than significant levels.

Not Sig.: Impacts which are not considered significant.

Known Sig.	Unknwn poten. Sig.	Poten. Sig. and Mitig.	Not Sig.
---------------	--------------------------	---------------------------------	-------------

#### 1. GEOLOGIC PROCESSES: Will the proposal result in:

a. Exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?	_____	_____	_____	X
b. Disruptions, displacements, compaction or overcovering of the soil by cuts, fills, or extensive grading?	_____	X	_____	_____
c. Permanent changes in topography?	_____	X	_____	_____
d. The destruction, covering or modification of any unique geologic, paleontologic, or physical features?	_____	X	_____	_____
e. Any increase in wind or water erosion of soils, either on or off the site?	_____	X	_____	_____
f. Changes in deposition or erosion of beach sands or dunes, or changes in siltation, deposition or erosion which may modify the channel of a river, or stream, or the bed of the ocean, or any bay, inlet or lake?	_____	X	_____	_____
g. The placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent?	_____	_____	_____	X
h. Extraction of mineral or ore?	_____	_____	_____	X
i. Excessive grading on slopes of over 20 percent?	_____	_____	_____	X
j. Sand or gravel removal or loss of topsoil?	_____	X	_____	_____
k. Vibrations, from short-term construction or or long-term operation, which may affect adjoining areas?	_____	X	_____	_____

1. Excessive spoils, tailings or over-burden? \_\_\_\_\_ X \_\_\_\_\_

Impact Discussion: The project has the potential to impact geologic resources through dredging (both crane and hydraulic), creation of excessive spoils, deposition of spoils, and slough-mouth channel modification. The EIR should examine geologic impacts which could result from channel modification, dredging, and deposition of dredged spoils. Impacts may be beneficial and/or detrimental.

Mitigation and Residual Impact: Mitigation and residual impacts not known.

2. WATER RESOURCES/FLOODING: Will the proposal result in:

- |   |       |          |       |          |
|---|-------|----------|-------|----------|
| a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?  | _____ | <u>X</u> | _____ | _____    |
| b. Changes in percolation rates, drainage patterns or the rate and amount of surface water runoff?  | _____ | <u>X</u> | _____ | _____    |
| c. Change in the amount of surface water in any water body?   | _____ | <u>X</u> | _____ | _____    |
| d. Discharge into surface waters, or alteration of surface water quality, including but not limited to temperature, dissolved oxygen, turbidity, or thermal water pollution (e.g., eutrophication)? | _____ | <u>X</u> | _____ | _____    |
| e. Alterations to the course or flow of flood waters, or need for private or public flood control projects?   | _____ | _____    | _____ | <u>X</u> |
| f. Exposure of people or property to water related hazards such as flooding (placement of project in 100 year flood plain), accelerated runoff or tsunamis?   | _____ | _____    | _____ | <u>X</u> |
| g. Alteration of the direction or rate of flow of groundwaters?   | _____ | _____    | _____ | <u>X</u> |
| h. Change in the quantity of groundwaters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or recharge interference?                   | _____ | _____    | _____ | <u>X</u> |
| i. Overdraft or overcommitment of any groundwater basin? Or, a significant increase in the existing overdraft or overcommitment of any groundwater basin?   | _____ | _____    | _____ | <u>X</u> |
| j. The substantial degradation of groundwater quality including saltwater intrusion?  | _____ | _____    | _____ | <u>X</u> |

- k. Substantial reduction in the amount of water otherwise available for public water supplies? \_\_\_\_\_ X

#### Impact Discussion:

a,b,c,d) Dredging could alter the natural course of water movements and/or drainage patterns. In addition, dredging would (by definition) increase the amount of surface water in the Goleta Slough. Finally, dredging could have significant impacts on surface water quality in the slough due to increased turbidity and operation of machinery in the slough.

e,f) The project would have beneficial impacts to flooding since the risk of flooding would be reduced.

g,h,i,j) The project would not extract groundwater, nor would groundwater basins be affected in any way. '(2)

k) The project would not result in an increase in water use since development is not proposed.

The EIR should evaluate potentially significant impacts to water resources caused by dredging including but not necessarily limited to:

- Changes in water courses of movement.
- Increased surface water volumes in the Goleta Slough.
- Water quality including increased turbidity in the slough.

#### Mitigation and Residual Impact:

Evaluation of these issues may bring to light additional unforeseen potential water resource impacts worthy of investigation. Possible mitigation measures will likely include timing of the dredging, depth of dredging, and other measures which further investigation will disclose. Residual impacts not known.

### 3. TRANSPORTATION/CIRCULATION: Will the proposal result in:

- |   |       |       |       |       |
|---|-------|-------|-------|-------|
| a. Generation of substantial additional vehicular movement (daily, peak-hour, etc.) in relation to existing traffic load and capacity of the street system? | _____ | _____ | X     | _____ |
| b. A need for private or public road maintenance, or need for new road(s)?  | _____ | _____ | X     | _____ |
| c. Effects on existing parking facilities, or demand for new parking?   | _____ | _____ | _____ | X     |
| d. Substantial impact upon existing transit systems (e.g. bus service) or alteration of present patterns of circulation or movement of people and/or goods? | _____ | _____ | _____ | X     |

	Known Sig.	Unknown poten. Sig.	Sig. and Mitig.	Not Sig.
T e. Alteration to waterborne, rail or air traffic?	_____	_____	_____	<u>X</u>
T f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians (including short-term construction and long-term operational)?	_____	_____	<u>X</u>	_____
g. Inadequate sight distance?	_____	_____	_____	<u>X</u>
ingress/egress?	_____	_____	_____	<u>X</u>
general road capacity?	_____	_____	_____	<u>X</u>
emergency access?	_____	_____	_____	<u>X</u>

#### Impact Discussion:

Traffic impacts are expected to be insignificant, limited only to occasional launching, fueling, and maintenance activities which would be necessary to operate the dredge. Access for these types of vehicles could be taken from Hollister Avenue, Ward Memorial Drive, Fairview Avenue, and Goleta Beach County Park. The project could also create potentially significant short term impacts to bicyclists during operations depending upon the location of slough access. Aside from the minimal traffic generated directly by the project, a secondary source of additional traffic may result if the Flood Control District allows the public to obtain spoils from dredging. If this occurs, the traffic would affect Goleta Beach County Park and roads leading to the park. Actual trip generation is not known at this time.

The EIR should evaluate several possible access points to the slough which could be used by the Flood Control District. This would enable the District to use the most environmentally benign entrance with respect to traffic. The EIR should also evaluate potential impacts to bicyclists during dredging operations to ensure that bicycle access is maintained at all times and is not limited by fencing or machinery. Finally, the EIR should examine secondary sources of traffic which may be generated by making spoils available to the public.

#### Mitigation and Residual Impact:

Possible mitigation for these issues may include limitations on access points to be used by the District and timing restrictions placed on the public as to when spoils can be picked up from Goleta Beach Park. Residual impacts are not known but are expected to be insignificant.

#### 4. AIR QUALITY: Will the proposal result in:

- a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation including, CO hotspots, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?

\_\_\_\_\_ X \_\_\_\_\_

b. The creation of objectionable smoke,  
ash or odors?

_____	<u>X</u>	_____	_____
_____	_____	_____	<u>X</u>

c. Extensive dust generation?

Impact Discussion: The diesel fueled dredge, booster pump, maintenance vehicles, and support boats could potentially create significant impacts to air quality. The EIR should evaluate project related emissions with regards to air quality standards and should also determine if the project would exacerbate any existing CO hotspots.

Mitigation and Residual Impact: Mitigation may include standard APCD emission control measures. Residual impacts not known.

## 5. BIOLOGICAL RESOURCES:

### FLORA Will the proposal result in:

a. A loss or disturbance to a unique, rare or  
threatened plant community?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

b. A reduction in the numbers or restriction in the  
range of any unique, rare or threatened species  
of plants?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

c. A reduction in the extent, diversity, or quality  
of native vegetation (including brush removal  
for fire prevention and flood control  
improvements)?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

d. An impact on non-native vegetation whether  
naturalized or horticultural?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

e. The loss of healthy specimen trees?

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

f. Introduction of herbicides, pesticides, animal  
life, human habitation, non-native plants, or  
other factors that would change or hamper the  
existing habitat?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

### FAUNA:

g. A reduction in the numbers, a restriction in the  
range, or an impact to the critical habitat of any  
unique, rare, threatened, or endangered species of  
animals?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

h. A reduction in the diversity or numbers of animals  
onsite (including mammals, birds, reptiles,  
amphibians, fish or invertebrates)?

_____	<u>X</u>	_____	_____
-------	----------	-------	-------

Known Sig.	Unknown poten. Sig.	Sig. and Mitig.	Not Sig.
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i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?

X

j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?

X

k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?

X

Existing Plant and Animal Communities/Conditions: The Goleta Slough supports numerous sensitive plant and animal communities. The following list, though not exhaustive, identifies several important plant and animal species found in the Goleta Slough:

<u>SPECIES</u>	<u>HABITAT</u>	<u>STATUS</u>
<b>FLORA:</b>		
Arthrocnemum subterminale	wetlands, vicinity of mean high tide	local concern
Hordeum depressum (Alkali Barley)	salt flats	local concern
Hemizonia australis (Southern Tarplant)	sandy fields near ocean	local concern
Lasthenia glabrata	wet, saline soils	local concern
Crassula aquatica (Water pygmy weed)	wetlands, vernal pools	local concern
Elatine brachysperma	vernal pools	local concern
<b>FAUNA:</b>		
Rallus longirostris levipes (Light Footed Clapperrail)	wetland grasses	State: endangered Fed: endangered
Passerculus sandwichensis beldgsil (Beldings savanna sparrow)	wetlands	State: endangered Fed: candidate 2
Latterallus jamalcensis (California black rail)	wetlands	State: threatened Fed: candidate 1

Impact Discussion: The project has the potential to negatively impact native, sensitive, and endangered flora and fauna species by dredging activities, spoils deposition, and slough access. The project could also negatively impact the intertidal zone and aquatic species in the slough through spoils deposition and increased turbidity. The project may, however, result in beneficial impacts to biological resources. Potential beneficial

impacts include an increased tidal prism, increased slough habitat, and creation of a healthier slough ecosystem. The EIR should evaluate impacts that dredging and its related activities could have on sensitive species in the area, addressing potential biological impacts caused by factors such as noise, turbidity, human activity, and spoils outfall into the intertidal zone.

Mitigation and Residual Impact: Mitigation could include restoration of disturbed plant communities and prohibition of dredging or maintenance activities during sensitive seasons. Residual impacts not known.

6. ARCHAEOLOGICAL RESOURCES: Will the proposal result in:

- |   |       |          |       |       |
|---|-------|----------|-------|-------|
| a. Disruption, alteration, destruction, or adverse effect on a recorded prehistoric or historic archaeological site (note site number below)? | _____ | <u>X</u> | _____ | _____ |
| b. Disruption or removal of human remains?  | _____ | <u>X</u> | _____ | _____ |
| c. Increased potential for trespassing, vandalizing, or sabotaging archaeological resources?  | _____ | <u>X</u> | _____ | _____ |
| d. Ground disturbances in an area with potential cultural resource sensitivity based on the location of known historic or prehistoric sites?  | _____ | <u>X</u> | _____ | _____ |

7. ETHNIC RESOURCES: Will the proposal result in:

- |   |       |          |       |       |
|---|-------|----------|-------|-------|
| a. Disruption of or adverse effects upon a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group? | _____ | <u>X</u> | _____ | _____ |
| b. Increased potential for trespassing, vandalizing, or sabotaging ethnic, sacred, or ceremonial places?  | _____ | <u>X</u> | _____ | _____ |
| c. The potential to conflict with or restrict existing religious, sacred, or educational uses of the area?  | _____ | <u>X</u> | _____ | _____ |

Impact Discussion: Numerous archaeological hot spots exist within the project site. Much of the site has been surveyed, however some portions remain unsurveyed. Dredging (especially by crane) and maintenance activities could potentially impact archaeological/ethnic resources. Project generated access points to the slough could increase potential for vandalizing archaeological or ethnic resources. In addition, placement of the spoils effluent pipeline (if located on land outside the stream channel) could also disturb sensitive sites.

The EIR should include a phase 1 survey for unsurveyed areas of the project site that could be impacted. If resources are found, phase II and phase III archaeological studies would be required. The EIR should evaluate potential impacts to archaeological resources such as disruption by dredging or increased potential for vandalism.



Mitigation and Residual Impact: Mitigation may include avoidance of some areas of the slough and restricted access points to the slough. Residual impacts not known.

8. HISTORIC RESOURCES: Will the proposal result in:

- |  |       |       |       |          |
|--|-------|-------|-------|----------|
| a. Adverse physical or aesthetic impacts on a structure or property at least 50 years old and/or of historic or cultural significance to the community, state or nation? | _____ | _____ | _____ | <u>X</u> |
| b. Beneficial impacts to an historic resource by providing rehabilitation, protection in a conservation/open easement, etc.?   | _____ | _____ | _____ | <u>X</u> |

Impact Discussion: Historic structures do not exist in the Goleta Slough. Impacts to historic resources would not be considered significant.

Mitigation and Residual Impact: None required.

9. NOISE: Will the proposal result in:

- |  |       |          |       |          |
|--|-------|----------|-------|----------|
| a. Long-term exposure of people to noise levels exceeding County thresholds( e.g. locating noise sensitive uses next to an airport, etc.)? | _____ | _____    | _____ | <u>X</u> |
| b. Short-term exposure of people to noise levels exceeding County thresholds?  | _____ | <u>X</u> | _____ | _____    |
| c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?                           | _____ | <u>X</u> | _____ | _____    |

Impact Discussion: Noise generated by the diesel dredge, booster pump, crane dragline, and maintenance vehicles could potentially impact surrounding areas including the Goleta Beach Ranger's residence, Beachside Cafe, Goleta Beach day use area, and residential areas to the east. The EIR should evaluate noise levels generated by the dredge, booster pump, crane, and maintenance equipment and examine how adjacent sensitive receptors would be effected.

Mitigation and Residual Impact: Mitigation may include limiting dredge operation to weekday daylight hours. Residual impacts not known.

10. LAND USE: Will the proposal result in:

- |  |       |          |       |          |
|--|-------|----------|-------|----------|
| a. Structures and/or land-use incompatible with existing land-use?     | _____ | <u>X</u> | _____ | _____    |
| b. The induction of substantial growth or concentration of population? | _____ | _____    | _____ | <u>X</u> |

c. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

d. The conversion of prime agricultural land to non-agricultural use, impairment of agricultural land productivity (whether prime or non-prime), or conflict with agricultural preserve programs?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

e. An effect upon any unique or other farmland of State or Local Importance?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

f. The loss of a substantial amount of open space?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

g. Conflicts with adopted airport safety zones?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

Impact Discussion: The project does not involve placement of permanent structures, however, the dredge would be placed in the slough for extended periods of time and may not be considered compatible with the recreation/open space designation of the slough. Services would not be extended, and growth would not be induced or encouraged. The project would occur in city and county-owned open space and flood control easements. Land use compatibility issues are further addressed in the traffic, air quality, noise, recreation, and aesthetics sections. The EIR should address the compatibility of the project with the slough and surrounding land uses.

Mitigation and Residual Impact: Mitigation and residual impacts not known.

# 11. PUBLIC FACILITIES: Will the proposal result in:

## GENERAL SERVICES:

a. A need for new or altered police protection and/or health care services?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

b. Would the project result in student generation exceeding school capacity?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

c. Will the proposal generate significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity)?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

d. A need for new or altered sewer system facilities (sewer lines, lift-stations, etc.)?

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

Impact Discussion: Although the project would generate dredged spoils which could be categorized as solid waste, these spoils would either be used to nourish Goleta Beach or

	Known Sig.	Unknown poten. Sig.	Poten. Sig. and Mitig.	Not Sig.
--	---------------	---------------------------	---------------------------------	-------------

f the slough mouth or taken by the public to use as soil amendment. The project is not expected to result in significant impacts to public facilities.

Mitigation and Residual Impact: None required.

12. ENERGY: Will the proposal result in:

- |   |       |       |       |          |
|---|-------|-------|-------|----------|
| a. Substantial increase in demand, especially during peak periods, upon existing sources of energy? | _____ | _____ | _____ | <u>X</u> |
| b. Requirement for the development or extension of new sources of energy?                           | _____ | _____ | _____ | <u>X</u> |

Impact Discussion: Although the dredge would utilize a diesel engine, this would not be considered a significant impact to energy demand.

Mitigation and Residual Impact: None required.

13. FIRE PROTECTION: Will the proposal result in:

- |  |       |          |       |          |
|--|-------|----------|-------|----------|
| a. Introduction of development into an existing high fire hazard area?   | _____ | _____    | _____ | <u>X</u> |
| b. Project-caused high fire hazard?  | _____ | <u>X</u> | _____ | _____    |
| c. Introduction of development into an area without adequate water pressure, fire hydrants or adequate access for fire fighting?             | _____ | _____    | _____ | <u>X</u> |
| d. Introduction of development that will hamper fire prevention techniques such as controlled burns or backfiring in high fire hazard areas? | _____ | _____    | _____ | <u>X</u> |
| e. Development of structures beyond safe Fire Dept. response time?   | _____ | _____    | _____ | <u>X</u> |

Impact Discussion: No development is proposed, and the dredge would be operated in the water, limiting fire danger. However, the project would likely involve storage of flammable fuels which could increase fire hazards in the area. The EIR should discuss the storage of flammable fuels and evaluate the potential for increased fire hazard.

Mitigation and Residual Impact: Mitigation or residual impacts not known.

14. RECREATION: Will the proposal result in:

- |   |       |          |       |          |
|---|-------|----------|-------|----------|
| a. Conflict with established recreation uses of the area?   | _____ | <u>X</u> | _____ | _____    |
| b. Conflict with biking, equestrian, and hiking trails?   | _____ | <u>X</u> | _____ | _____    |
| c. Substantial impact on the quality or quantity of existing recreational opportunities (e.g., over use of an area with constraints on numbers of people, vehicles, animals, etc. which might safely use the area)? | _____ | _____    | _____ | <u>X</u> |

Impact Discussion: Goleta Beach County Park is located just to the south of the slough and is a popular recreational site. Placement of the spoils pipeline east of the slough mouth could hinder access (especially for disabled people) to the public beach lands east of Goleta Beach Park and could potentially interfere with bike paths and cyclists. The EIR should address potential impacts to beach access and bike paths.

Mitigation and Residual Impact: Mitigation or residual impacts not known.

15. AESTHETIC/VISUAL RESOURCES: Will the proposal result in:

- |  |       |          |       |          |
|--|-------|----------|-------|----------|
| a. The obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | _____ | <u>X</u> | _____ | _____    |
| b. Change to the visual character of an area?  | _____ | <u>X</u> | _____ | _____    |
| c. Glare or nightlighting which may affect adjoining areas?  | _____ | _____    | _____ | <u>X</u> |
| d. Visually incompatible structures?   | _____ | <u>X</u> | _____ | _____    |

Impact Discussion: The Goleta Slough is visible from numerous surrounding areas, leading to potentially significant impacts to visual resources caused by dredging activities. The dredge, crane, and booster pump could potentially create periodic significant impacts to visual/aesthetic resources since the slough land use designation is public recreation/open space and environmentally sensitive habitat area. The EIR should evaluate impacts to visual resources and compatibility of dredging machinery with surrounding land uses.

Mitigation and Residual Impact: Mitigation or residual impacts not known.

16. HOUSING: Will the proposal result in:

- |  |       |       |       |              |
|--|-------|-------|-------|--------------|
| a. Loss of existing affordable dwellings through demolition, conversion, or removal? | _____ | _____ | _____ | <u>  X  </u> |
| b. Displacement of current residents?  | _____ | _____ | _____ | <u>  X  </u> |

Impact Discussion: No housing exists in the slough.

Mitigation and Residual Impact: None required.

-17. ECONOMICS: Will the proposal result in:

- |  |       |       |       |              |
|--|-------|-------|-------|--------------|
| a. Need for new employment? (Include rough calculations if available)  | _____ | _____ | _____ | <u>  X  </u> |
| b. Project costs to local government exceeding project revenues (including increased demand on social services)? | _____ | _____ | _____ | <u>  X  </u> |

Impact Discussion:

- a) The Flood Control District has the capacity to maintain the Goleta Slough without creating a need for new employment.
- b) Funding would be provided through an assessment district. Additional funding may be available through grants for coastal habitat enhancement projects from the Coastal Conservancy or other organizations. The project would not result in economic impacts as described in CEQA section 15131, and therefore, the EIR need not discuss project costs. However, project costs could be included as an optional task in the RFP.

- Mitigation and Residual Impact: None required.

- 18. RISK OF UPSET/HAZARDOUS MATERIALS (note applicant's environmental questionnaire):

- |   |                    |
|---|--------------------|
| a. In the known history of this property, have there been any past uses, storage, or discharge of hazardous materials?<br>Examples of hazardous materials include, but are not limited to, fuel or oil stored in underground tanks, pesticides, solvents, or other chemicals. | YES, gas pipelines |
| b. Will the <u>proposed</u> project involve the use, storage, or distribution of hazardous or toxic materials?  | YES, dredge fuel   |

Will the proposal result in:

- |  |       |          |       |          |
|--|-------|----------|-------|----------|
| c. A risk of an explosion or the release of hazardous substances (including, but not limited to oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event of an accident or upset conditions? | _____ | <u>X</u> | _____ | _____    |
| d. Possible interference with an emergency response plan or an emergency evacuation plan?  | _____ | _____    | _____ | <u>X</u> |
| e. The creation of a potential public health hazard?   | _____ | <u>X</u> | _____ | _____    |
| f. Public Safety hazards (e.g., due to development near existing chemical or industrial activity, producing oil wells, toxic disposal sites, etc.)?  | _____ | <u>X</u> | _____ | _____    |
| g. Exposure to hazards from oil or gas pipelines or oil well facilities?   | _____ | <u>X</u> | _____ | _____    |
| h. The contamination of a public water supply?   | _____ | _____    | _____ | <u>X</u> |

Impact Discussion: The Goleta Slough is transversed by several pipelines related to natural gas projects. Dredging activities could potentially disrupt such pipelines. In addition, transportation, storage, and use of flammable fuels required by dredging operations could potentially create a risk of upset or explosion and could lead to a public safety hazard.

The EIR should evaluate the risk of upset created by dredging activities, fuel transportation, and fuel storage. The EIR should also identify the location and contents of any pipelines located in the slough and should evaluate potential impacts that the project could have on these pipelines.

Mitigation and Residual Impact: Mitigation and residual impacts not known.

#### IV. INFORMATION SOURCES:

##### A. County Departments Consulted (underline):

Police, Fire, Public Works, Flood Control, Parks, Environmental Health, Special Districts, Regional Programs;

##### B. Comprehensive Plan (check those sources used):

<u>x</u>	Seismic Safety/	_____	Conservation Element
_____	Safety Element	<u>X</u>	Noise Element
_____	Open Space Element	_____	Circulation Element
<u>x</u>	Coastal Plan and Maps	_____	
_____	ERME		

C. Other Sources (check those sources used):

<input type="checkbox"/> Field work	<input type="checkbox"/> Ag preserve maps
<input type="checkbox"/> calculations	<input checked="" type="checkbox"/> flood control maps
<input checked="" type="checkbox"/> project plans	<input checked="" type="checkbox"/> other technical
	references (reports, survey, etc.)
<input type="checkbox"/> traffic studies/	
<input type="checkbox"/> records	<input checked="" type="checkbox"/> planning files
<input type="checkbox"/> grading plans	maps, reports
<input type="checkbox"/> elevation/	<input checked="" type="checkbox"/> zoning maps
<input type="checkbox"/> architectural	<input checked="" type="checkbox"/> soils maps/report
<input type="checkbox"/> renderings	<input checked="" type="checkbox"/> plants maps
<input checked="" type="checkbox"/> published geological	<input checked="" type="checkbox"/> archaeological maps
<input type="checkbox"/> topographical maps	and reports
	(other) _____

REFERENCES:

- 1) Department of Fish and Game, Natural Resources of Goleta Slough and Recommendations for Use and Development. State of California, 1970.
- 2) Baca, Brian, RMD Geologist; Personal communication. 8/12/92

V. PROJECT SPECIFIC (short and long term), and CUMULATIVE IMPACT SUMMARY:

- VI. MITIGATION MEASURES: The following mitigation measures, if included in this project, would avoid potentially significant adverse environmental effects:  
Mitigation measures and mitigation monitoring will be included in the EIR.



# VII. Mandatory Findings of Significance (Section 15065)

- |  |       |              |       |              |
|--|-------|--------------|-------|--------------|
| 1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of Calif. history or prehistory? | _____ | <u>  X  </u> | _____ | _____        |
| 2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?   | _____ | <u>  X  </u> | _____ | _____        |
| 3. May any aspect of the project either individually or cumulatively cause a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial?  | _____ | <u>  X  </u> | _____ | _____        |
| 4. Does the project have environmental effects which can cause substantial adverse effects on human beings, either directly or indirectly?   | _____ | <u>  X  </u> | _____ | _____        |
| 5. Is there serious public controversy over the project's environmental effects or a disagreement between experts over the significance of an effect which would require investigation of potentially significant adverse impacts in an EIR (Section 15064(h))?  | _____ | _____        | _____ | <u>  X  </u> |
| 6. Does the project have the potential to result in any of the significant effects outlined in Appendix G of the State CEQA Guidelines?  | _____ | <u>  X  </u> | _____ | _____        |

# VIII. Project Alternatives: If potentially significant, adverse unmitigable impacts would result, identify potential project alternatives to minimize these effects.

The EIR should evaluate alternatives such as reduced dredging area or altered location of dredging. The nature of the project and its objectives, however, significantly limits the range of alternatives.

# IX. Initial Review of Project Consistency with Applicable Subdivision, Zoning, and Comprehensive Plan Requirements:

The project may be consistent with applicable subdivision, zoning, and comprehensive plan requirements depending on the environmental impacts and application of mitigation measures. The EIR should discuss policy consistency.

Recommendation by DER Staff: On the basis of the Initial Study, the Staff of the Division of Environmental Review:

\_\_\_\_ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.

\_\_\_\_ Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND.

X Finds that the proposed project MAY have a significant effect on the environment, and recommends that an EIR be prepared.

\_\_\_\_ Finds that from existing documents (previous EIR's, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA Sections 15162/15163/15164 should be prepared.

Potentially significant adverse impact areas: \_\_\_\_\_

X With Public Hearing \_\_\_\_\_ Without Public Hearing

Previous document: \_\_\_\_\_

PROJECT EVALUATOR: <sup>GW</sup> Gilda Wheeler/Craig Lingham DATE: 8/17/92

SUPERVISOR: Barbara R. Shetton DATE: 8/17/92

XI. Determination by Deputy Director, DER

- ☒ I agree with staff conclusions. Preparation of the appropriate document may proceed.  
\_\_\_\_ I DO NOT agree with staff conclusions. The following actions will be taken:  
\_\_\_\_ I require consultation and further information prior to making my determination.

DATE: 8/18/92 SIGNATURE: J. Harris

REVISION DATE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

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## **APPENDIX B**

### **WATER RESOURCES TECHNICAL BACKGROUND**



## GLOSSARY

bimodal - The name of the type of a spectrum that has two peaks.

diurnal tide range - The difference between elevations at mean higher high water (MHHW) and at mean lower low water (MLLW).

estuary - The mouth of a river that enters the ocean. That part of the river affected by tidal behavior.

head - Distance to a reference datum. Used as a unit of pressure or energy in hydraulics.

histogram - A frequency-of-occurrence spectrum. In the present usage a spectrum of grain sizes in a sediment.

mean tide range - The difference between the elevations at MHW and at MLW.

modal - The most frequently occurring event.

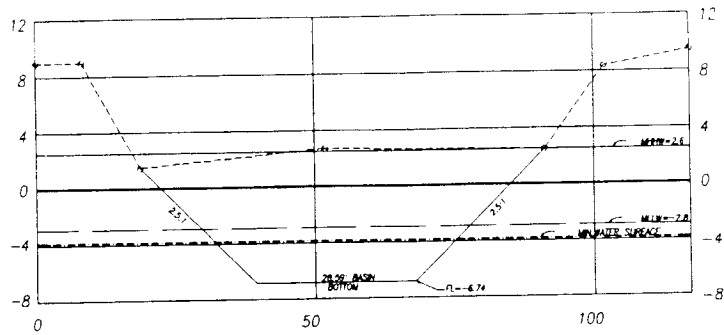
planiform - The horizontal configuration of a shoreline.

The following are drawings showing cross sections of the proposed dredging areas in Atascadero Creek, San Jose Creek, San Pedro Creek, Tecolotito Creek, and Carneros Creek.



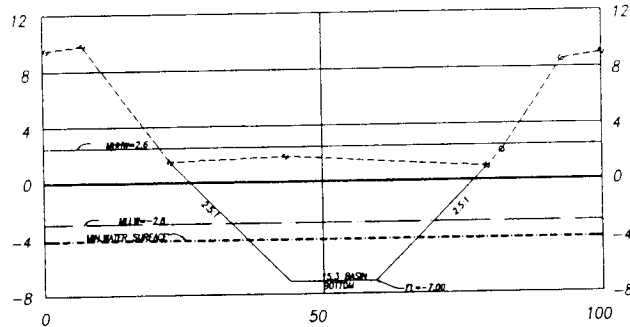
SAN PEDRO CREEK  
BASIN

X-SECTION STA 18+41  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



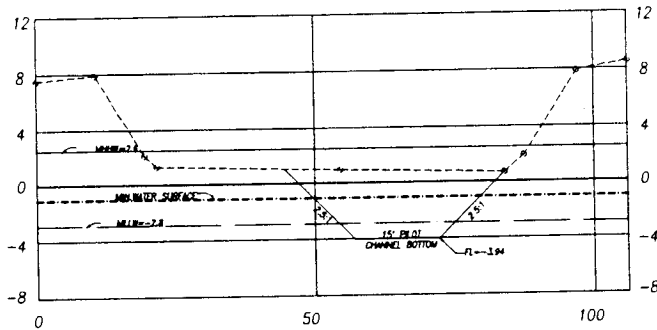
SAN PEDRO CREEK  
BASIN

X-SECTION STA 13+36  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



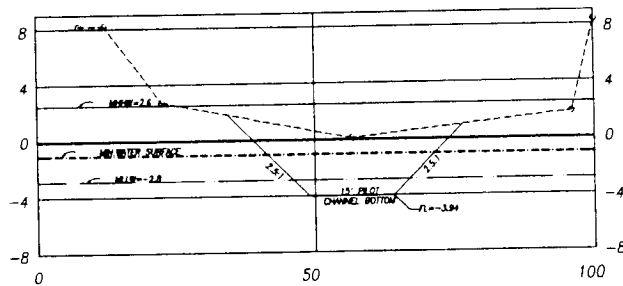
SAN PEDRO CREEK  
PILOT CHANNEL

X-SECTION STA 8+27  
SCALE  
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HORIZ. 1"=10'



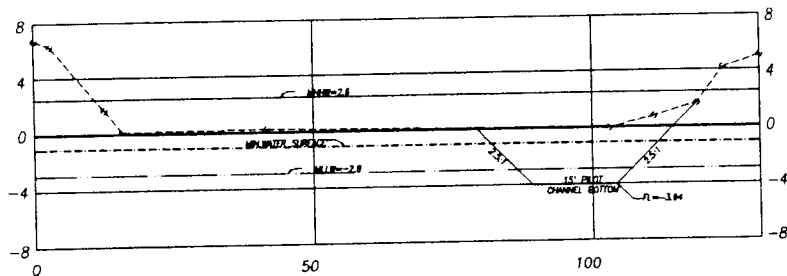
SAN PEDRO CREEK  
PILOT CHANNEL

X-SECTION STA 2+90  
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VERT. 1"=4'  
HORIZ. 1"=10'



SAN PEDRO CREEK  
PILOT CHANNEL

X-SECTION STA 0+00  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'

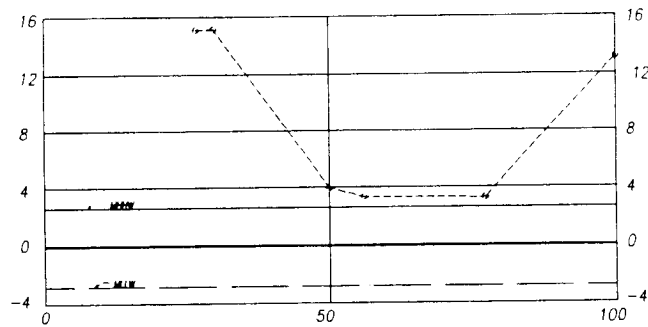


GOLETA SLOUGH CROSS-SECTIONS  
SAN PEDRO CREEK 0+00 TO 18+41  
C.M.I.S. PROJECT # SC7701

# SAN PEDRO CREEK

X-SECTION STA. 36+56

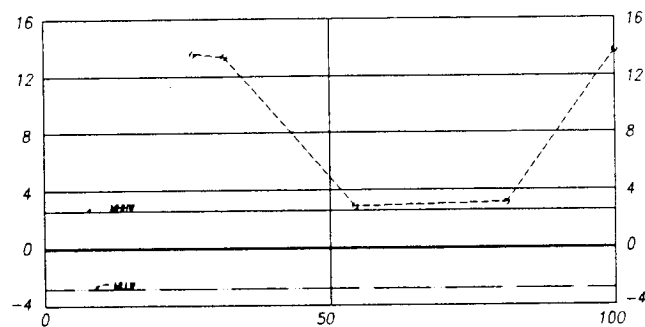
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# SAN PEDRO CREEK

X-SECTION STA. 32+31

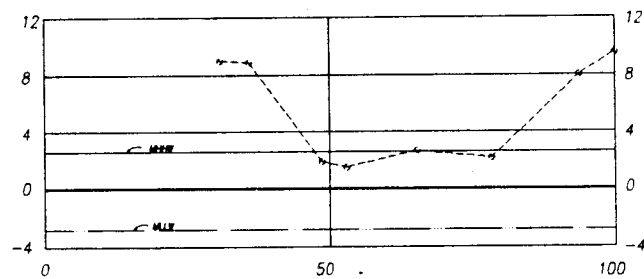
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HORIZ. 1"=10'



# SAN PEDRO CREEK

X-SECTION STA. 28+41

SCALE  
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HORIZ. 1"=10'

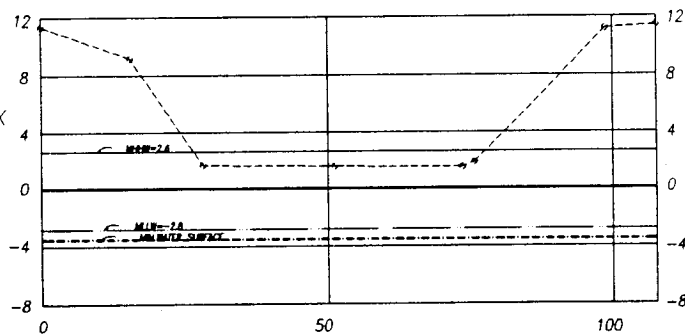


# SAN PEDRO CREEK

BASIN

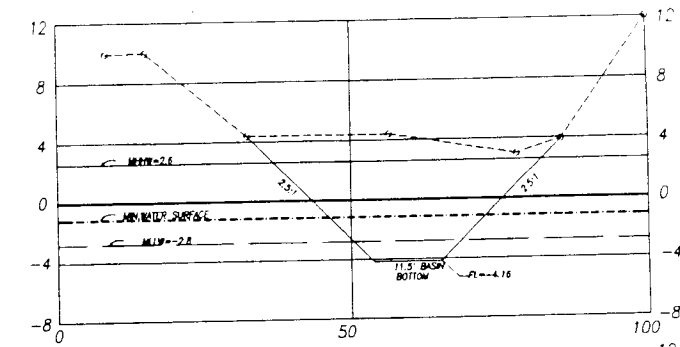
X-SECTION STA. 23+44

SCALE  
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HORIZ. 1"=10'

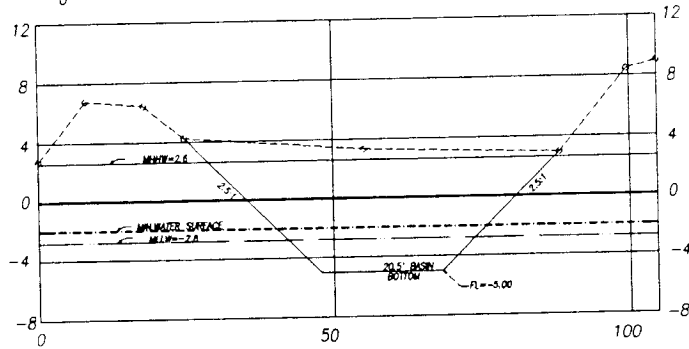


GOLETA SLOUGH CROSS-SECTIONS  
SAN PEDRO CREEK 23+44 TO 36+56  
C.M.I.S. PROJECT # SC7701

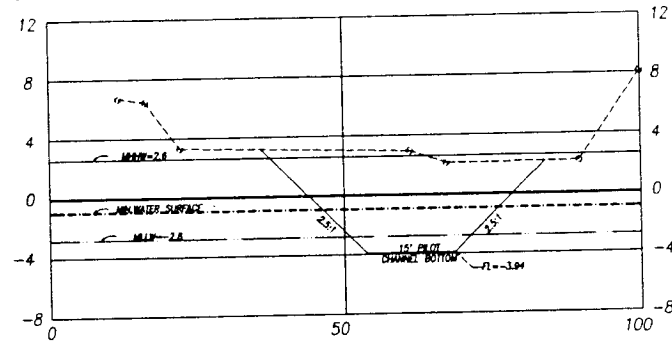
SAN JOSE CREEK  
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X-SECTION STA. 18+59  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



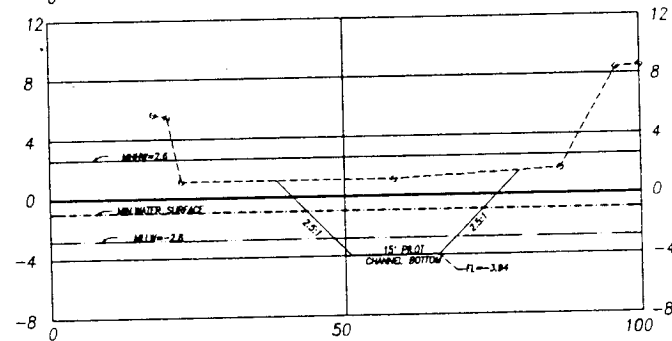
SAN JOSE CREEK  
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X-SECTION STA. 13+63  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



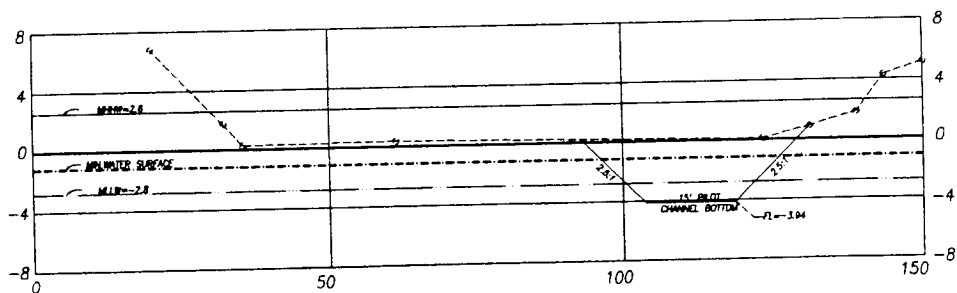
SAN JOSE CREEK  
PILOT CHANNEL  
X-SECTION STA. 8+58  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



SAN JOSE CREEK  
PILOT CHANNEL  
X-SECTION STA. 3+00  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'

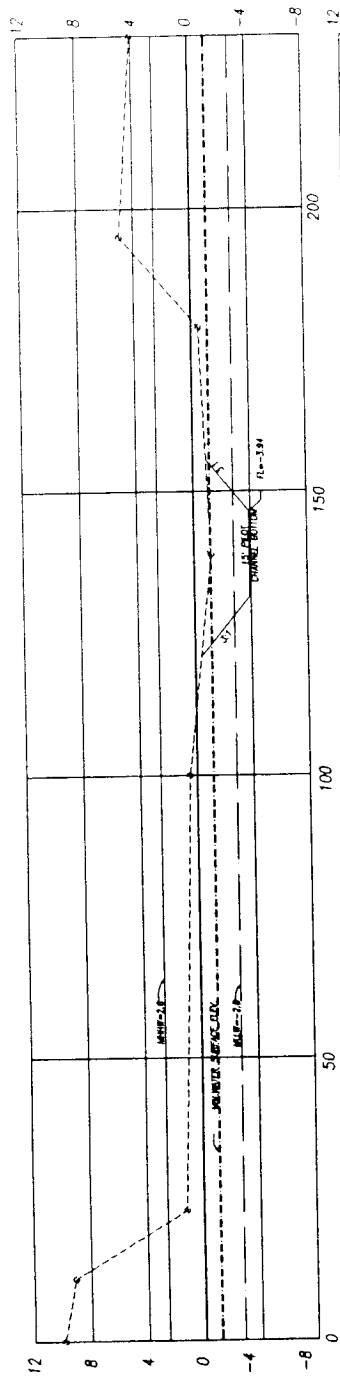


SAN JOSE CREEK  
PILOT CHANNEL  
X-SECTION STA. 0+00  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'

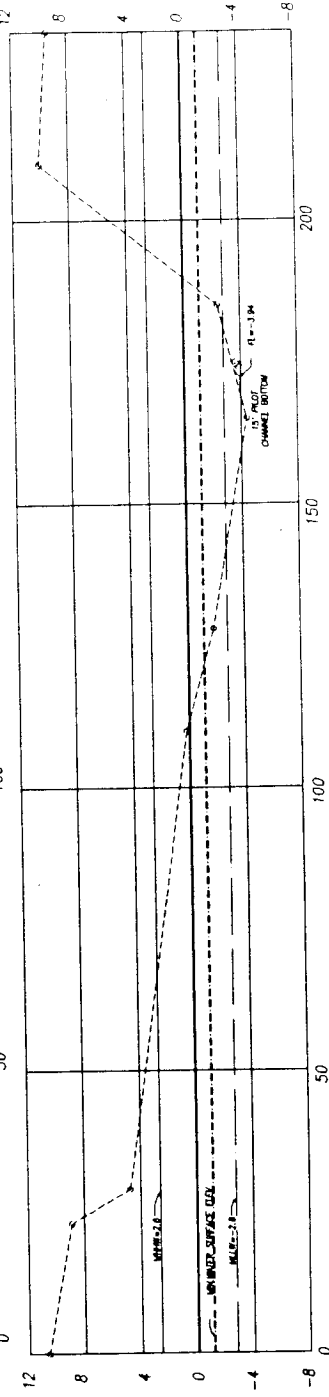


GOLETA SLOUGH CROSS-SECTIONS  
SAN JOSE CREEK 0+00 TO 18+59  
C.M.I.S. PROJECT # SC7701

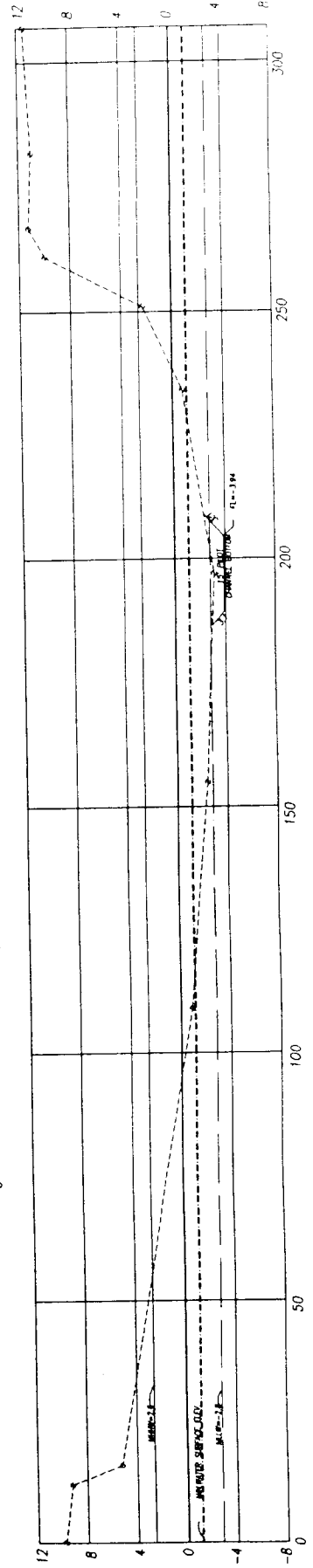
ATASCADERO CREEK  
PILOT CHANNEL  
X-SECTION STA. 9+99.89  
SCALE: HORIZ. 1"=10'  
VERT. 1"=4'



ATASCADERO CREEK  
PILOT CHANNEL  
X-SECTION STA. 3+56.48  
SCALE: HORIZ. 1"=10'  
VERT. 1"=4'

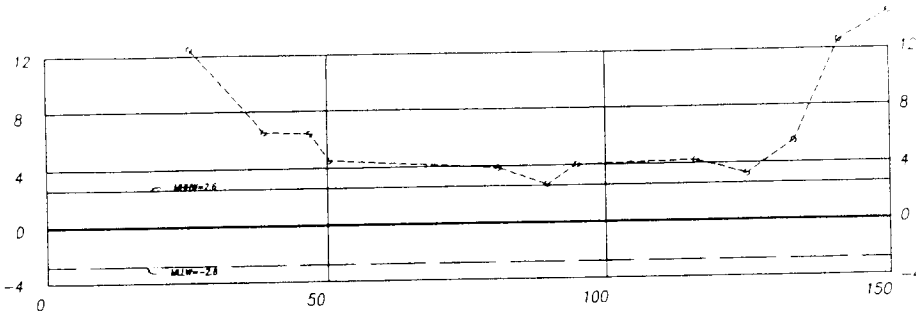


ATASCADERO CREEK  
PILOT CHANNEL  
X-SECTION STA. 0+00  
SCALE: HORIZ. 1"=10'  
VERT. 1"=4'



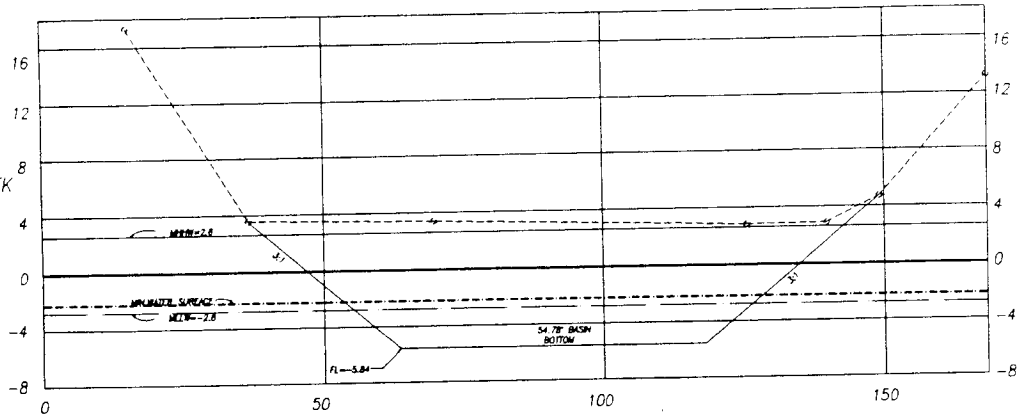
# ATASCADERO CREEK BASIN

X-SECTION STA 42+93.98  
SCALE  
VERT: 1"=4'  
HORZ: 1"=10'



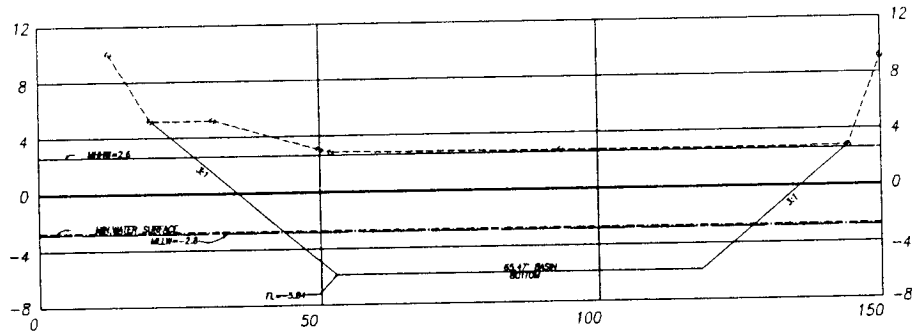
# ATASCADERO CREEK BASIN

X-SECTION STA 37+06.00  
SCALE  
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HORZ: 1"=10'



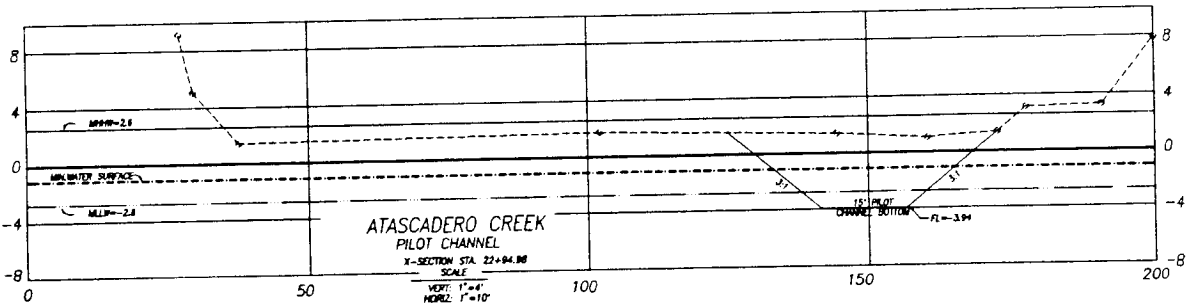
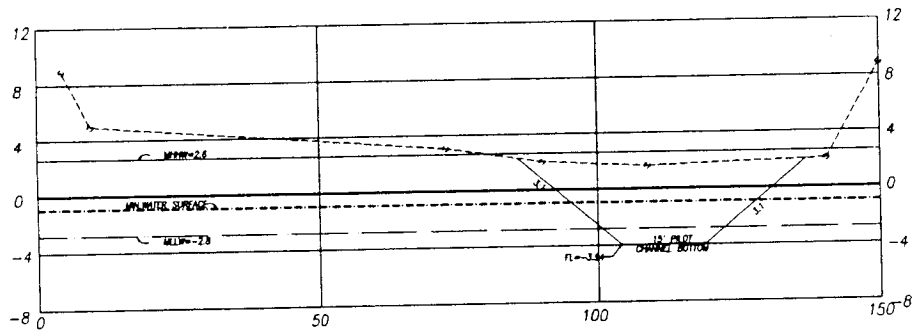
# ATASCADERO CREEK BASIN

X-SECTION STA 32+05.00  
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HORZ: 1"=10'

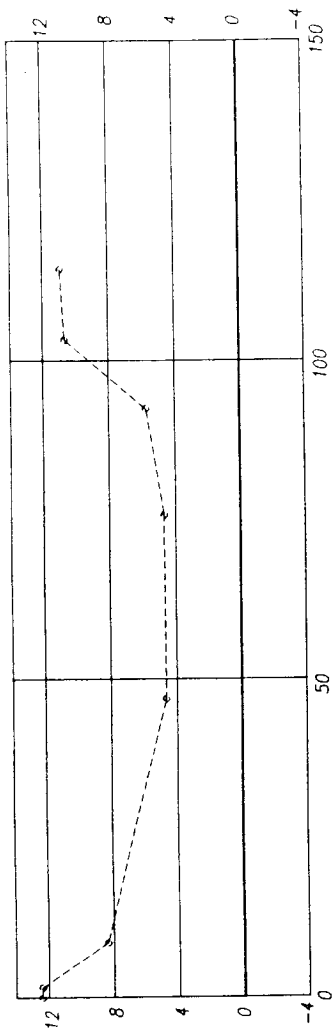


# ATASCADERO CREEK PILOT CHANNEL

X-SECTION STA 27+67.00  
SCALE  
VERT: 1"=4'  
HORZ: 1"=10'

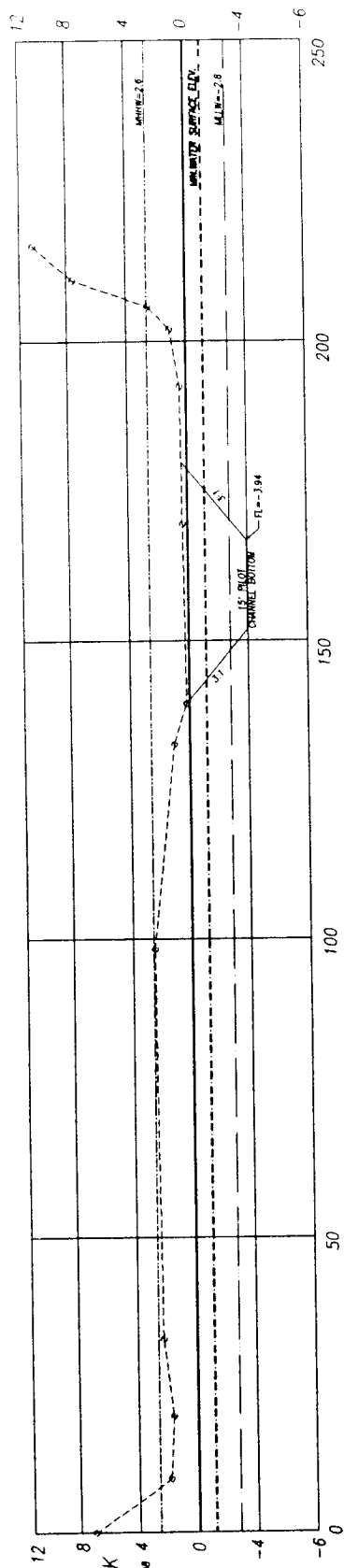


GOLETA SLOUGH CROSS-SECTIONS  
ATASCADERO CREEK 22+94.98 TO 42+99.98  
C.M.I.S. PROJECT # SC7701



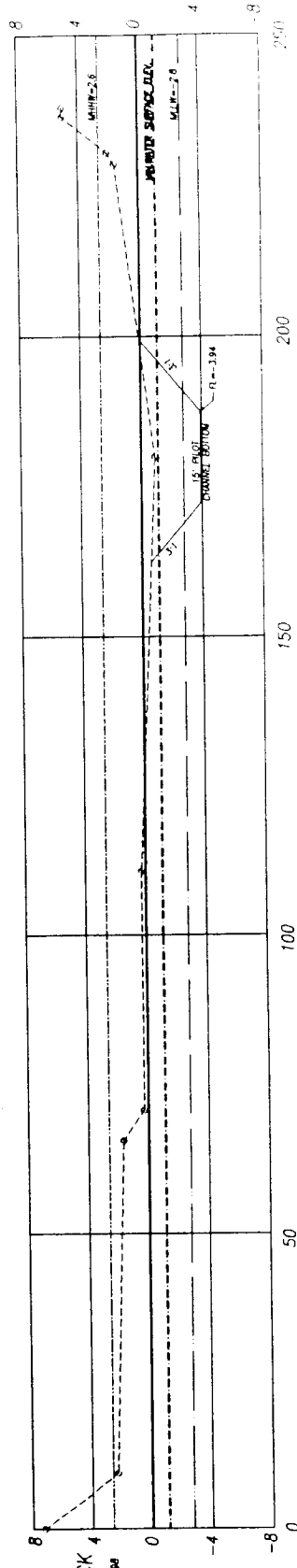
SAN JOSE CREEK  
X-SECTION STA 23+85

SCALE  
VERT: 1"=4"  
HORIZ: 1"=10"



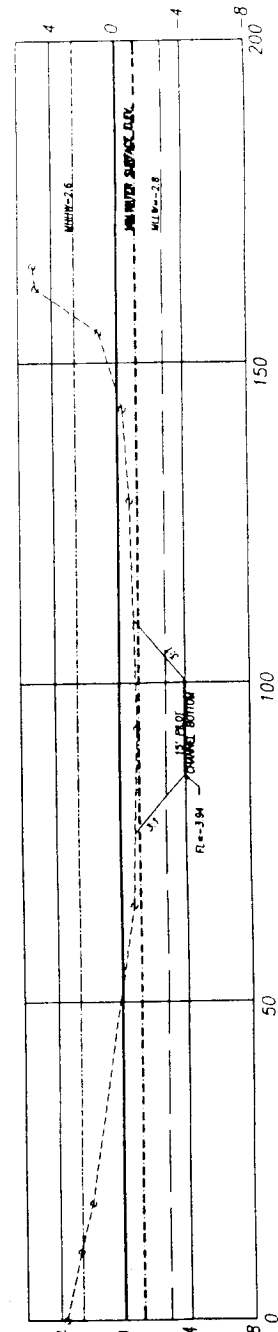
ATASCADERO CK  
PILOT CHANNEL

SCALE  
VERT: 1"=4"  
HORIZ: 1"=10"



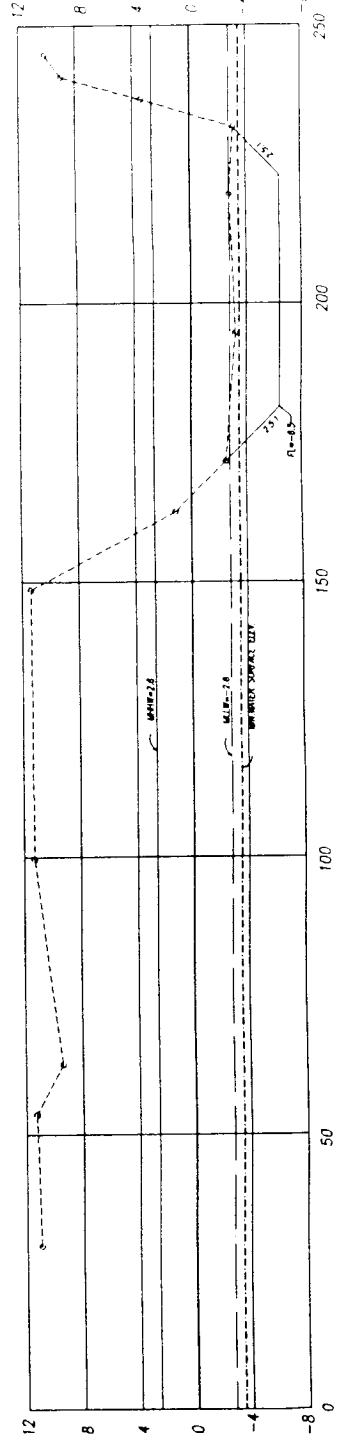
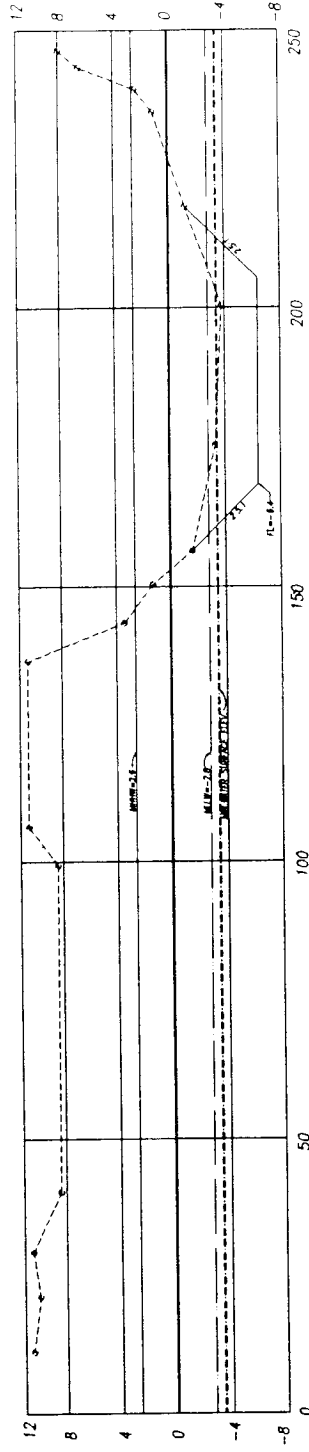
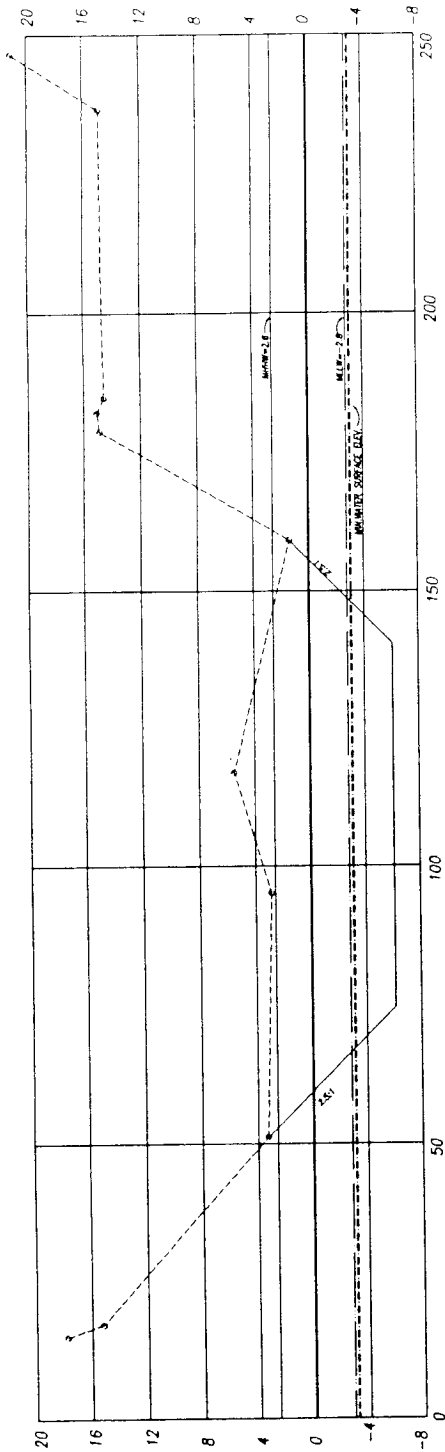
ATASCADERO CK  
PILOT CHANNEL

SCALE  
VERT: 1"=4"  
HORIZ: 1"=10"



ATASCADERO CREEK  
PILOT CHANNEL

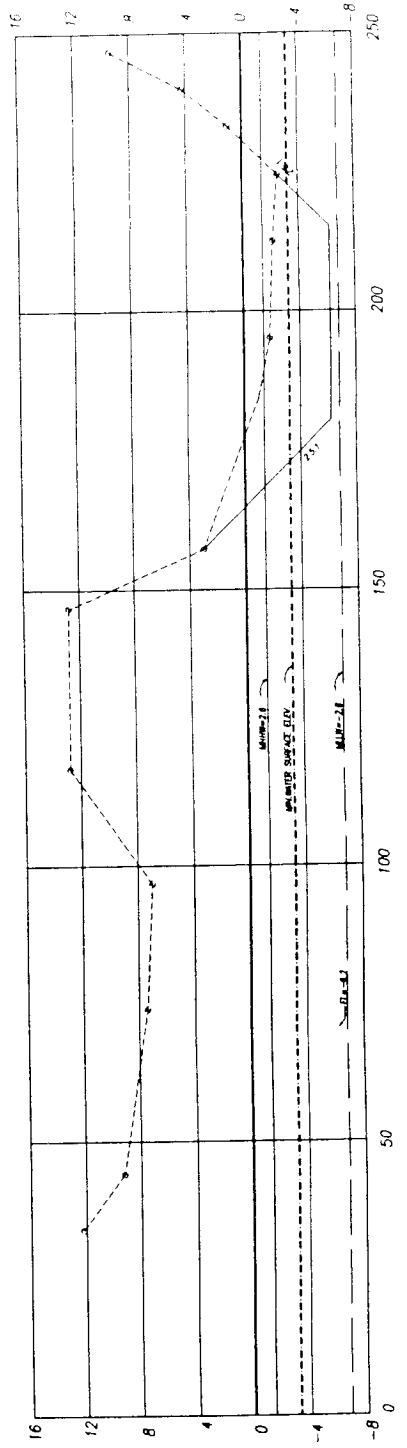
SCALE  
VERT: 1"=4"  
HORIZ: 1"=10"



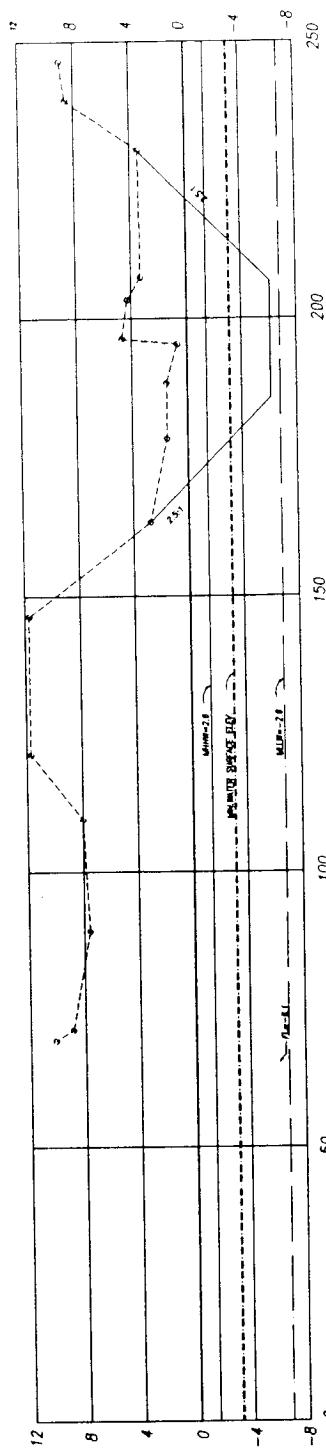


GOLETA SLOUGH CROSS SECTIONS  
LOS CARNEROS CREEK  
C.M.S. PROJECT # SC7701

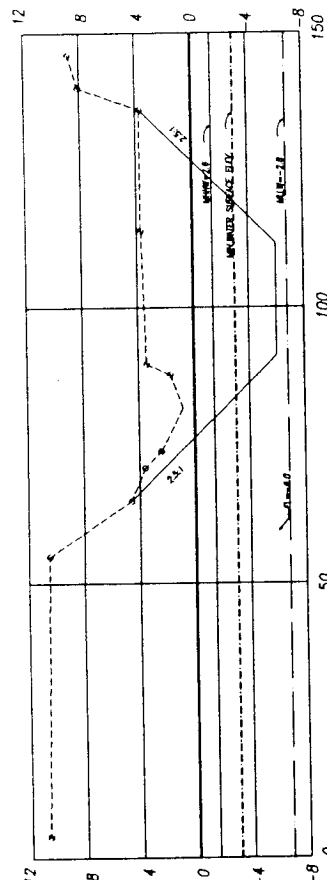
LOS CARNEROS CREEK  
BASIN  
X-SECTION STN. 231+36  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



LOS CARNEROS CREEK  
BASIN  
X-SECTION STN. 231+73  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'

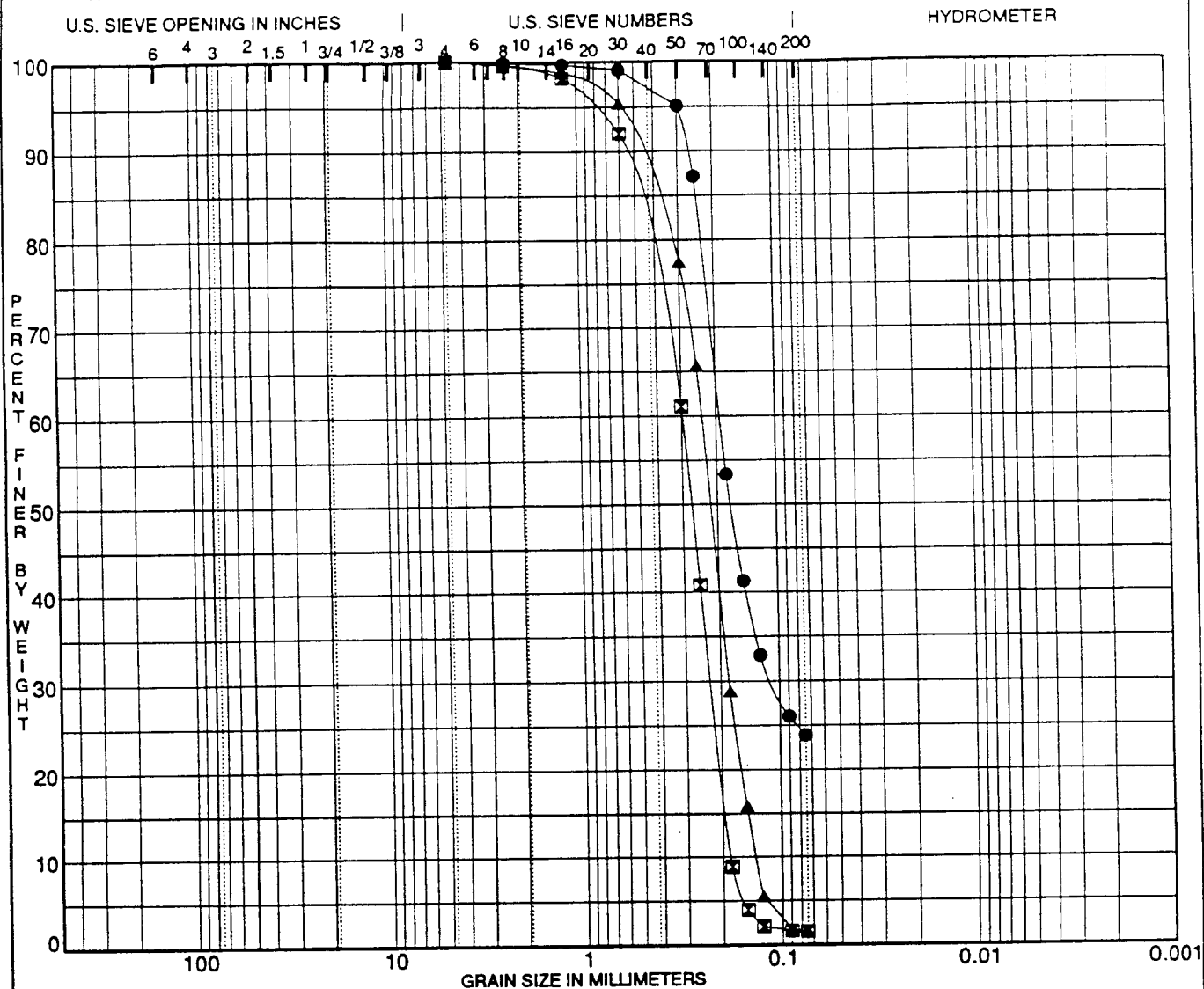


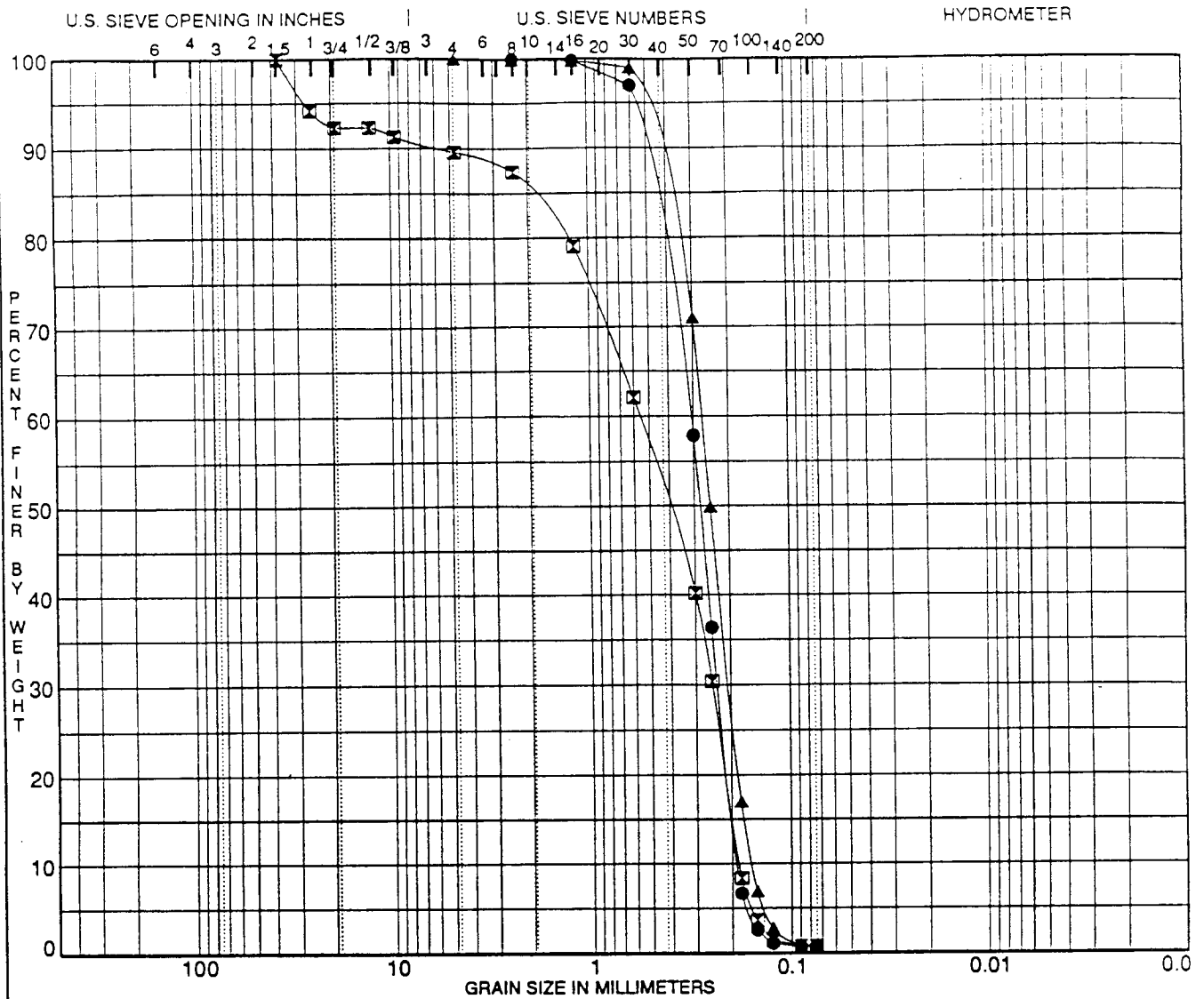
LOS CARNEROS CREEK  
BASIN  
X-SECTION STN. 231+78  
SCALE  
VERT. 1"=4'  
HORIZ. 1"=10'



The following are sieve analyses performed by K-C Geotechnical Associates  
for the proposed project.







COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● #4	0.0 feet	0.9	1.7	Poorly graded SAND (SP)
☐ #5	0.0 feet	0.6	3.0	Poorly graded SAND (SP)
▲ #6	0.0 feet	1.0	1.7	Poorly graded SAND (SP)

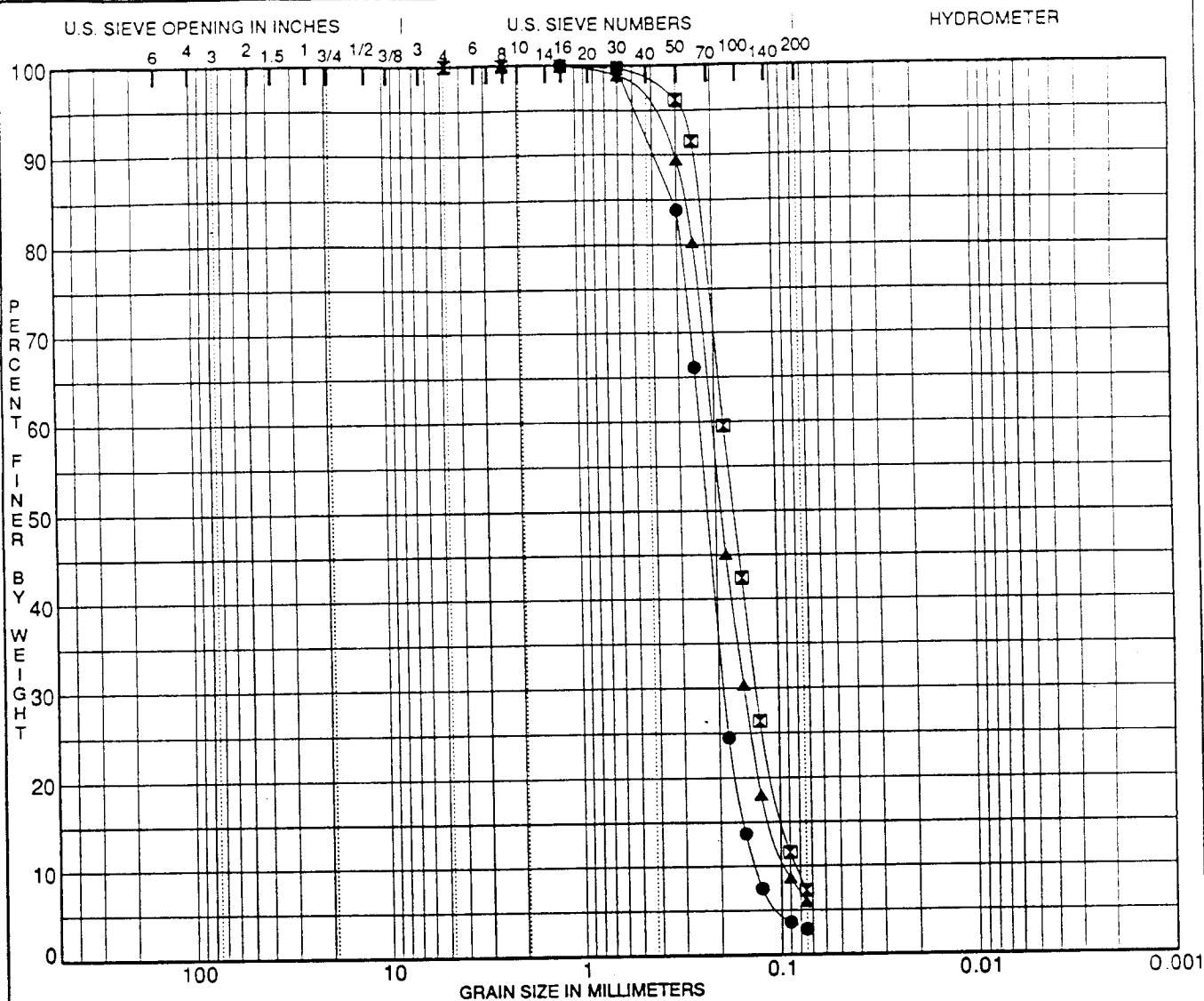
Goleta Slough Dredging Project

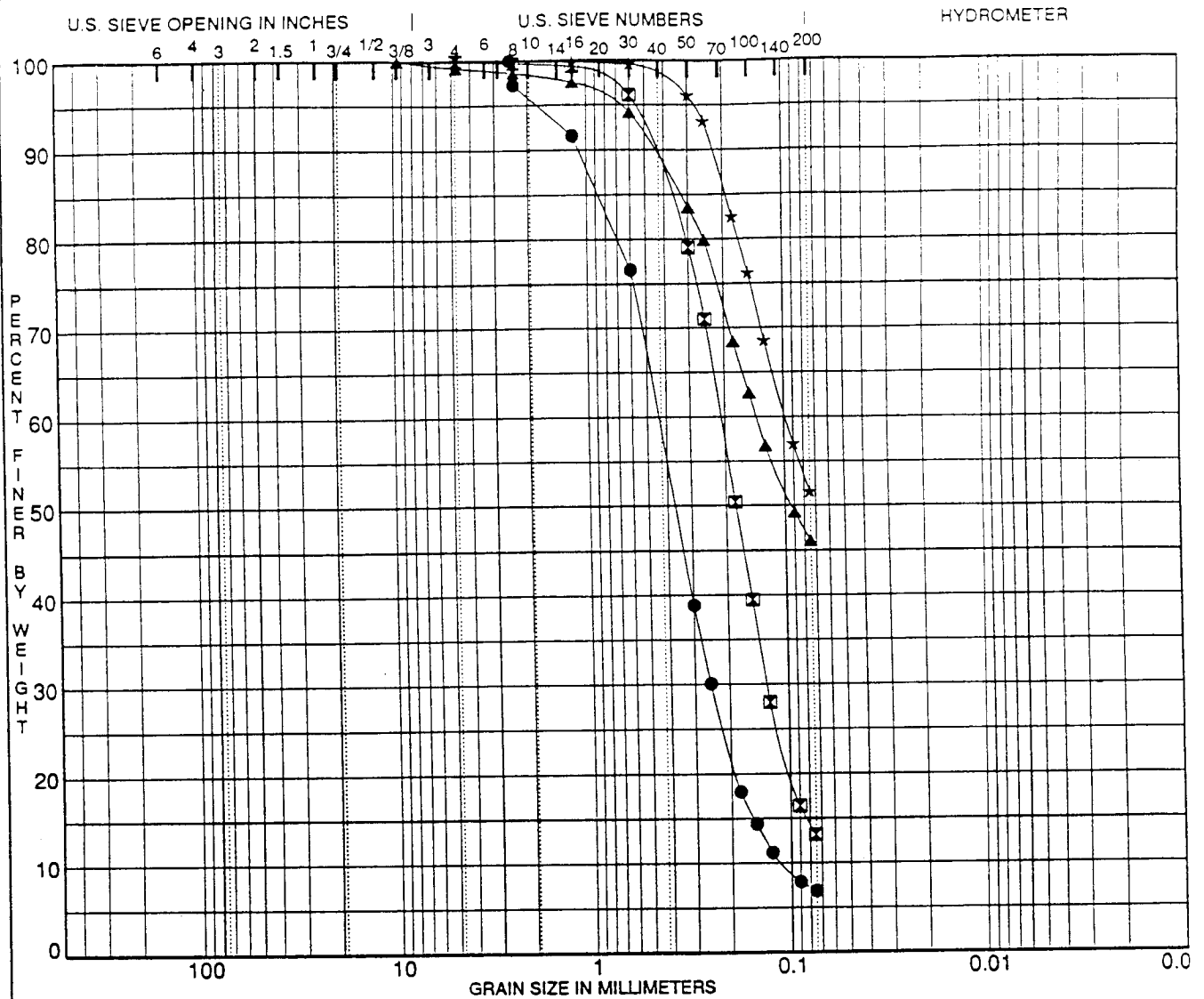
## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01

Figure B-2

K-C GEOTECHNICAL ASSOCIATES





COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 1-3	3.0 feet	1.3	4.0	Poorly graded SAND with silt (SP-SM)
□ 1-5	6.0 feet			Silty SAND (SM)
▲ 1-7	9.0 feet			Clayey SAND (SC)
★ 1-9	12.5 feet			Sandy lean CLAY (CL)

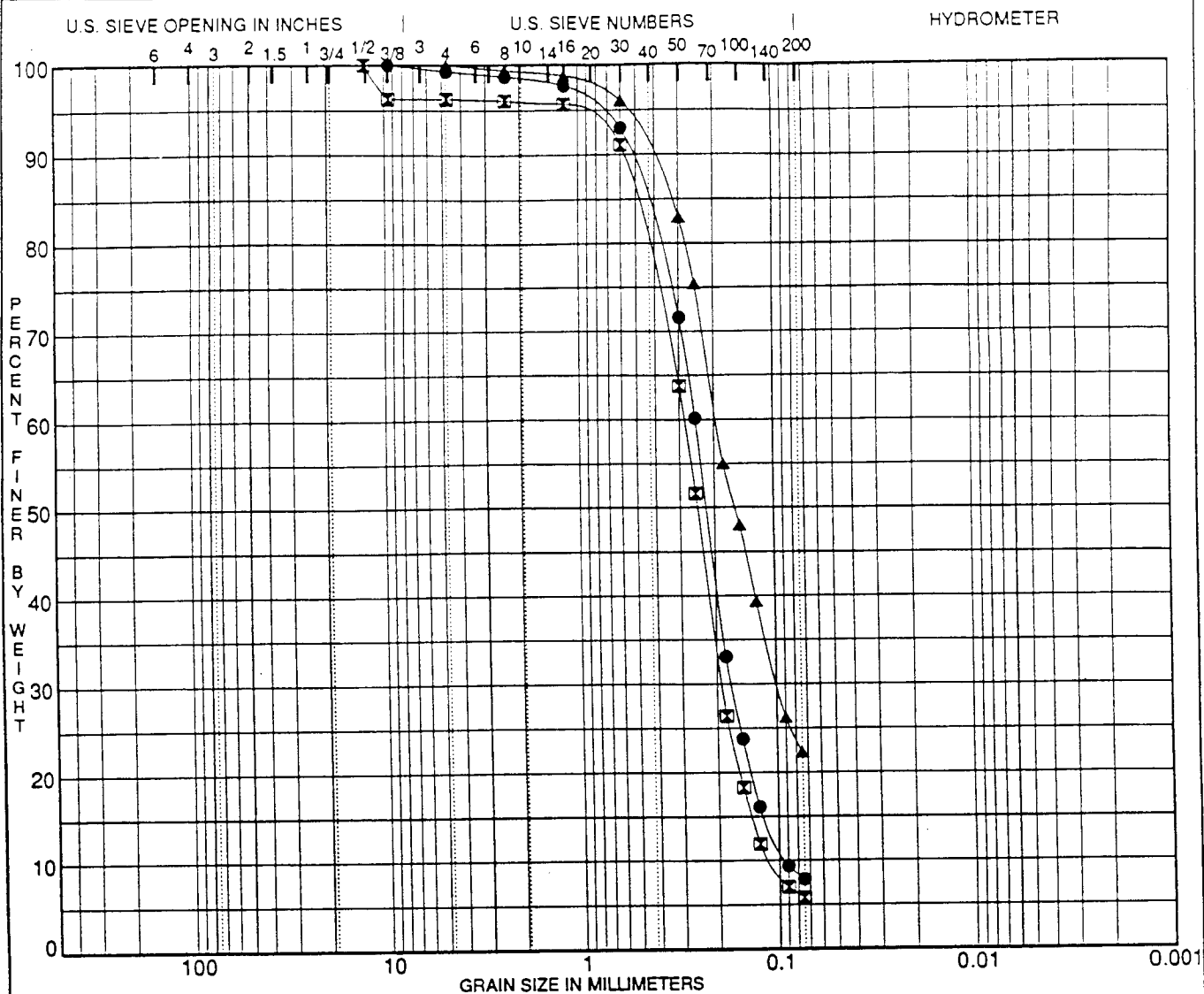
Goleta Slough Dredging Project

## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01  
Figure B-4

K-C GEOTECHNICAL ASSOCIATE





COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

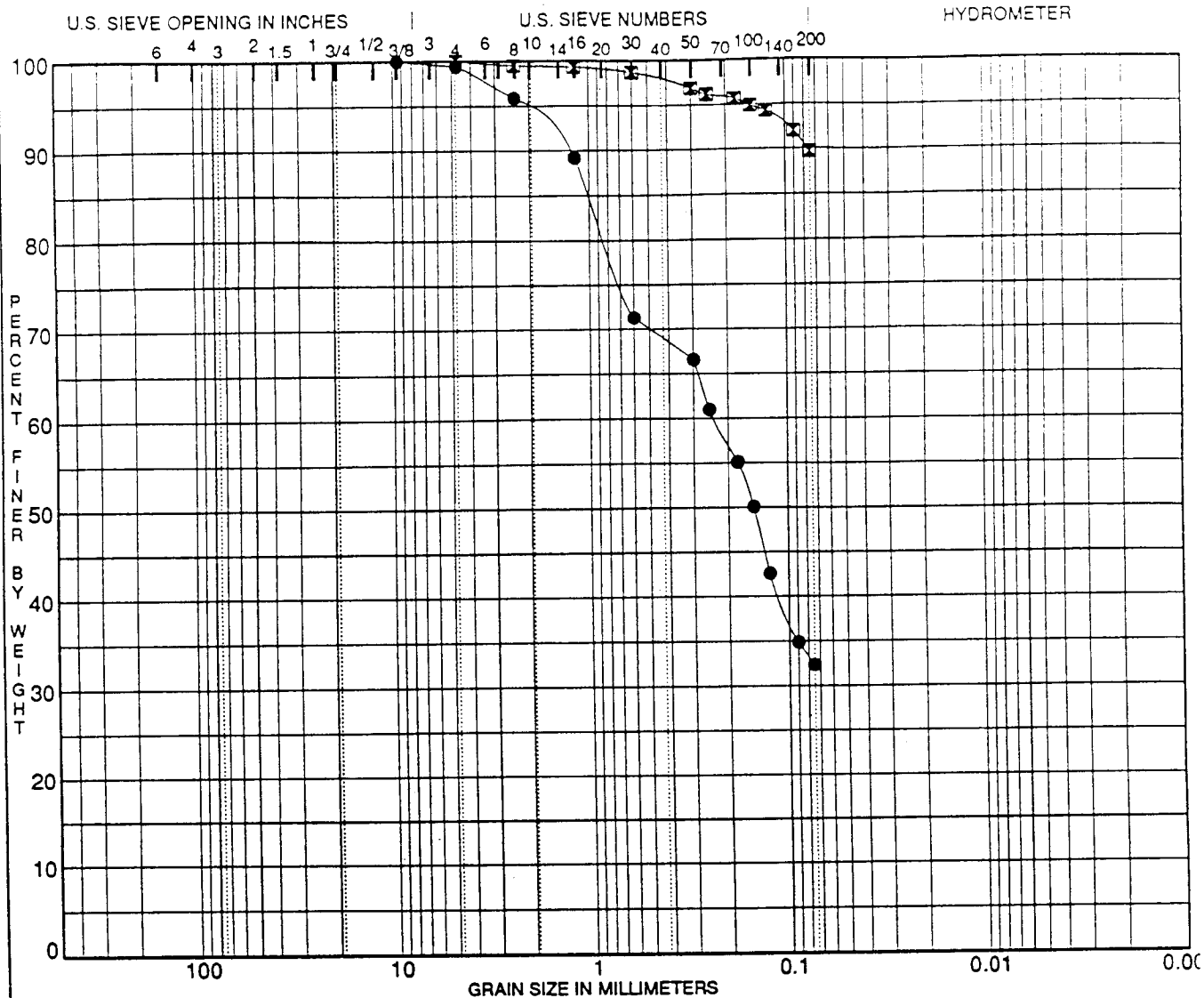
Sample No.	Depth	Cc	Cu	Classification
● 2-2	1.0 feet	1.2	2.7	Poorly graded SAND with silt (SP-SM)
☒ 2-4	4.0 feet	1.1	2.6	Poorly graded SAND with silt (SP-SM)
▲ 2-7	7.0 feet			Silty SAND (SM)

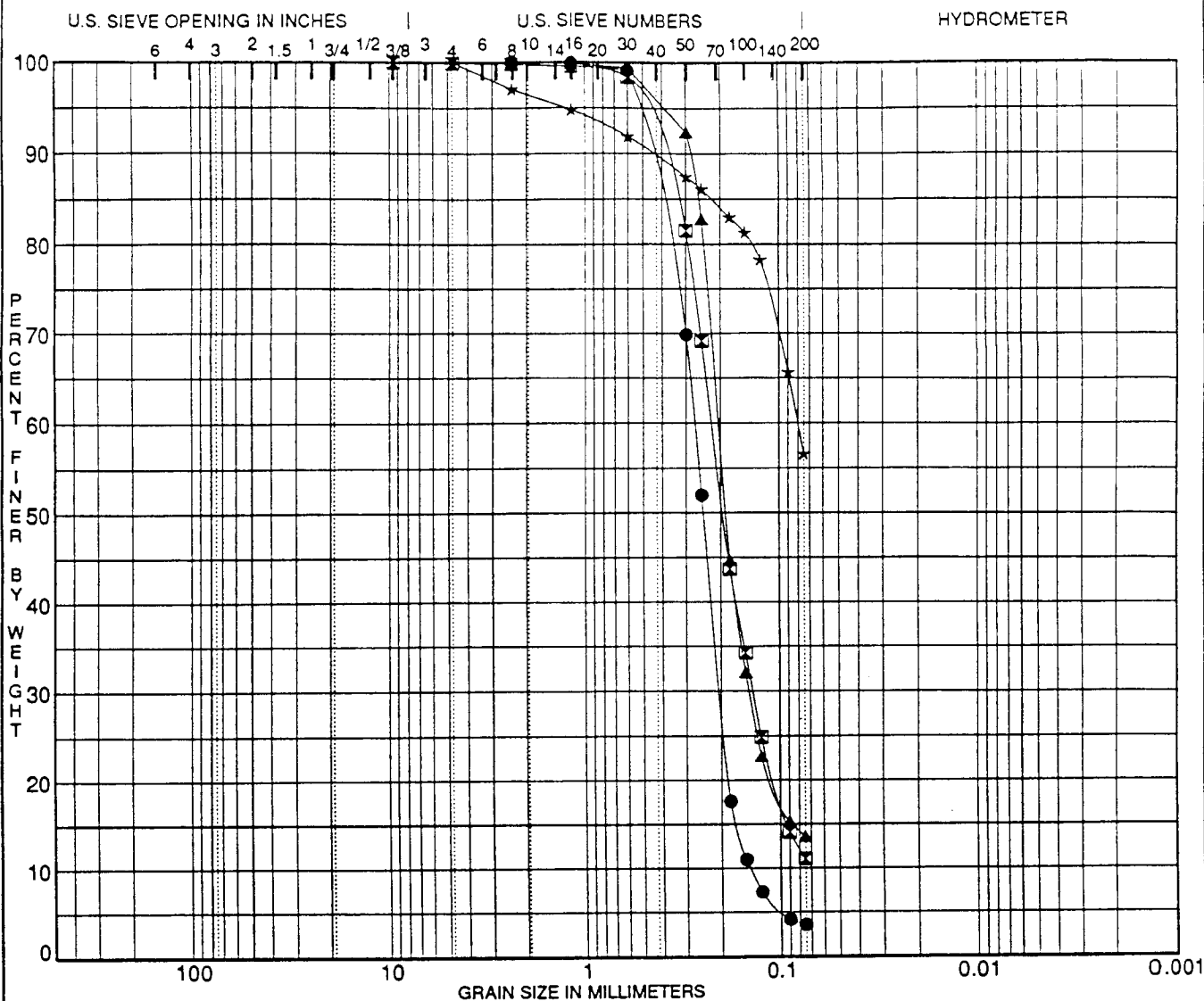
Goleta Slough Dredging Project

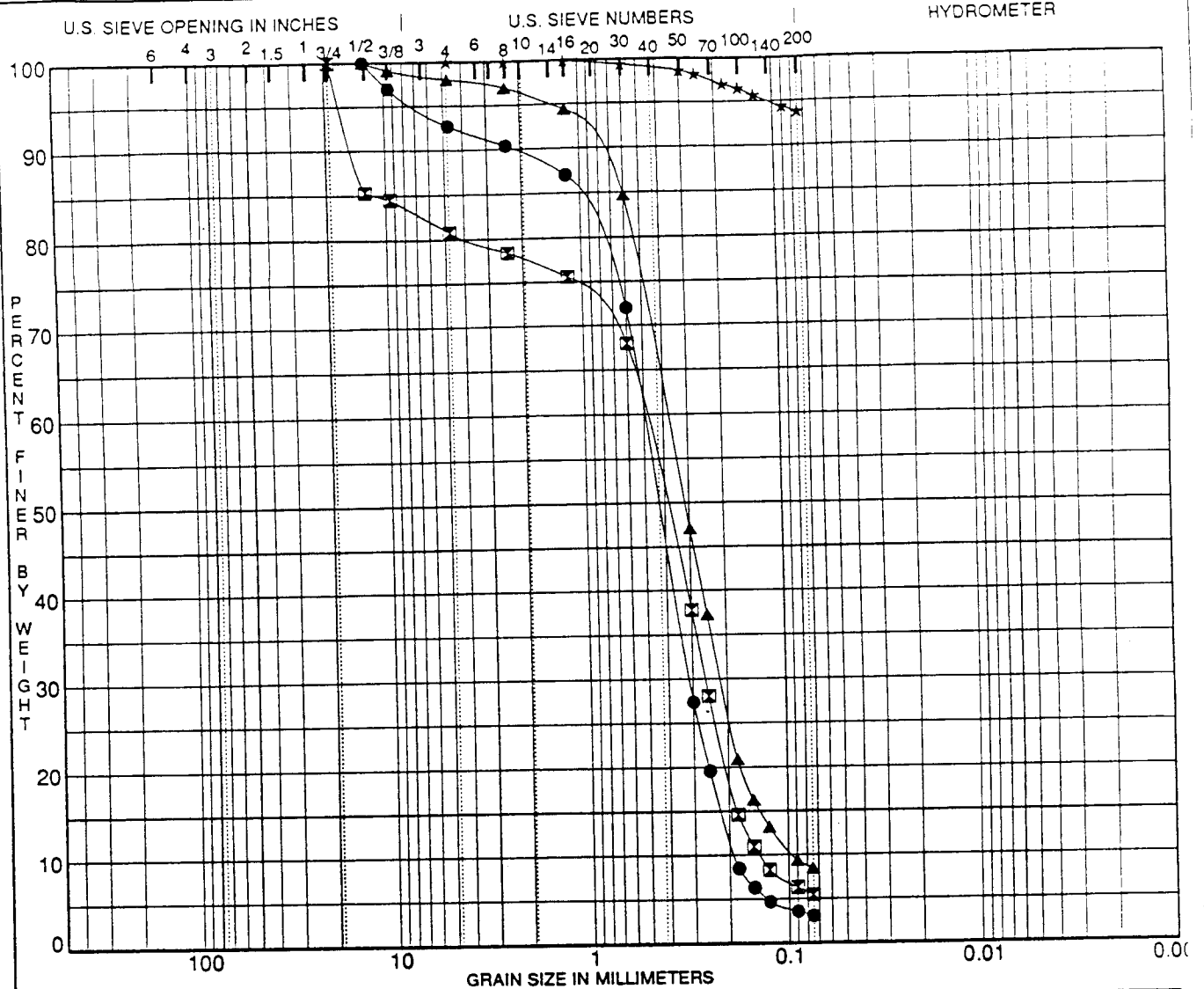
## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01  
Figure B-5

K-C GEOTECHNICAL ASSOCIATES







COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 4-2	1.0 feet	1.0	2.6	Poorly graded SAND (SP)
□ 4-4	4.0 feet	1.0	3.6	Poorly graded SAND with gravel (SP)
▲ 4-6	7.0 feet	1.3	4.0	Poorly graded SAND with silt (SP-SM)
★ 4-9	12.5 feet			SILT (ML)

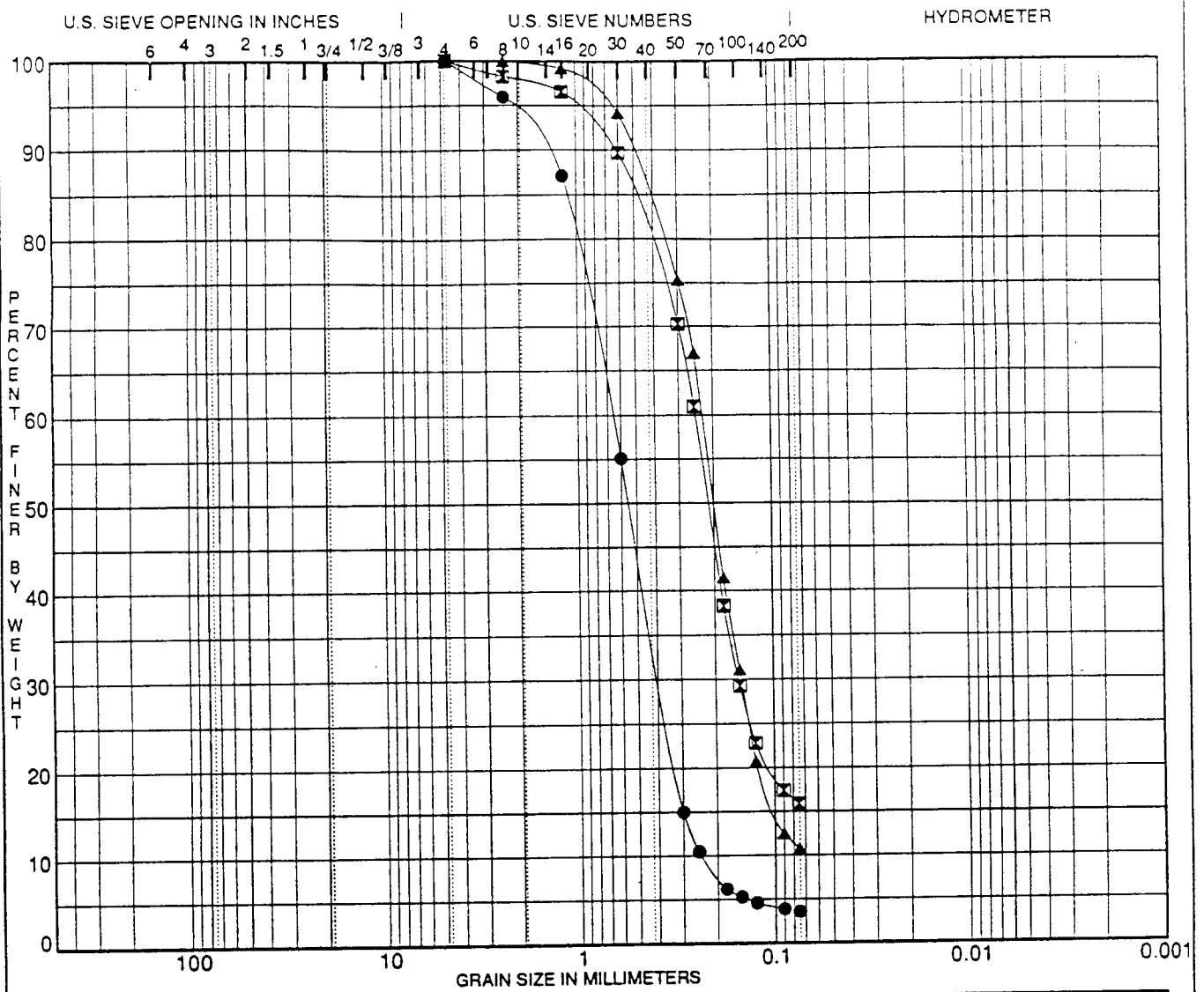
Goleta Slough Dredging Project

## GRAIN SIZE DISTRIBUTION

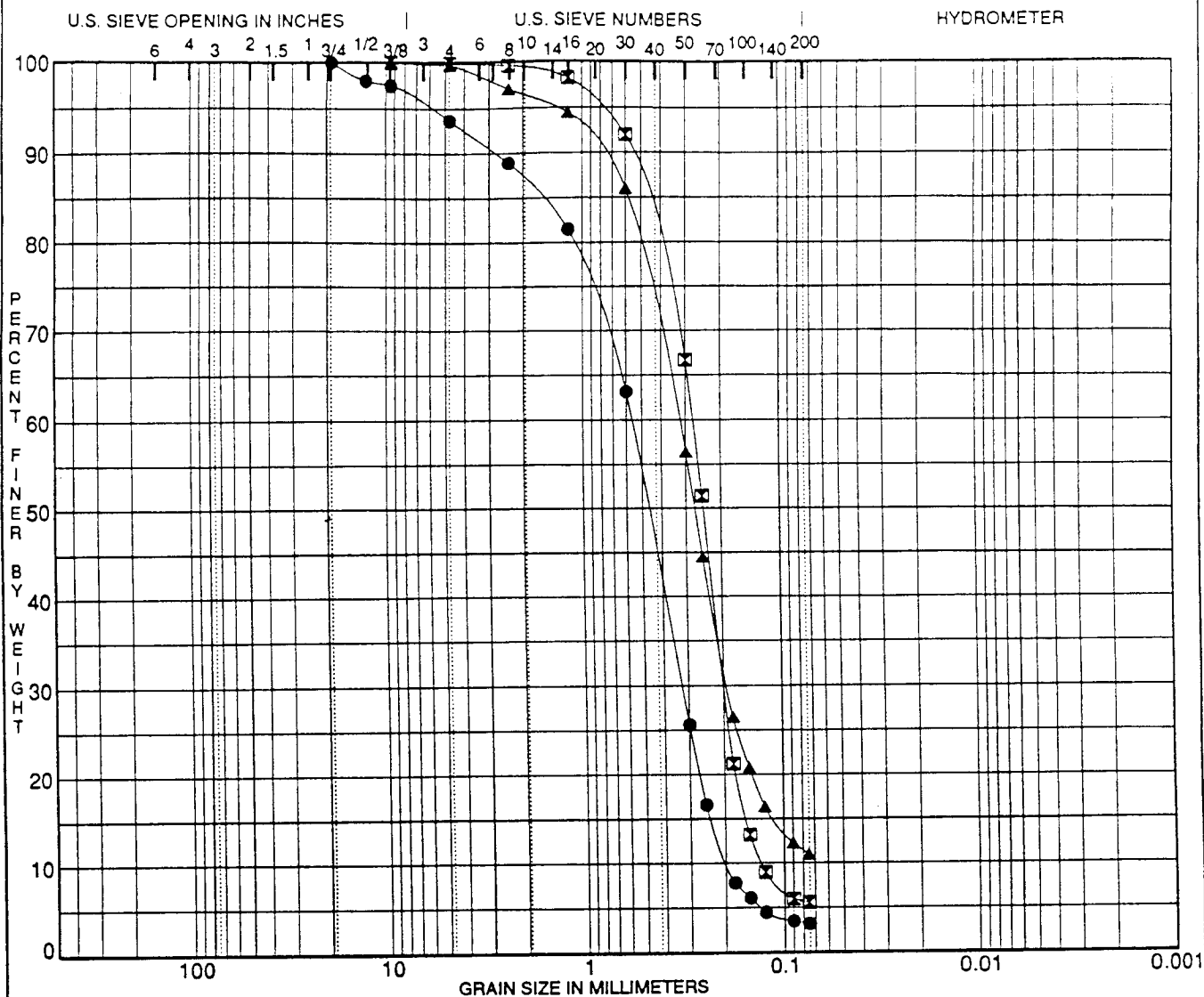
File No. KC-1654-01

Figure B-8

K-C GEOTECHNICAL ASSOCIATE







COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 6-2	1.0 feet	1.0	2.9	Poorly graded SAND (SP)
□ 6-4	4.0 feet	1.1	2.1	Poorly graded SAND with silt (SP-SM)
▲ 6-6	8.5 feet	1.6	4.7	Poorly graded SAND with silt (SP-SM)

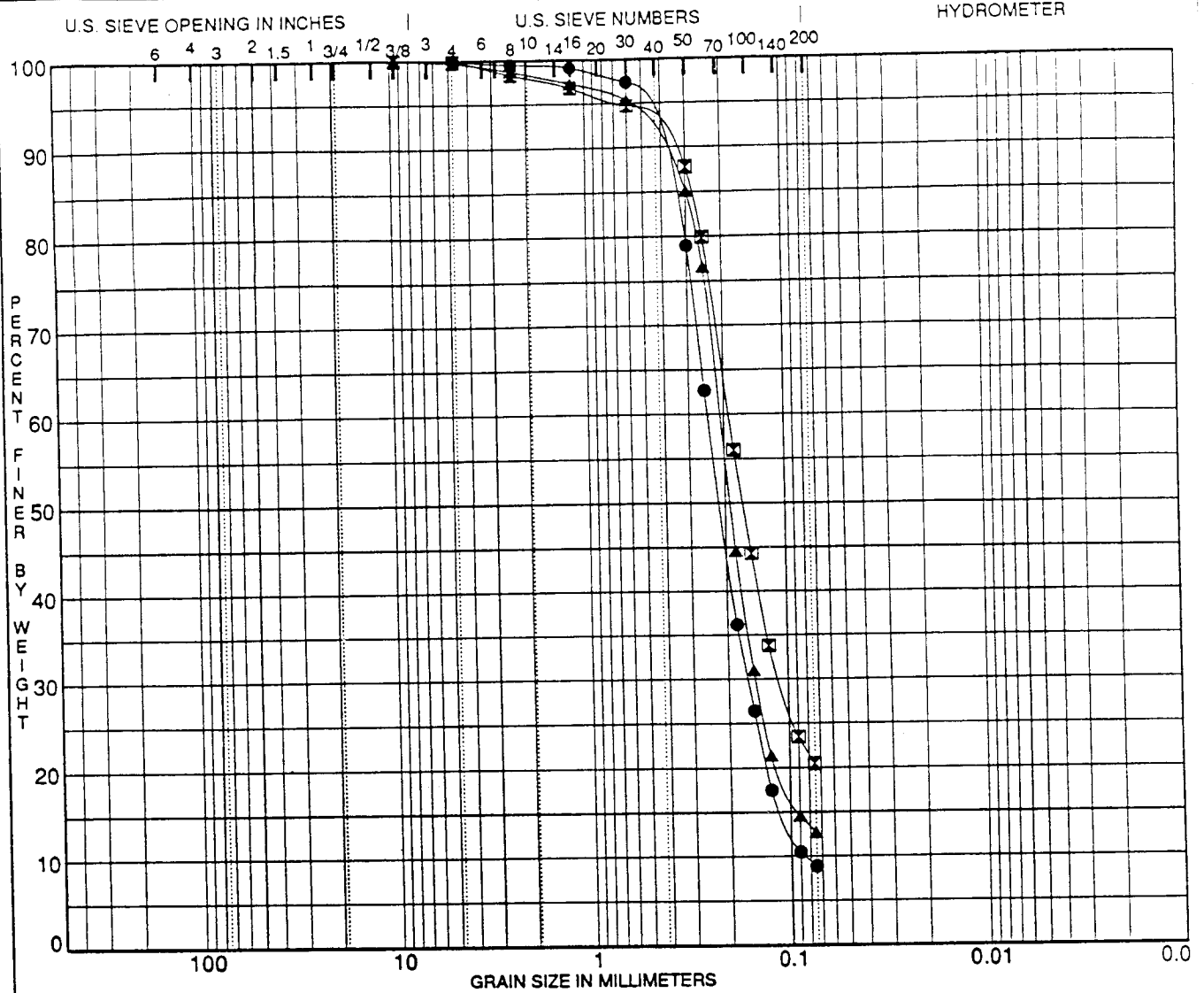
Goleta Slough Dredging Project

## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01  
Figure B-11

K-C GEOTECHNICAL ASSOCIATES





COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 7-2	1.0 feet	1.3	2.8	Poorly graded SAND with silt (SP-SM)
⊠ 7-4	4.0 feet			Silty SAND (SM)
▲ 7-6	7.0 feet			Silty SAND (SM)

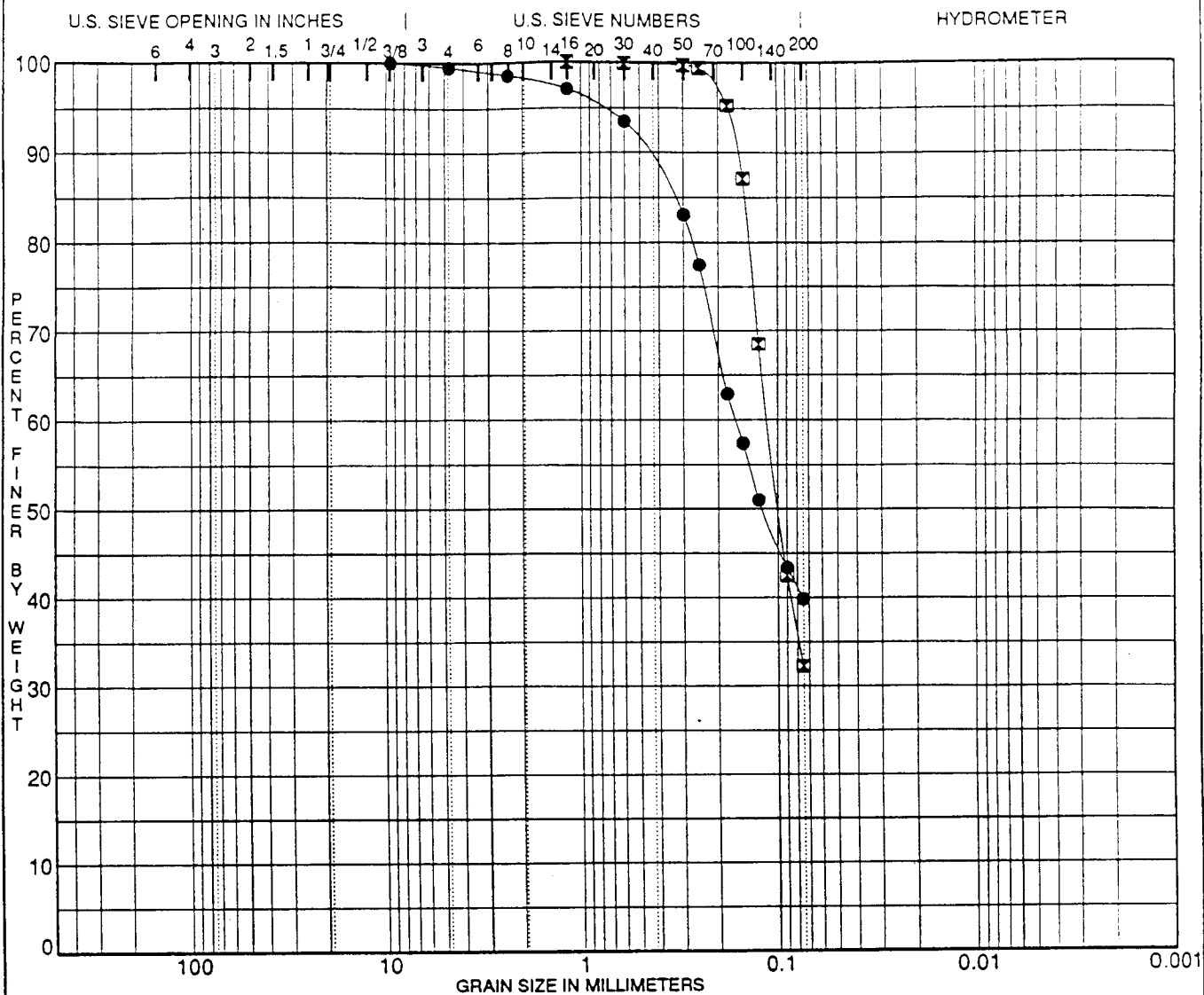
Goleta Slough Dredging Project

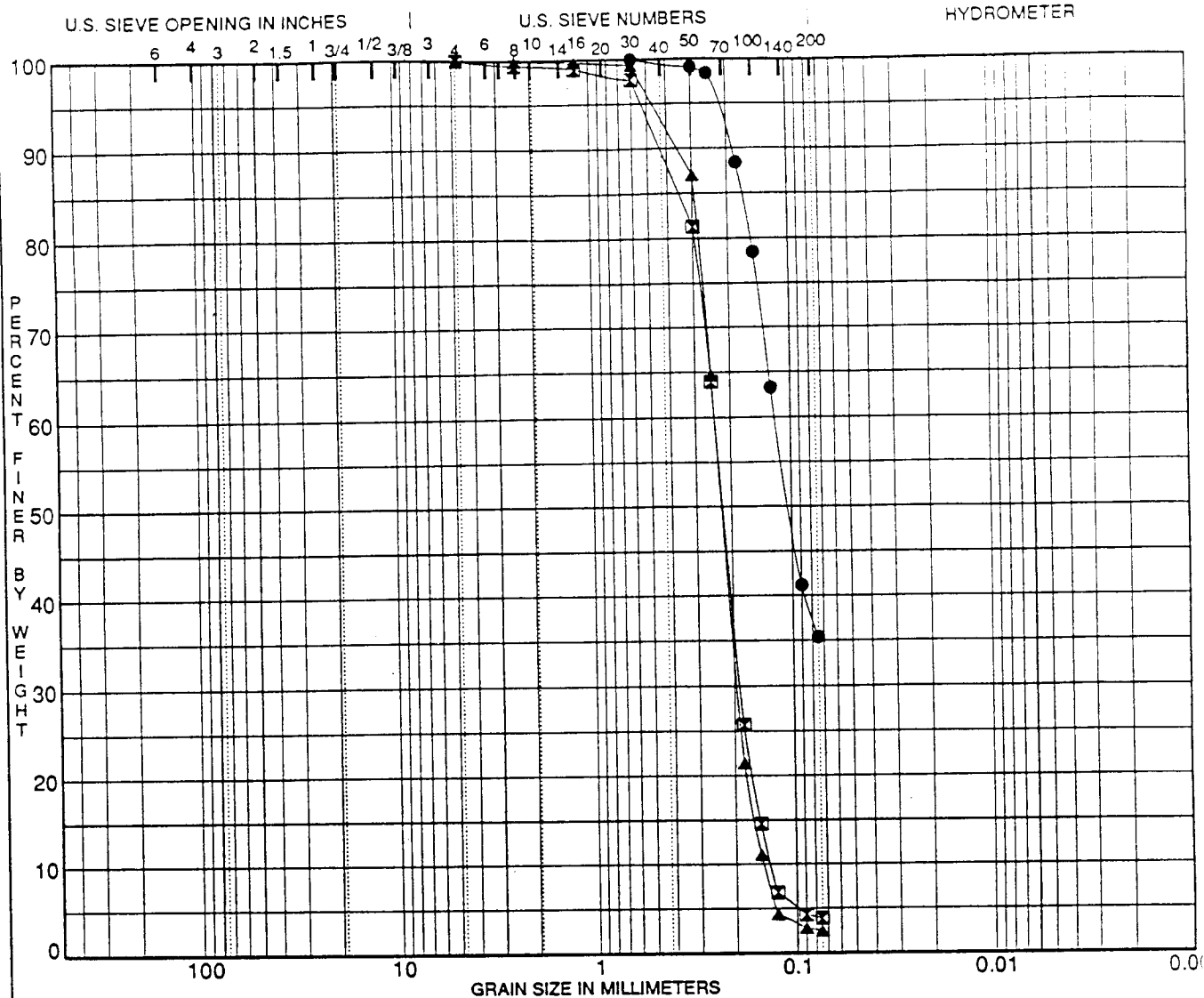
## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01

Figure B-12

K-C GEOTECHNICAL ASSOCIATE

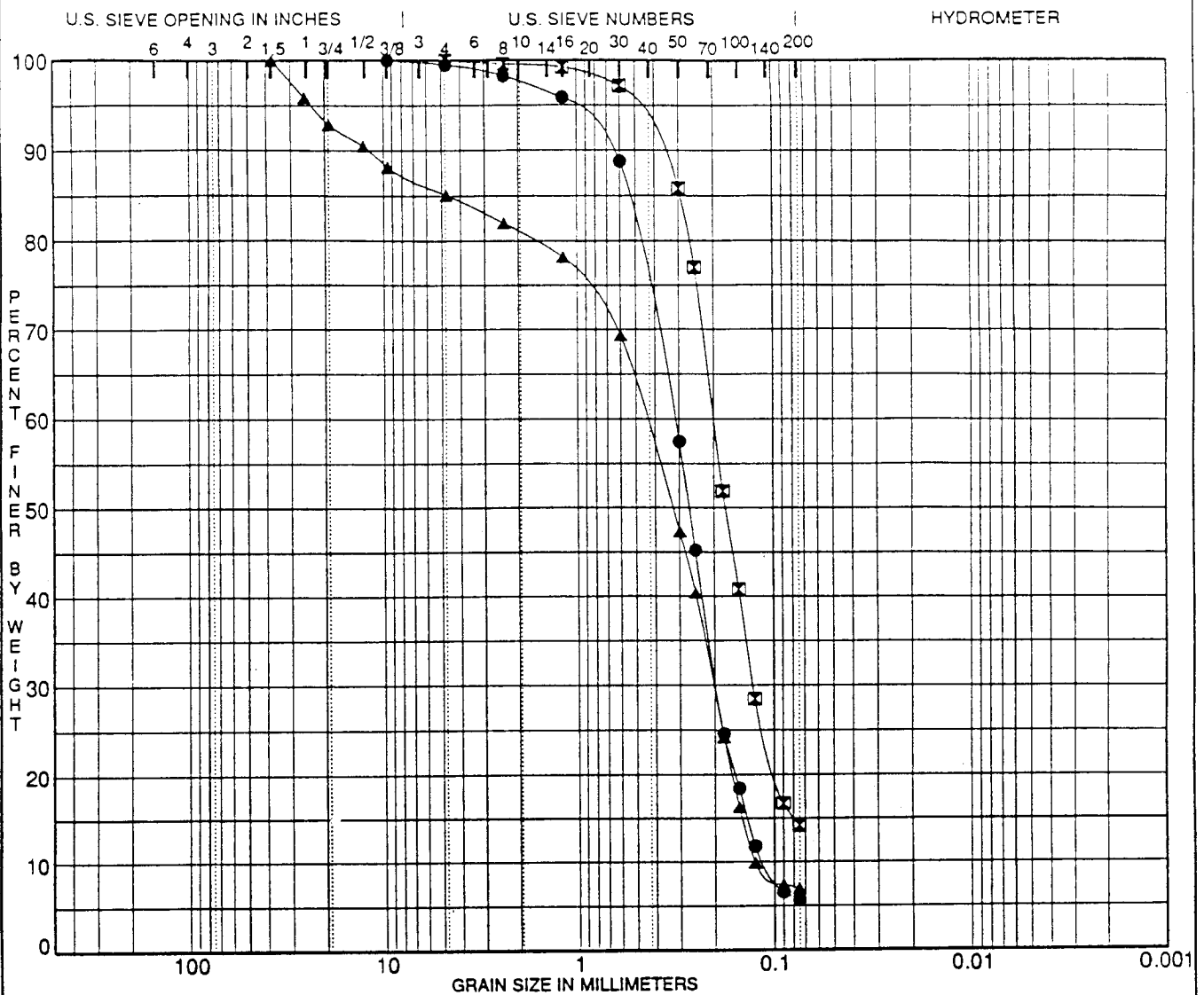


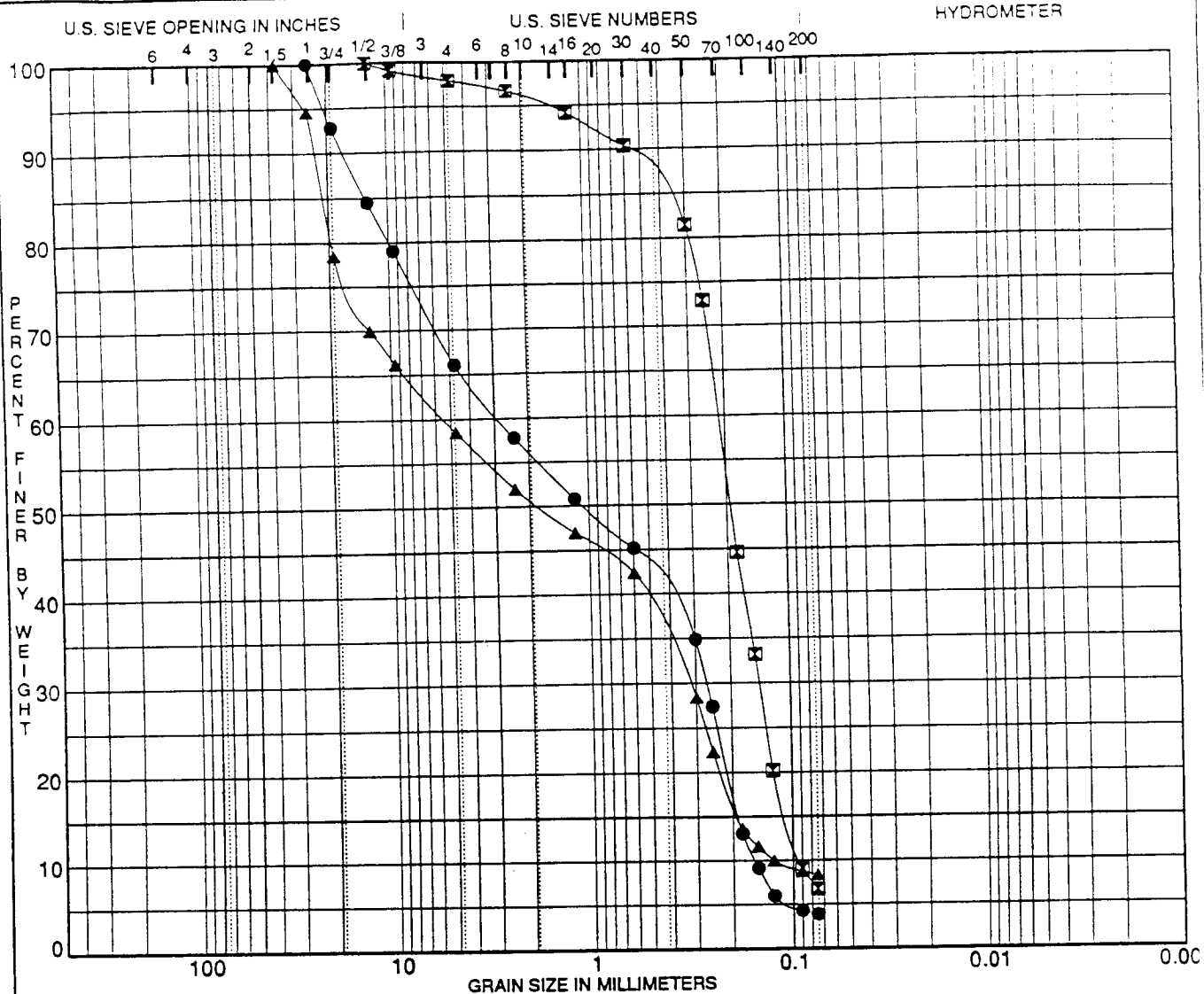


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 8-1	2.0 feet			Silty SAND (SM)
■ 8-3	6.0 feet	1.1	1.8	Poorly graded SAND (SP)
▲ 8-5	10.0 feet	1.1	1.7	Poorly graded SAND (SP)

Goleta Slough Dredging Project	GRAIN SIZE DISTRIBUTION	File No. KC-1654-01 Figure B-14
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COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● 10-1	2.0 feet	0.2	18.4	Poorly graded SAND with gravel (SP)
☒ 10-2	4.0 feet	1.0	2.3	Poorly graded SAND with silt (SP-SM)
▲ 10-4	8.0 feet	0.2	43.5	Poorly graded SAND with silt and gravel (SP-SM)

Goleta Slough Dredging Project

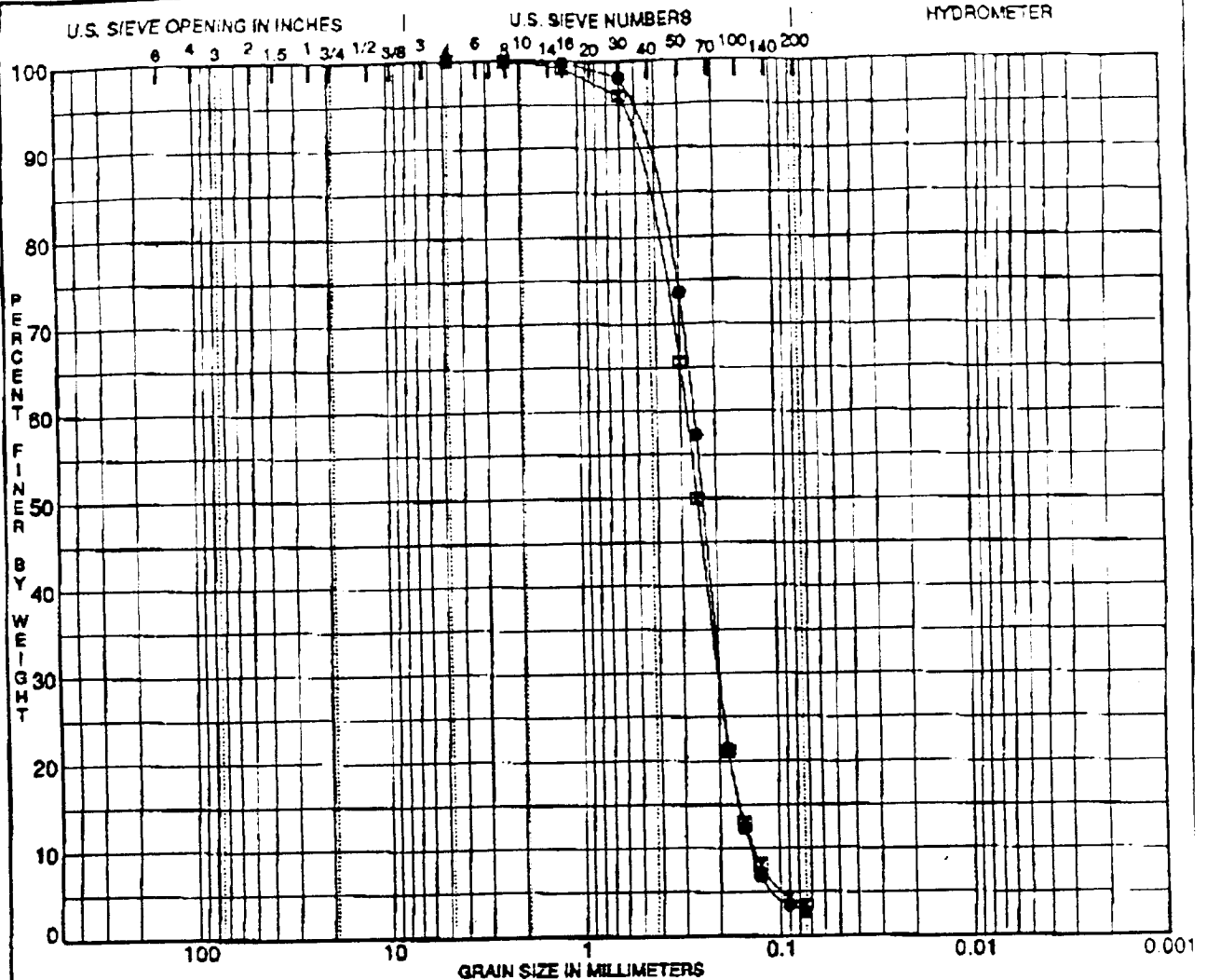
## GRAIN SIZE DISTRIBUTION

File No. KC-1654-01

Figure B-16

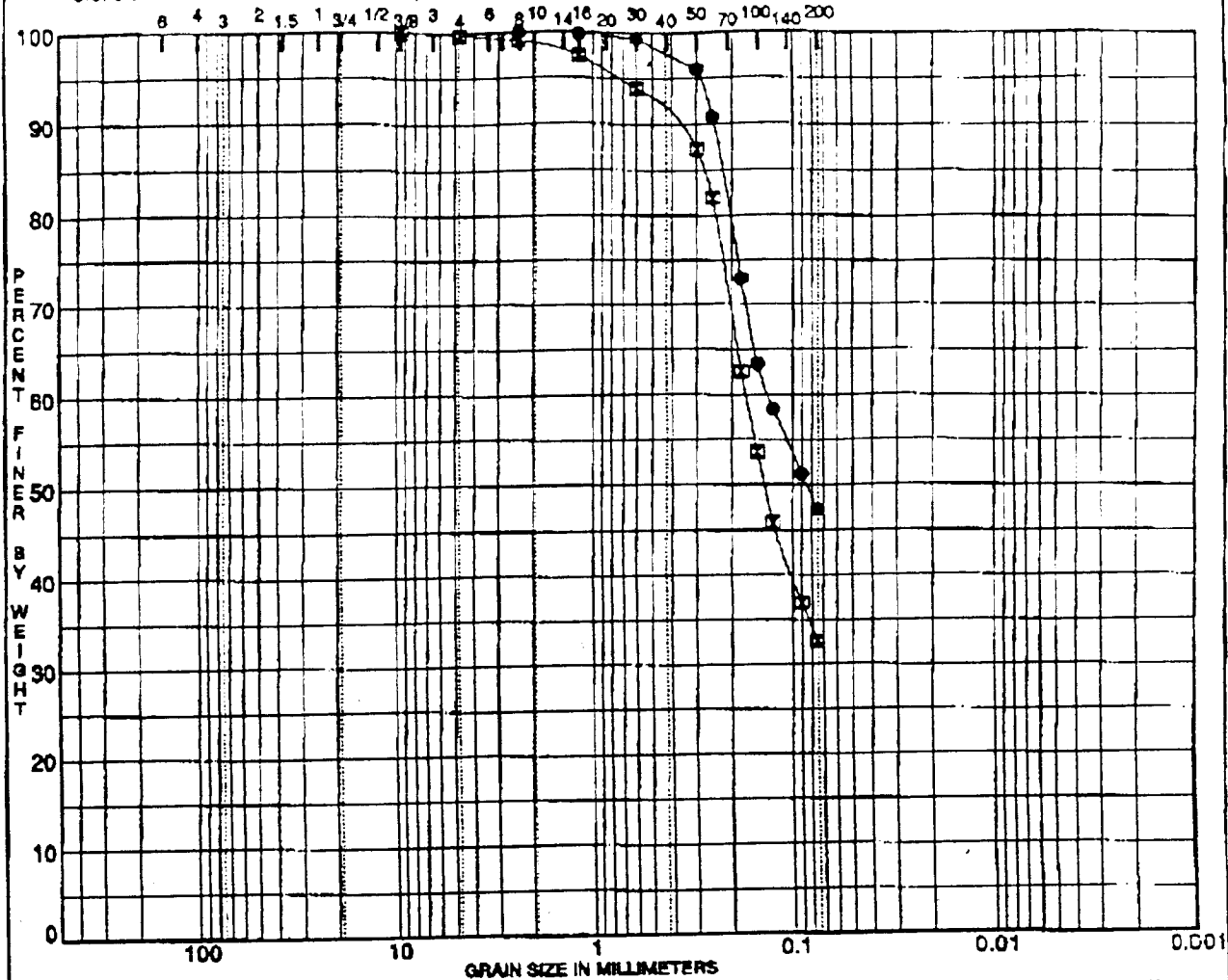
K-C GEOTECHNICAL ASSOCIATE







## HYDROMETER



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Sample No.	Depth	Cc	Cu	Classification
● TEC 13	0.0 feet			Silty SAND (SM)
■ TEC 13	2.0 feet			Silty SAND (SM)

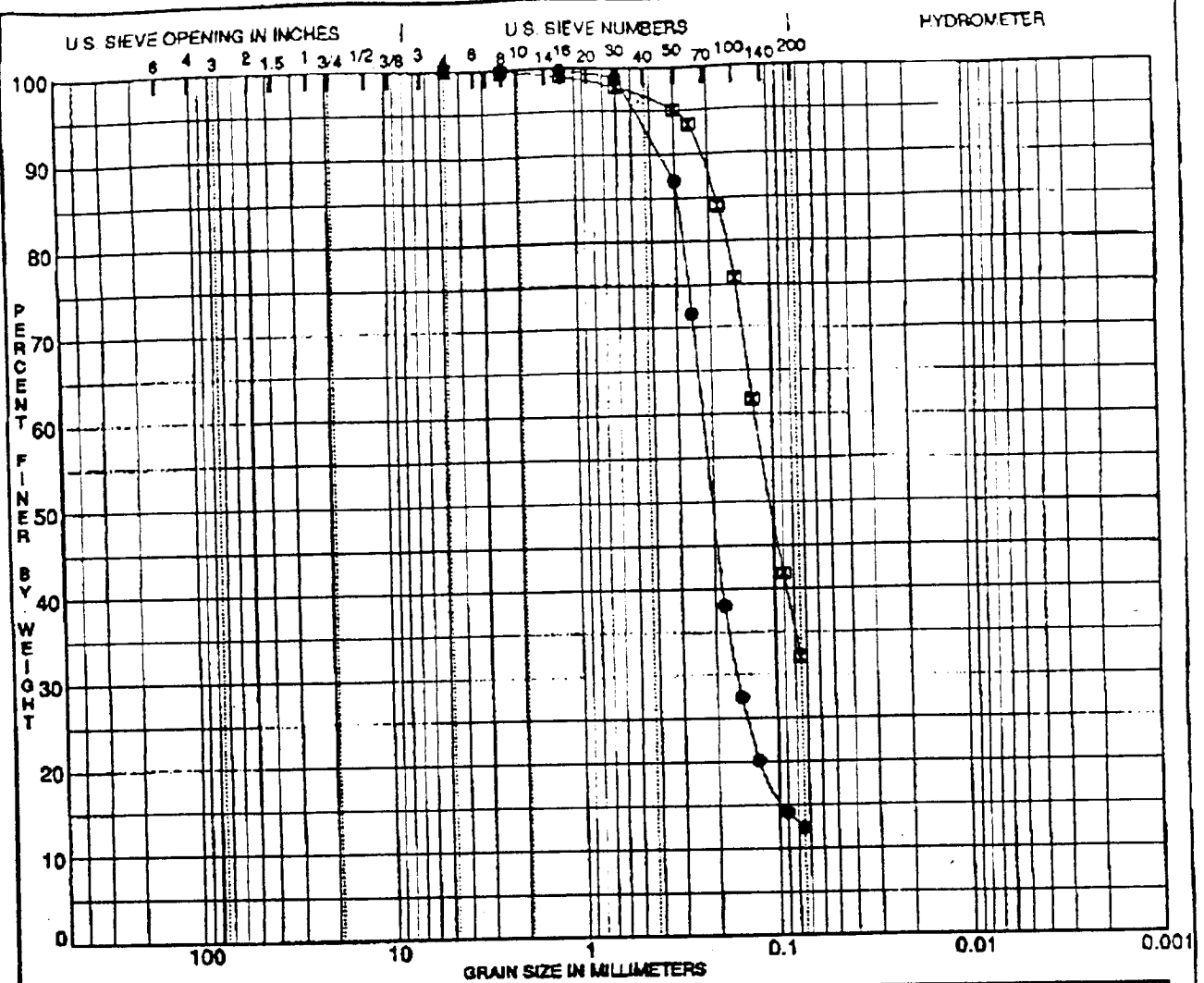
**Goleta Slough Dredging Project**

## GRAIN SIZE DISTRIBUTION

**File No. KC-1654-01**

Figure B-4

**K-C GEOTECHNICAL ASSOCIATES**



## **APPENDIX C**

### **AIR QUALITY EMISSION TABLES**



**TABLE C-1. EMISSION SOURCE DATA FOR EQUIPMENT ASSOCIATED WITH PROPOSED ACTION - PHASE I**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
SDG&E Dredge	500	1	0.70	10	350.0	38	380
SDG&E Cutter Head	70	1	0.70	10	49.0	38	380
Boosterpump	500	1	0.70	10	350.0	38	380
Dragline Crane	300	1	0.50	10	150.0	16	160
<b>SUPPORT EQUIPMENT</b>							
Support Boat	50	1	0.40	1	20.0	38	38
Pickup Truck (1)	-----	3	-----	10a	-----	38	1140a
Loader	125	1	0.50	3	62.5	38	114
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Drive (2)	-----	2	-----	25a	-----	4	200a
18 Wheel Haul Truck - Idle (2)	-----	2	-----	5	-----	4	40
Yard Crane	163	1	0.50	10	81.5	4	40
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Tecolotito Creek	0.46(b)	1	-----	-----	-----	20	-----
Los Carneros Creek	0.46(b)	1	-----	-----	-----	16	-----
Atascadero Creek	0.46(b)	1	-----	-----	-----	31	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	19	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	18	-----
Goleta Beach	0.46(b)	1	-----	-----	-----	8	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(2) Each truck assumed to travel 25 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

TABLE C-2. EMISSION FACTOR DATA FOR EQUIPMENT ASSOCIATED WITH PROJECT ALTERNATIVES AT THE GOLETA SLOUGH

EQUIPMENT TYPE	FUEL TYPE (1)	RATIO ROC/TOC (2)	RATIO PM10/PM (3)	EMISSION FACTORS FOR CONSTRUCTION EQUIPMENT							REFERENCE (4)	
				TOC	ROC	CO	NOx	SOx	PM	PM10	UNITS	
DREDGING												
SDG&E Dredge	D	0.96	0.96	1.33	1.28	3.03	14.00	0.23	1.00	0.96	Grams/Hp-Hr	Table 3.3-1
SDG&E Cutter Head	D	0.96	0.96	1.33	1.28	3.03	14.00	0.23	1.00	0.96	Grams/Hp-Hr	Table 3.3-1
Boosterpump	D	0.96	0.96	1.33	1.28	3.03	14.00	0.23	1.00	0.96	Grams/Hp-Hr	Table 3.3-1
Dragline Crane	D	0.96	0.96	1.10	1.06	4.80	11.01	0.83	0.90	0.87	Grams/Hp-Hr	Table II-7.1, Miscellaneous
SUPPORT EQUIPMENT												
Support Boat	G	0.91	0.96	85.00	77.35	250.00	0.50	0.49	0.00	0.00	Grams/Hp-Hr	Table II-4.1
Pickup Truck	G	0.91	0.96	2.48	2.27	35.50	1.48	0.06	0.06	0.09	Grams/Mile	EMFAC7PCD, 1995 Light Duty Truck
Loader	D	0.96	0.96	1.17	1.12	2.71	8.81	0.22	0.81	0.77	Grams/Hp-Hr	Table II-7.1, Wheeled Loader
PIPE and FLOAT HAULING												
18 Wheel Haul Truck - Miles	D	0.96	0.96	3.31	3.18	9.51	13.54	3.11	1.95	1.87	Grams/Mile	EMFAC7PCD, 1995 Heavy Duty Truck
18 Wheel Haul Truck - Idle	D	0.96	0.96	0.64	0.61	2.67	1.92	0.44	0.28	0.27	Grams/Minute	EMFAC7PCD, 1995 Heavy Duty Truck
Yard Crane	G	0.91	0.96	6.48	5.91	198.00	4.79	0.26	0.30	0.29	Grams/Hp-Hr	Table II-7.2, Miscellaneous
OPENING SLOUGH MOUTH												
Dozer	D	0.96	0.96	0.75	0.72	2.15	7.81	0.85	0.69	0.66	Grams/Hp-Hr	Table II-7.1, Track-type Tractor
STAGING AREAS - FUGITIVE DUST			0.50						1.20	0.80	Tons/Acre-Month	Section 11.2.4

(1) D = Diesel, G = Gasoline.

(2) Based on ARB reactivity profiles.

(3) PM10/PM ratios for equipment are from a letter to Dr. Lawrence Hart, Santa Barbara County, from Rich Bradley, ARB, July, 1984.

(4) All references from USEPA Compilation of Air Pollutant Emission Factors, AP-42, Volume II, September 1985, except for pickup trucks, which were obtained from EMFAC7PC.

**TABLE C-3. HOURLY EMISSIONS ASSOCIATED WITH THE PROPOSED ACTION - PHASE I**

EQUIPMENT TYPE	POUNDS PER HOUR						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	1.03	0.99	2.34	10.80	0.18	0.77	0.74
SDG&E Cutter Head	0.14	0.14	0.33	1.51	0.02	0.11	0.10
Boosterpump	1.03	0.99	2.34	10.80	0.18	0.77	0.74
Dragline Crane	0.36	0.35	1.52	3.64	0.31	0.30	0.29
<b>SUPPORT EQUIPMENT</b>							
Support Boat	3.75	3.41	11.02	0.02	0.02	0.00	0.00
Pickup Truck (1)	0.08	0.07	1.17	0.05	0.00	0.00	0.00
Loader	0.16	0.15	0.37	1.21	0.03	0.11	0.11
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.07	0.07	0.21	0.30	0.07	0.04	0.04
18 Wheel Haul Truck - Idle	0.17	0.16	0.71	0.51	0.12	0.07	0.07
Yard Crane	1.17	1.06	35.58	0.86	0.05	0.05	0.05
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.25	0.24	0.71	2.58	0.28	0.23	0.22
<b>STAGING AREAS - FUGITIVE DUST (2)</b>	-----	-----	-----	-----	-----	15.05	7.53
<b>TOTAL (3)</b>	8.21	7.63	56.30	32.29	1.25	17.52	9.89

(1) Assumes that three trucks would travel five miles in one hour.

(2) Assumes that three staging areas would be operating simultaneously.

(3) Represents emissions if all equipment operated simultaneously.



**TABLE C-4. DAILY EMISSIONS ASSOCIATED WITH THE PROPOSED ACTION - PHASE I**

EQUIPMENT TYPE	POUNDS PER DAY						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	10.26	9.85	23.38	108.02	1.77	7.72	7.41
SDG&E Cutter Head	1.44	1.38	3.27	15.12	0.25	1.08	1.04
Boosterpump	10.26	9.85	23.38	108.02	1.77	7.72	7.41
Dragline Crane	3.64	3.49	15.21	36.41	3.08	2.98	2.86
<b>SUPPORT EQUIPMENT</b>							
Support Boat	3.75	3.41	11.02	0.02	0.02	0.00	0.00
Pickup Truck	0.16	0.15	2.35	0.10	0.00	0.01	0.01
Loader	0.48	0.46	1.12	3.64	0.09	0.33	0.32
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.36	0.35	1.05	1.49	0.34	0.21	0.21
18 Wheel Haul Truck - Idle	0.85	0.81	3.53	2.54	0.58	0.37	0.35
Yard Crane	11.66	10.61	355.75	8.61	0.47	0.54	0.52
<b>OPENING SLOUGH MOUTH</b>							
Dozer	2.48	2.38	7.11	25.83	2.81	2.28	2.19
<b>STAGING AREAS - FUGITIVE DUST (1)</b>	-----	-----	-----	-----	-----	150.55	75.27
<b>TOTAL (2)</b>	45.35	42.75	447.18	309.81	11.19	173.78	97.58

(1) Assumes that three staging areas would be operating during the same day.

(2) Represents emissions if all equipment operated during the same day.

**TABLE C-5. TOTAL EMISSIONS ASSOCIATED WITH THE PROPOSED ACTION - PHASE I**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	0.19	0.19	0.44	2.05	0.03	0.15	0.14
SDG&E Cutter Head	0.03	0.03	0.06	0.29	0.00	0.02	0.02
Boosterpump	0.19	0.19	0.44	2.05	0.03	0.15	0.14
Dragline Crane	0.03	0.03	0.12	0.29	0.02	0.02	0.02
<b>SUPPORT EQUIPMENT</b>							
Support Boat	0.07	0.06	0.21	0.00	0.00	0.00	0.00
Pickup Truck	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Loader	0.01	0.01	0.02	0.07	0.00	0.01	0.01
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Wheel Haul Truck - Idle	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Yard Crane	0.02	0.02	0.71	0.02	0.00	0.00	0.00
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
<b>STAGING AREAS - FUGITIVE DUST</b>	-----	-----	-----	-----	-----	2.87	1.44
<b>TOTAL</b>	0.56	0.54	2.09	4.86	0.11	3.22	1.77
15% NOx reduction (w/o trucks & boat)				4.12			

**TABLE C-6. EMISSION SOURCE DATA FOR EQUIPMENT ASSOCIATED WITH PROPOSED ACTION - PHASE II**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
SDG&E Dredge	500	1	0.70	10	350.0	55	550
SDG&E Cutter Head	70	1	0.70	10	49.0	55	550
Boosterpump	500	1	0.70	10	350.0	55	550
<b>SUPPORT EQUIPMENT</b>							
Support Boat	50	1	0.40	1	20.0	55	55
Pickup Truck (1)	-----	3	-----	10a	-----	55	1650a
Loader	125	1	0.50	3	62.5	55	165
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Drive (2)	-----	2	-----	25a	-----	4	200a
18 Wheel Haul Truck - Idle (2)	-----	2	-----	5	-----	4	40
Yard Crane	163	1	0.50	10	81.5	4	40
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Atascadero Creek	0.46(b)	1	-----	-----	-----	50	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	17	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	17	-----
Goleta Beach	0.46(b)	1	-----	-----	-----	8	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(2) Each truck assumed to travel 25 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

**TABLE C-7. TOTAL EMISSIONS ASSOCIATED WITH THE PROPOSED ACTION - PHASE II**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	0.28	0.27	0.64	2.97	0.05	0.21	0.20
SDG&E Cutter Head	0.04	0.04	0.09	0.42	0.01	0.03	0.03
Boosterpump	0.28	0.27	0.64	2.97	0.05	0.21	0.20
<b>SUPPORT EQUIPMENT</b>							
Support Boat	0.10	0.09	0.30	0.00	0.00	0.00	0.00
Pickup Truck	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Loader	0.01	0.01	0.03	0.10	0.00	0.01	0.01
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Wheel Haul Truck - Idle	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Yard Crane	0.02	0.02	0.71	0.02	0.00	0.00	0.00
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
<b>STAGING AREAS - FUGITIVE DUST</b>							
	-----	-----	-----	-----	-----	2.32	1.16
<b>TOTAL</b>	0.76	0.72	2.52	6.56	0.12	2.79	1.61
15% NOx reduction (w/o trucks & boat)				5.57			

**TABLE C-8. EQUIPMENT EMISSION SOURCE DATA FOR THE PROPOSED ACTION - ONGOING MAINTENANCE**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
SDG&E Dredge	500	1	0.70	10	350.0	21.7	217
SDG&E Cutter Head	70	1	0.70	10	49.0	21.7	217
Boosterpump	500	1	0.70	10	350.0	21.7	217
Dragline Crane	300	1	0.50	10	150.0	18	180
<b>SUPPORT EQUIPMENT</b>							
Support Boat	50	1	0.40	1	20.0	21.7	21.7
Pickup Truck (1)	-----	3	-----	10a	-----	21.7	217a
Loader	125	1	0.50	3	62.5	21.7	65.1
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Drive (2)	-----	2	-----	25a	-----	4	200a
18 Wheel Haul Truck - Idle (2)	-----	2	-----	5	-----	4	40
Yard Crane	163	1	0.50	10	81.5	4	40
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	2	20
<b>STAGING AREAS - FUGITIVE DUST</b>							
Tecolotito Creek	0.46(b)	1	-----	-----	-----	14	-----
Los Carneros Creek	0.46(b)	1	-----	-----	-----	14	-----
Atascadero Creek	0.46(b)	1	-----	-----	-----	22	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	16	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	14	-----
Goleta Beach	0.46(b)	1	-----	-----	-----	3	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(2) Each truck assumed to travel 25 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

- 41 | Page 4.7-2, last paragraph- Not only has flood control realignment and maintenance of the creek channels resulted in modification to the original bank configuration, but also the construction of the Airport resulted in the relocation of Los Carneros and Tecolotito creeks.
- 42 | Page 4.7-7, Onshore Cultural Resources- How can the conclusion be reached that "No cultural resources have been identified at the proposed project sites in San Jose, Tecolotito, and Carneros creeks" when no discussion has occurred in regards to Tecolotito and Carneros Creeks?
- 43 | Page 4.7-9, Phase II, Onshore Cultural Resources- The project description does not include Phase II activities in Tecolotito and Los Carneros creeks therefore, it is not appropriate to conclude "No cultural resources have been identified at the proposed project sites in San Jose, Tecolotito, and Carneros creeks".
- 44 | Page 4.7-12, Cumulative Impacts, second and third line- Reference is given to P. Snethkamp in preparation. What does that mean?

#### Aesthetics

- 45 | Page 4.8-7, last paragraph- Would any of the existing bank vegetation be removed? If so, mitigation measures should be included.
- 46 | Page 4.8-14, under Tecolotito Creek- What is the existing width of this channel?
- 47 | Page 4.8-15, under Carneros Creek- What is the existing width of this channel?
- 48 | Page 4.8-14 & 15- What would be the visual impacts if not all of the excess spoils were removed?
- 49 | Page 4.8-16, Traditional Maintenance, under Atascadero Creek and San Pedro Creek- Discussion should occur in regards to why the 10 foot high spoils piles which "would be darker than the surrounding sediments" and "could restrict views of the (Atascadero) creek" and "views of the open space that extends beyond the (San Pedro) creek" result in a Class I impact when these same piles, which would be viewed by a larger number of the public and could potentially obstruct/detract from views along Hollister Avenue, would only result in a Class III impact.

#### LAND USE COMPATIBILITY/CONSISTENCY WITH ADOPTED PLANS AND POLICIES

##### Santa Barbara County and City Land Use and Zoning Designations

- 50 | Page 5-2, third complete paragraph, fifth line- The sentence starting "The portion of the A-F zone designated 'Slough'..." is wrong. This area was rezoned, with the certification of the Implementation Measures for the Airport and Goleta Slough Local Coastal Plan by the Coastal Commission in 1991, to G-S-R (Goleta Slough Reserve Zone).

Same page, fifth complete paragraph, last sentence- Why does the report preparer feel the project is "potentially consistent with this description of flood control projects"?

51

City of Santa Barbara Coastal Plan, Airport and Goleta Slough

Page 5-13, under General Plan Policies- The first sentence incorrectly states that the City's General Plan "does not address the slough directly". The Conservation and Seismic Element, and the Local Coastal Program (which is an element of the City's General Plan) all contain policies relating to the protection and enhancement of the Goleta Slough.

52

The policies extracted from the Conservation Element should be identified by policy numbers and should be placed together in the document. Additional goals and policies contained in the City's Conservation Element which should be discussed in this document are:

53

- Policy 1.0, and associated Implementing Strategies 1.1-1.3 in the Cultural and Historic Resources Section;
- Goal 1 and 5 and policies 1.0, 3.0, and 5.0 in the Visual Resources Section;
- Subgoal 2 & 3, Implementing Strategies 3.0, 5.0, and 6.0 in the Biological Resources section;
- Policies 2.0, 3.0, and 4.0, and associated Implementing Strategies in the Drainage and Flood Control section.

The following policies in the City's Coastal Plan (City of Santa Barbara Coastal Plan) for the main body of the City should be discussed:

54

- Policies 6.1, 6.2, 6.8, 6.9, and 6.11 beginning on page 3-78.
- Policy 9.1 on page 3-132.

Page 5-14- What is meant by the title "Policies Proposed in the Coastal Plan"? The City has a certified Local Coastal Program contained in two separate documents. One titled "City of Santa Barbara Coastal Plan" and the other titled "City of Santa Barbara Coastal Plan, Airport and Goleta Slough". No amendments are proposed for either of these documents which would effect the proposed project.

55

Policies C-8 and C-9 on page 3-27 in the City of Santa Barbara Coastal Plan, Airport and Goleta Slough must be included on page 5-14. The project meets the definition of Development contained in Section 28.45.009.3.i of the City's Municipal Code and the California Coastal Act.

56

Page 5-14- What policy, from which document, is being referenced to under "General Policy Evaluation"?

57

The area designated "Recreational/Open Space" on the adopted Land Use Map in the Coastal Plan (also zoned G-S-R) was established as part of the State Ecological Reserve System in 1987. Discussion should occur in this section relating to the project's potential consistency or inconsistency with this designation.

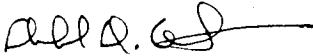
58



Karl Treiberg  
Flood Control Maintenance Activities EIR/EA  
September 22, 1993 Page 6

The City, as a responsible agency, encourages the District to work closely with City Staff so that these and other City concerns may be addressed. Thank you for your consideration of these matters. For your information, a list of minor corrections is attached. Please contact Susan Reardon, Assistant Planner or Lezley Buford, Environmental Analyst at 564-5470 if you need additional information or have any questions with regard to these comments.

Sincerely,



Donald D. Olson  
City Planner

cc: Planning Commission  
Environmental Review Committee  
Karen Ramsdell, Airport Director

## Minor Corrections

General comments, Firestone Street is Norman Firestone Road and Adams Road is Clyde Adams Road.	59
Page 1-25, fourth paragraph, second to last line- "that" should be "than".	60
Page 3-9, fourth paragraph, second line- "bee" should be "been".	61
Page 4.1-6, second full paragraph, seventh line- "Standard for water contact is a level of fecal coliforms level less than", it appears the second level should be removed.	62
Page 4.1-9, first paragraph, fourth line- "just" should be removed.	63
Page 4.1-13, second paragraph, fifth line- A comma should be inserted after "After Phase I dredging".	64
Pages 4.1-33 and 4.2-2 are switched.	65
Page 4.2-3, Table 4.2-11 is Table 4.2-1.	66
Page 4.7-1, bottom paragraph, sixth line- "Artifact collectors would benefit from removing vegetation during dredging..." The artifact collectors would not be removing the vegetation would they? Wouldn't it be the District which would be removing the vegetation and the collector would be able to see the bare ground and therefore make artifact collection easier?	67
Page 5-2, third complete paragraph, fourth line- An additional space should be added and the word "uses" should be capitalized after the period.	68
Page 5-3, top of page- need to add ")" at the end of the last sentence.	69



# Santa Barbara County Park Department

610 Mission Canyon Road, Santa Barbara, CA 93105

Bus: (805) 568-2461 Fax: (805) 568-2459 Res: (805) 568-2460 Voice/TDD

MICHAEL H. PAHOS

Director of Parks

TO: Karl Trieberg, Santa Barbara Flood Control District  
FROM: Claude Garciacelay, Park Planner  
DATE: September 29, 1993  
RE: 93-EIR-4 Draft Program EIR  
Routine Maintenance Activities in the Goleta Slough

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

SEP 31 11 49 AM '93

RECEIVED

The Park Department has the following comments to the above referenced environmental document:

- 70 1) Page 3-9, Goleta Beach County Park: Update this information to reflect the current status of this project which has been funded, currently in the permitting process and we anticipate construction to begin in November.
- 71 2) Page 4.9-5, 2nd paragraph, 1st line: "The park provides a total of 580 parking spaces..."
- 72 3) Page 4.9-5, 3rd paragraph, last line: If approved by the Board of Supervisors, the parking fee for Goleta Beach County Park would apply every day from Memorial Day to Labor Day.
- 73 4) Page 4.10-3, 4.10.1.6 Goleta Beach, 2nd paragraph, 2nd sentence: "In addition, there are three group barbecue areas that can accommodate a total of 285 people..."
- 74 3rd paragraph, 2nd sentence: "The park provide a total of 580 parking spaces..."

Thank you for the opportunity to comment. Other than the corrections to the text stated above, the Park Department has no comment to the analysis provided in the draft EIR.

Jennifer Briggs  
Business Manager

(805) 568-2461

Rick Wheeler  
South County Deputy Director

(805) 681-5650

Jeff Stone  
North County Deputy Director

(805) 934-6145



Santa Barbara County  
Air Pollution Control District

September 29, 1993

Karl Treiberg  
County of Santa Barbara  
Flood Control and Water Conservation District  
123 East Anapamu Street  
Santa Barbara, California 93101

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

SEP 31 11 50 AM '93

RECEIVED

RE: Draft Program Environmental Impact Report/Environmental Assessment for Routine Maintenance Activities in Goleta Slough, 93-EIR-4

Dear Mr. Treiberg:

Thank you for giving the Air Pollution Control District (APCD) the opportunity to review the above referenced document. The following comments are offered:

1. **Page 1-3, Table 1.2-1, Mitigation Measure for Air Quality.** The California Environmental Quality Act (CEQA) requires that significant impacts be mitigated to a level of insignificance wherever feasible. Therefore, the APCD recommends, that at a minimum, the mitigations for Phase II of this project include the following package of control measures to reduce NO<sub>x</sub>. For each piece of heavy duty diesel construction equipment, the Flood Control District must ensure that:
  - engines and emissions systems are maintained in proper operating condition
  - two-degree engine timing retard is implemented
  - high pressure fuel injectors are installed, when feasible
  - reformulated diesel fuel is used

Proper implementation of the above package of control measures for each piece of heavy duty diesel construction equipment can achieve up to a 40% reduction in NO<sub>x</sub> emissions and up to a 15% reduction in ROC emissions (exhaust hydrocarbons plus aldehydes), estimated from the standard EPA emission factors. The APCD considers this package of control measures for diesel equipment to be the best available technology for controlling emissions from heavy duty construction equipment.

The APCD, in partnership with the County Public Works Department and industry, has demonstrated this control technology for a scraper and a backhoe that have been used for over a year at the County's Tajiguas Landfill. The equipment modifications were performed by a Caterpillar equipment distributor, Quinn, in Oxnard.

- 75 | Additional measures to reduce NO<sub>x</sub> emissions which should be included where feasible are:
- Substitute CNG-powered vehicles for diesel or gasoline-powered vehicles.
  - Install catalytic converters on gasoline-powered equipment.
  - Curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (ozone episodes).
- 76 | 2. **Page 3-6, Section 3.3.3 - State of California Laws and Regulations.** This section of the EIR must include a discussion of the California Clean Air Act.
- 77 | 3. **Page 4.2-7, State Regulations, last partial paragraph.** The California Clean Air Act was modified in November of 1992 and Santa Barbara County was reclassified to a "moderate" non-attainment area for ozone.
- 78 | 4. **Page 4.2-14, Ongoing Maintenance, first paragraph.** In the third sentence of this paragraph, change ". . . timing retard of at least 2 percent . . ." to read ". . . timing retard of at least 2 degrees . . .".

If you have any questions or comments, please contact me at 961-8838.

Sincerely,



Frances Gilliland  
Air Quality Specialist  
Interagency Review Section

IAI\WP\IARCORR\FGFCDEIR.LTR

cc: Project File (92-CP-028)  
TEA Chron File



## RESOURCE MANAGEMENT DEPARTMENT ENVIRONMENTAL REVIEW MINUTES

MEETING OF September 16, 1993  
9:30 A.M.

COUNTY OF SANTA BARBARA

Santa Barbara County  
Engineering Building Room 17  
Santa Barbara, CA 93101

### REGULAR AGENDA

#### New Items

<b>93-EIR-4</b>	<b>Flood Control Maintenance in the Goleta Slough</b>	<b>Goleta</b>
92-CP-28		K. Kefauver, Planner

Hearing on the request of Santa Barbara County Flood Control District to consider case no. 92-CP-28 [application filed August 23, 1993] for a Conditional Use Permit allowing Flood Control Maintenance activities in the Goleta Slough under the provisions of Article II zoned Recreation/Open Space; and to certify the Environmental Impact Report (93-EIR-4) pursuant to the California Environmental Quality Act; the application involves **Assessor's Parcel Numbers** 71-190-17, -28, -30; 71-200-8, -11, -12, -13, -22, -23, -24, -25; 73-080-37 located in the Goleta Slough area, including Atascadero, San Jose, San Pedro, Carneros, and Tecolotito Creeks, Goleta area, Third Supervisorial District. (KK)

Dianne Meester, Hearing Officer: Made introductory comments and read the project description into the record.

#### **REVIEW OF IMPACTS AND MITIGATION MEASURES (Carl Triberg):**

The environmental impacts and their mitigation measures and alternative proposals were summarized from the environmental document.

#### **COMMENTS RECEIVED DURING PUBLIC REVIEW PERIOD:**

None were mentioned at the hearing.

#### **COMMENTS RECEIVED AT THE HEARING:**

Jose Romero, Board Member, Santa Barbara Urban Creeks Counsel: We are happy with the EIR. We have three suggestions. A long term alternative that was not considered is upstream soil conservation and erosion control measures. Agriculture in the foothills may be a source of sediment, especially during storms. Riparian buffers should be expanded and agricultural practices modified. The DFG Goleta Slough Biological Management Plan calls for extending the area of inundation of the slough. The EIR should discuss how the project will affect this. We are concerned with frequency of maintenance. The less maintenance work you have to do, the less disturbance there will be to the habitat. We support increased basin size if it will reduce the amount of times you have to do maintenance work.

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RECEIVED

October 4, 1993

OCT 6 11 19 AM '93

Mr. Karl Treiberg  
Santa Barbara County Flood Control and  
Water Conservation District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

**Subject:** Draft EIR for Routine Maintenance Activities in Goleta Slough

Dear Mr. Treiberg:

The Santa Barbara Urban Creeks Council (SBUCC) appreciates the opportunity to comment on the subject document, and has taken the time to review and assess the proposed project. Thorough consideration of our comments by the Santa Barbara County Flood Control and Water Conservation District is respectfully requested.

Essentially the SBUCC concurs that maintenance activity in the Goleta Slough is necessary in the short-term:

- 1) to provide a reasonable level of flood protection to property in the project area
- 2) to inhibit any further filling of the slough from sediment deposition
- 3) to increase the tidal prism resulting in more exchange of water.

The SBUCC also concurs with the District in the new approach of depositing sediment offshore. However, offshore dredge discharge should be monitored for beach replenishment benefit and any negative impacts to marine life. In the event that offshore discharge material is found to significantly impact the marine biota a contingency plan should be developed to reduce the impacts at that time.

In the comments to the DEIR, the SBUCC requests the District to determine the enhanced benefit of an increased tidal prism. Particularly, the increased basin size will result in a 10% larger tidal prism than the proposed project. The SBUCC is very sensitive about the additional impacts that an increased basin size will have (particularly on cultural resources), however this should be weighed against the following potential benefits:

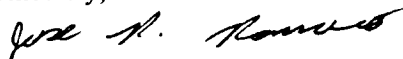
- 1) less frequent maintenance (lower recurrence of significant impacts)
- 2) increased flushing due to a larger tidal prism (perhaps resulting in a net loss of sediment from the system or at least more flushing of sediments than the proposed project).

The SBUCC also requests in the event that the California Department of Fish and Game's Goleta Slough biological restoration plan is implemented at a future date that consideration of a smaller basin or less frequent maintenance of the proposed basin be considered.

The SBUCC also respectfully requests that the District make available to the public a general plan for proposed timing of maintenance activities for any particular year based on minimizing disturbance to sensitive and threatened species.

Finally, we compliment the District on the most complete DEIR to date with inclusion of modeling methodology and results. Certainly, some improvement can be made which we noted in the comments, but we considered this DEIR a very reasonable document. As the public in general, and the environmental community in particular gathers more expertise in traditionally expert fields, the district has provided more technical information on which decisions are based.

Sincerely,



Jose R. Romero

cc Gilda Wheeler  
Resource Management

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## Santa Barbara Urban Creeks Council Comments

### Subject Document Title:

**"Draft Program for Routine Environmental Impact Report/Environmental Assessment for Maintenance Activities in the Goleta Slough"**

### CHAPTER 1.0 - INTRODUCTION

86 | 1.1 PURPOSE AND SCOPE

**Page 1-2 (paragraph 2)** Mitigation measures should be recommended for each significant impact regardless of feasibility. If a mitigation measure for a particular significant impact is deemed not feasible by the district, at least a potential mitigation project is available that may be funded at a later time.

87 | 1.2 SUMMARY OF IMPACTS AND MITIGATIONS

**Page 1-25 (Biological Resources and Tables)** Several additional tables would nicely summarize habitat impacts by type on an acreage basis.

Acreage of Disturbed Streambed for Proposed Basin size alternatives

Large Size	?
Proposed Size	25.2 acres
Small Size	?

Loss of upland Habitat

Proposed	1.1
Traditional	29

88 | 1.3 COMPARISON OF ALTERNATIVES

**Page 1-28: (paragraph 3)** The reduced basin size alternative has the following benefit over the proposed basin size:

- 1) No impacts to cultural resources (only at Atascadero Creek).
- 2) Less time per maintenance activity with a resultant smaller degree of impacts per maintenance activity to estuarine ecosystem.

89 | **Page 1-28 (paragraph 4)** Would the increased basin size result in a reduced frequency of maintenance due to a longer period required to fill the basin? If so, this basin size may over the long-term have less significant impacts to the ecology of the slough (less frequent disturbance) and potential economic savings to the District. However, this must be weighed against short-term impacts. Have these questions been considered? In particular, the proposed basin size for Atascadero Creek could be kept the same due to potential impacts to cultural sites, but other basins should be evaluated for increased sizes.

90 | 1.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

**Page 1-28 to 1-29** This analysis is incomplete even though the conclusions may be correct. The SBUCC would like to know what the decrease in frequency would be in required maintenance activities for the increased basin size alternative. The SBUCC contends that the greatest impacts from this project are correlated with the frequency of maintenance activities.

### CHAPTER 2.0 - PROJECT DESCRIPTION

91 | 2.2 PROJECT LOCATION

**Figure 2.2-2** Inclusion of a figure legend would be helpful in visualizing the proposed project. In particular the staging areas have the same hatching as the long strips down Tecolotito and San Pedro slough portions. What are those long strips? Phase II locations are not shown or not clear on the figure.

92 | 2.4 PROJECT CHARACTERISTICS

**2.4.1 Dragline Desilting**

**page 2-4 (paragraph 3)** The proposed project basin size for Tecolotito Creek would be approximately 18,000 cubic yards if the basin dimensions are correct instead of 10,000 cubic yards.

page 2-4 (paragraph 4) Affected area of spoil deposition along each side of creek would be 1.9 acres for Tecolotito Creek basin and 2.1 acres for the Los Cameros site assuming a 75 foot disturbed area due to sediment deposition along each side of the basin. 93

page 2-4 (paragraph 7) Recurrence intervals of basin maintenance is also dictated by upstream soil erosion prevention measures. 94

#### 2.4.2 Hydraulic Dredging

page 2-5 (paragraph 2) Phase II will fully excavate the creeks to the sediment basins we assume from the mouth of the slough to the basin locations. Is this correct? Is minimization of dredging in any one year optimal as stated in the EIR? What are the specifications of the Phase II excavation of the creeks (length, width, depth)? Will Phase II result in less frequent maintenance activities due to increased conveyance of sediment to the ocean and more volume of sediment deposition before the next maintenance? Would a pilot channel all the way to the mouth of the slough enhance sediment transport during high flows? If so, why not dredge to there? 95

page 2-5 (paragraph 3) Regarding frequency of maintenance activities see comments of page 2-4 (paragraph 7) and comment above 96

page 2-5 (paragraph 7) San Pedro basin would provide 10,000 cu. yds of storage, not 76,171. Correct in Table 2.2-1 but not in text. 97

page 2-5 (paragraph 8) Once again what are the dimensions of the pilot channels? 98

page 2-9 (paragraph 3) Phase II activities are not delineated on Figure 2.2-2 and should be delineated. 99

### 2.5 PROJECT ALTERNATIVES

One alternative that should also be evaluated is upstream soil conservation practices, naturally not including debris or sediment basins. This would compliment any of the proposed dredging alternatives by reducing the sediment load to the slough. 10

### 2.6 COST COMPARISON OF THE PROPOSED PROJECT AND ALTERNATIVES

Table 2.6-1 Typo for footnote 5, mistakenly placed a 6. 110

page 2-12 Inclusion of the costs associated with small and large size basins should be included as well. 11

## CHAPTER 3.0 - ENVIRONMENTAL SETTING

### 3.1 EXISTING SITE CHARACTERISTICS

#### 3.1.1 Goleta Slough

page 3-1 (paragraph 2) The bay filling in 1861 was actually also a result of prior poor watershed management practices. Fire suppression of the chaparral covered slopes resulted in the build up of a tremendous amount of fuel in the mountains so that the resultant fire burned extremely hot with concomitant destruction of the roots that held the soil in place. Followed by a wet year the result was disastrous with regards to sediment loading to the slough. 1

### 3.3 PROJECTS CONSIDERED FOR CUMULATIVE ANALYSIS

The SBUCC contends that the proposed DFG slough enhancement plan should also be considered in this section. The proposed DFG project would result in a larger area of tidal influence which would increase the amount of flow in and out of the slough during the tidal cycles. Most likely this would result in increased velocities and sediment transport from the slough during periods of low flow which would be beneficial according to the District's goals for this project. 1

## CHAPTER 4.0 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### 4.1 WATER RESOURCES/ FLOODING

#### 4.1.2 Environmental Consequences

##### 4.1.2.1 PROPOSED PROJECT



105 | page 4.1-8 (Table 4.1-4) 100-year flood for San Jose Creek was mistakenly typed as  
54,000 cfs instead of 5,400 cfs.

106 | page 4.1-9 (paragraph 1) What amount of flood protection does the District intend to  
provide? Certainly 100-year flood protection is not intended. It would be more informative to interested and  
potentially affected 'parties' to have HEC-2 profiles of more reasonable flows (ca. 3 and 5 year floods) as  
discussed in the CONTAINED FLOWS section on page 4.1-13.

107 | page 4.1-13 (paragraph 3) It appears that the depth of the dredging has more affect on  
containment than does the width of the dredging, what about the length for informative purposes?

108 | page 4.1-14 'Effects on tidal channels due to changes in the tidal prism'. It would be  
appropriate here to determine if increasing the tidal prism will result in increased sediment transport during the  
semidiurnal tidal cycle. If so then increasing the tidal prism will result in more tidal flushing of accumulated  
sediments from previous winter flood depositions in the estuary resulting in less maintenance.

109 | page 4.1-15 (Table 4.1-6) The numbers are wrong here. Here are the correct totals if  
the other data is correct.

Totals	Proposed	48,560 yd <sup>3</sup>	20.4% increase in tidal prism
	Reduced Basin	29,898 yd <sup>3</sup>	12.5% increase in tidal prism
	Increased Basin	69,772 yd <sup>3</sup>	29.2% increase in tidal prism.

There is roughly a 10%, 20% and 30% increase in the tidal prism for the reduced, proposed and increased basin  
sizes which is significant. This naturally will translate into significant differences in the flow velocity during  
the tidal cycle which we reiterate should be considered more thoroughly. The SBUCC concurs with the District  
that increases in the tidal prism are beneficial (CLASS IV). If increases in the tidal prism result in less  
maintenance due to estuarine self-cleaning then they are even more beneficial. **NOTE: the wrong numbers  
are throughout section 4.1.**

110 | page 4.1-25 (Paragraph 3) The SBUCC urges the district to continue collecting data of  
observed plumes to further calibrate the empirical predictor equations and decrease the error due to using only 4  
observed plumes.

#### 4.1.2.4 AND 4.1.2.5 INCREASED AND DECREASED BASIN SIZES

111 | What would be the basin fill-in time estimates for the decreased and increased basin  
sizes? Note: this would be an indicator of the frequency of maintenance activities?

112 | What would be the maximum contained flows for the increased and decreased basin  
sizes? Need a measure of increased/ decreased flood protection of these alternatives?

#### 4.4 BIOLOGICAL RESOURCES

113 | As evident from the DEIR the Goleta Slough has a very rich ecosystem with many sensitive and  
threatened species which utilize the estuary. Rather than list a great deal of concerns, the SBUCC urges the  
'District' to critically examine the timing of maintenance activities so that minimal impact to species of special  
concern results within the project constraints. A useful tool to properly plan timing of maintenance activities  
would be to plot critical times that birds, fish and reptiles utilize the affected areas planned for maintenance (i.e.  
phase I or II) for each creek. Dredging should not be performed during times of use by many species or by  
critical species. The SBUCC requests a maintenance schedule and the basis for it for this project. The SBUCC  
would also like to be informed during the scheduling process so that are many concerns (not mentioned here)  
can be addressed appropriately at that time.

MICHAEL D. POLLARD

REAL ESTATE MANAGEMENT SERVICES

TELEPHONE: (805) 684-6653

4915 CARPINTERIA AVENUE, SUITE H  
CARPINTERIA, CALIFORNIA 93013

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SEP 7 10 57 AM '93  
(805) 684-6654

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

September 2, 1993

Karl Treiberg  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

Re: 92-CP-28, 93-EIR-4

Dear Mr. Treiberg:

As a member of the Executive Committee of the Goleta Slough Committee, I received a copy of the "Draft Program Environmental Impact Report / Environmental Assessment for Routine Maintenance Activities in the Goleta Slough" (93-EIR-4), dated August 1993. I have reviewed the document and have the following comments:

114

I support the project (use of dredging to control sedimentation in the creek leading to the slough) because it appears to be the most cost effective method of dealing with the problem, while maintaining reasonable safeguards for the environment.

115

The project should help minimize flooding in the vicinity of the slough which will meet one of the legitimate objectives of government - protecting property from flood hazards; and, at the same time, help preserve the slough. No impacts (imminent or potential) mentioned in the EIR would justify not doing the project.

116

The loss of habitat or damage to other resources is outweighed by the benefits provided. During the last rainy season, properties in the area of the slough flooded due to "habitat" blocking creeks and preventing the run-off from moving downstream. Its is also clear from the EIR that not having the project will lead to even more environmental damage through eventual loss of the slough.

117

Thank you for the opportunity to comment on this project.

Sincerely,



Mike Pollard

/mp

-STATE OF CALIFORNIA

PETE WILSON, Governor

## GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET  
SACRAMENTO, CA 95814

RECEIVED

Oct 12 11 51 AM '93

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

October 8, 1993

KARL TREIBERG  
SANTA BARBARA COUNTY FLOOD CONTROL DISTRICT  
123 EAST ANAPAMU STREET  
SANTA BARBARA, CA 93101Subject: FLOOD CONTROL DISTRICT GOLETA SLOUGH MAINTENANCE SCH #:  
92091039

Dear KARL TREIBERG:

118 | The State Clearinghouse submitted the above named environmental document to selected state agencies for review. The review period is closed and none of the state agencies have comments. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call Mark Goss at (916) 445-0613 if you have any questions regarding the environmental review process. When contacting the Clearinghouse in this matter, please use the eight-digit State Clearinghouse number so that we may respond promptly.

Sincerely,

A handwritten signature in cursive script that reads "Christine Kinne".

Christine Kinne  
Deputy Director, Permit Assistance





## RESPONSES TO PUBLIC COMMENTS ON THE DRAFT EIR/EA

JAMES A. BAILARD, Ph.D., Technical Advisor to BEACON, letter dated October 6, 1993.

1. This comment indicates BEACON's support of the proposed project. No response is necessary.
2. The District appreciates your interest in beach replenishment. However, as described in section 2.4.1 of the EIR/EA, grain size tests for Tecolotito Creek show that sediments from this location would not be compatible with beach disposal according to U.S. Army Corps of Engineers Guidelines. Additionally, as indicated in that section, it is not technically feasible to transport sediments to the beach via pipeline due to the distance involved. Moreover, as described in section 2.5.1, it is not economically feasible for the District to truck sediments to the beach as part of this project, since costs would triple.
3. Comment noted. The word "temporarily" has been added to the referenced paragraph.
4. Table 4.1-2 has been revised to clearly indicate the relationship between the sample numbers and the boring numbers.
5. The recommended changes have been made.
6. These equations were left in the text so that any interested parties will know the basis for the calculations in this document.
7. The text has been clarified to indicate that the beach nourishment overfill ratio was not used to estimate the amount of sand suspended in a plume. The overfill ratio estimates the amount of fill required to create a unit volume of stable beach material. It does not relate to the fraction of beach fill transported to deeper water. The visible plume is three dimensional because it mixes extensively in the surf zone; hence, the visible fine materials act as a tracer of the plume.
8. The plumes in the photographs are quite visible because of suspended alluvial silt and clay. These act as tracers that show the distribution of materials under dispersion by currents of regional, tidal, wind, and turbulence origin. These current components are expected to disperse the silt and clay fraction of the dredge spoil in the same manner. The concentration of suspensoids would be different, but the dispersive variances would be similar.

Beach deposits contain silt and clay that are thrown into suspension to form extensive plumes of discolored seawater during epochs of storm waves. These plumes persist for many hours after the storm event. This indicates that the silt and clay fraction of the dredge spoil would form a plume that can be modeled by floodwater plumes without the settling of sand-sized particles causing any untoward effect.
9. The GENESIS model uses long-term wave records typifying the project site. It solves the sand conservation equation and an empirical longshore sand transport equation using initial and boundary conditions that are more realistic than those required to obtain analytical solutions using heat diffusion equations. Figure 4.1-12 (Figure 4.1-15 in the final version) has been revised to more clearly depict the changes that would occur.
10. Thank you for your comments.

KAREN RAMSDELL, Chairperson, Goleta Slough Management Committee, letter dated September 23, 1993.

11. Table 2.5-1 has been added to the EIR/EA. It summarizes the sediment removal and disposal methods for each alternative. As indicated in section 2.5.2, each alternative is analyzed coequally.
12. The District is proposing that use of the hydraulic dredge become routine. Therefore, we consider it appropriate to retain the word "routine" in the title.
13. For the proposed dredging project, a large spill of fuel or hydraulic fluid is defined as 5 gallons or more, while a small spill is considered to be approximately 1 gallon or less. These definitions have been added to the text. A spill of between 1 and 5 gallons probably would not be significant, but this depends upon site-specific conditions.
14. In the past, the areas between San Jose and San Pedro creeks and along Atascadero Creek have been used for stockpiling spoils. Most of the spoils have been removed, although about 60,000 cubic yards remain on the south side of Atascadero Creek on Gas Company property. The Gas Company does not want them removed at this time. The other areas would be available for restoration, although no restoration is planned as a part of this project, and therefore is not addressed in this EIR/EA.
15. The text has been corrected.
16. These benefits were identified in section 9.0; however, the discussion has been expanded.

DONALD D. OLSON, Santa Barbara City Planner, letter dated September 22, 1993.

17. See response to comment 13.
18. These figures have been corrected.
19. The text has been modified to indicate that approximately 10,000 cubic yards would be removed from Tecolotito Creek and 5,800 cubic yards would be removed from Carneros Creek.
20. The project description has been modified to indicate that Tecolotito Creek would be accessed from Hollister Avenue and that Carneros Creek would be accessed from Firestone Road.
21. The text has been modified to indicate that the referenced theater is the Santa Barbara Twin-Screen Drive-In Theater.
22. In 1983.
23. This is now indicated in the text.
24. This is now discussed in the text.
25. This discussion has been added to the text.
26. This is now noted in the text.
27. This is now noted in the text.

28. For the proposed project, impacts to water resources and stream hydrology would be independent of the dredging method. Differential impacts associated with stockpiling spoils instead of discharging them into the surf zone are discussed in section 4.1.2.2, Traditional Maintenance.

For the air quality analysis, emissions from all project activities were added together for comparison to the RMD 3-month emission significance thresholds for a worst-case analysis. It was therefore deemed unnecessary to individually discuss impacts from hydraulic dredging and dragline desilting. However, emissions that would occur from each of these activities are available in Appendix C of the document.

The Geology section has been expanded to address more specifically impacts at Tecolotito and Carneros creeks, which have existing basins. The impacts of dragline desilting at the other creeks were previously addressed in section 4.3.2.2.

29. This issue was discussed in the Noise section of the DEIR/EA. Noise (see page 4.6-8) impacts from the trucks were found to be short-term, sporadic, and insignificant. The Aesthetics section of the DEIR/EA found that aesthetic impacts would last until the spoils piles were removed. The discussion in the text has been expanded to discuss the nature of the impacts after the spoils were removed at Atascadero, San Jose, and San Pedro creeks. Their removal was previously discussed for Tecolotito and Carneros creeks. Traffic impacts associated with removal of the spoils are described in section 4.9.2.2 of the DEIR/EA.

Past experience has shown that fugitive dust emissions from the piles are minimized due to the formation of a crust on the piles and the growth of vegetation. Additionally, the public has not complained about fugitive dust emissions from these sources. Removal of the spoils from the piles storage area would generate minor amounts of combustive emissions due to equipment usage and fugitive dust emissions. These emissions would be limited to the short period of time when this activity occurred. Standard APCD dust control measures would be implemented during the removal of spoils piles to minimize fugitive dust emissions. The discussion in the document has been expanded.

Impacts on biological resources of spoil storage adjacent to Tecolotito and Carneros creeks and their removal by trucks was discussed on page 4.4-11 of the Draft EIR/EA. Long-term maintenance impacts were discussed on page 4.4-14. Spoil storage for the traditional maintenance alternative was addressed on page 4.4-15. Long-term storage of spoils would prolong the period over which disturbance to upland habitats and wildlife could occur, but the total amount of disturbance would be about the same (i.e., noise and disturbance from truck trips within several months or at intervals over several years).

30. Please see the response to comment 29.
31. California Vehicle Code Section 23114 prohibits any materials, such as dust, from being blown out of transport trucks. This law would therefore require that spoils transported off-site be watered and/or tarped to ensure that dust would not be emitted from these vehicles. This issue has been included in section 4.2.4 of the EIR/EA.
32. They were not addressed in the report, because it was determined through preliminary analyses that sediments in Tecolotito Creek were not compatible with beach disposal and that this option was either technically infeasible or too costly. Therefore, no discussion of grain size compatibility was required. Additionally, the testing performed by K-C Geotechnical Associates indicated that slope stability at the Tecolotito and Carneros basins would be greater than at the other sites. Since the slopes proposed for these existing basins

were no greater than those proposed for the other three, a detailed analysis was not required.

33. The word "City" has been added to this sentence.
34. Dragline desilting in Tecolotito and Carneros creeks for the proposed project would have minimal impacts on the creek banks. No trees are present on the banks in the areas to be dredged, and other types of vegetation can be avoided during the desilting operation. Small areas containing shrubs or weedy species that are disturbed by the dragline would recover quickly.
35. Spoils not removed shortly after deposition would likely be colonized by weedy species, although the native coyotebush could become established as well. The District, however, would make sure that the materials are removed within a reasonable length of time. The areas disturbed (essentially cleared) by spoils storage and removal activities would need some revegetation or at least weed control to prevent colonization by noxious weeds such as thistles, castor beans, and possibly pampas grass.
36. See response to comment 13.
37. See response to comment 35. The term "very slow" in mitigation measure 3.d for biological resources refers to more than about 3 years. This has been added to the text.
38. Access to the spoil storage areas for the Tecolotito Creek and Carneros Creek basins is directly from Hollister Avenue through gates in the fence. These areas have been used for spoil storage in the past, and the same access would continue to be used. Disturbance to wildlife during spoil removal was addressed in the Draft EIR/EA and found to be insignificant. No sensitive species are expected to be present in areas immediately adjacent to these disposal sites so no timing exclusion has been proposed.
39. Modeling of the noise impacts from spoils removal was not considered necessary, because as indicated in the text, they would be short-term and sporadic. No more than five trucks would be allowed to remove spoils during any given hour (this is a worst-case scenario) and trucks would be likely to remove spoils only on an infrequent basis.
40. The U.S. Army Corps of Engineers investigation surveyed all areas of potential impact. The study was performed prior to the City Cultural Resources Master Environmental Assessment (MEA) was developed. It is, however, consistent with both Santa Barbara Cultural Resource Guidelines and the Santa Barbara City Cultural Resources MEA.
41. The text has been revised to reflect this fact.
42. Areas of San Jose, Tecolotito, and Carneros creeks that would be affected by the project were surveyed during the U.S. Army Corps of Engineers investigation discussed in response No. 40. No cultural resources were identified in these areas. Only recorded archaeological sites are highlighted in the Onshore Cultural Resources section.
43. The text has been revised to reflect this fact.
44. This bibliographic reference identifies the author of the Santa Barbara Airport Expansion Plan cultural resources report.
45. The referenced paragraph is in the baseline section. Project impacts for Carneros Creek are described on page 4.8-15. Upland vegetation would not be substantially affected.

46. This is an existing basin, and its average width is approximately comparable to the proposed project. Its maximum width at the surface is currently approximately 160 feet.
47. This is an existing basin, and its average width is approximately comparable to the proposed project. Its maximum width at the surface is currently approximately 90 feet.
48. They would be insignificant for the reasons described on the referenced pages. The discussion under Carneros Creek has been clarified.
49. We believe that the DEIR/EA does explain the differences in impact classification. As indicated in section 4.8.2, "Important factors in evaluating the visual resources of a specific project site include the *site's setting* as well as its *physical attributes, relative visibility, and relative uniqueness*" (emphasis added). "The significance of visual impacts depends on *how noticeable the adverse change may be*. This is a function of *project features, their context, and the viewing conditions, including angle of view, distance, and primary viewing direction*" (emphasis added).

As described in the DEIR/EA, impacts at Atascadero Creek would be significant, because project activities would be highly visible to users of the bikeway and because the project area is considered a sensitive viewshed both because of its relatively natural rural setting and because of the recreation uses in the area. Impacts from stockpiling spoils at San Pedro Creek were considered significant, because, "Impacts from stockpiling spoils would be highly visible over a longer period of time and would represent a perceptible change in the character of the area. . . . The public has an expansive view of Goleta Slough from James Fowler Road, and if the spoils were piled approximately 10 feet high, they would restrict views of the open space that extends beyond the creek."

The situation at Tecolotito and Carneros creeks is different. As described in the DEIR/EA, views would be partially if not completely screened by vegetation; they would last only a few seconds given the rate of speed along Hollister Avenue; Hollister Avenue is a heavily traveled street, and the viewer's attention would be distracted by traffic and commercial development in the areas; and viewer expectations are different than they would be in a more rural, less heavily developed area.

50. This discussion has been modified in the document.
51. As described in section 4.1 of the Draft EIR/EA, the project would protect airport and other property from serious flooding. Alternative methods of flood control, such as constructing levees, have been shown to be infeasible.
52. The statement the reviewer takes issue with is a direct quote from the *City of Santa Barbara Coastal Plan, Airport and Goleta Slough* (page 5-13). All relevant policies identified by the City have been addressed in this document, however, and this section has been deleted.
53. Policy 1.0 has not been included, because no cultural resources are present at Tecolotito or Carneros basins. Discussions of the other policies have been added, and policies from the Conservation Element have been consolidated.
54. These policies have been discussed.
55. This subheading has been deleted.
56. This discussion has been added.

57. This is a subheading under 5.4, City of Santa Barbara Coastal Plan, Airport and Goleta Slough. It is taken from page 3-23 and evaluates the function of the siltation basins in question.
58. This discussion has been added to section 5.1.3, Compatibility with Surrounding Land Uses.
59. Comment noted; however, the street signs refer to "Firestone Road" and "Adams Road," and to be consistent with common usage, the text has not been changed.
60. The recommended text change has been made.
61. The recommended text change has been made.
62. The recommended text change has been made.
63. The recommended text change has been made.
64. The recommended text change has been made.
65. The recommended text change has been made.
66. The recommended text change has been made.
67. The recommended text change has been made.
68. The recommended text change has been made.
69. The recommended text change has been made.

CLAUDE GARCIACELAY, Santa Barbara County Parks Planner, letter dated September 29, 1993.

70. The recommended text change has been made.
71. The recommended text change has been made.
72. The recommended text change has been made.
73. The recommended text change has been made.
74. The recommended text change has been made.

FRANCES GILLILAND, Santa Barbara County Air Quality Specialist, letter dated September 29, 1993.

75. The recommended text changes have been made. However, since the use of reformulated diesel fuel is a reactive organic compound (ROC) control measure and ROC impacts from all project alternatives are insignificant, this control measure would not be required under CEQA.
76. The recommended text change has been made.
77. The recommended text change has been made.

78. The recommended text change has been made.

SANTA BARBARA COUNTY RESOURCE MANAGEMENT DEPARTMENT  
ENVIRONMENTAL REVIEW MINUTES, September 16, 1993

79. These comments are incorporated in the letter by Jose Romero that follows. Please refer to responses 80 - 85.

JOSE R. ROMERO, Santa Barbara Urban Creeks Council, letter dated October 4, 1993.

80. This statement indicates SBUCC concurrence with project goals. No text revisions are necessary.

81. No monitoring is proposed at this time, because the conclusions of the DEIR/EA were that impacts would be insignificant. The District will monitor the discharge plume, however, to ensure that it falls within the parameters identified in this document. If it differs substantively than what was projected, the District will consider additional measures at that time.

82. The increase in the tide prism would have no direct effect upon the capability of the subject streams to transport sediment or to erode the channel at the mouth of the slough. Maximum flow velocities will occur during flood stages in the stream of the Goleta Slough. The channel will be eroded and shaped during such events. Manning's equation indicates a channel width of about 200 feet would be stable during a flow of 3,500 cfs (3-year flood). Tidal inlet hydraulics equations (U.S. Army Corps of Engineers, *Shore Protection Manual*, 1984) indicate that a 200-foot wide channel at the mouth of the slough would contain a tidal flow having a maximum speed of about 17 cm per second.

The threshold speed for erosion of the fine sand in the channel mouth is about 20 cm per second under conditions of either longitudinal or oscillatory flow. This suggests that the tidal flow into and out of the slough cannot enlarge the mouth of the channel. Rather, the channel would be at virtual equilibrium with the tidal flows during spring tides. A tendency for constricting the channel mouth by littoral transport would occur during neap tides and tides of intermediate range.

The discussion immediately above has been added to the text.

83. The District does not want to impact a larger area than is necessary and will keep records of how frequently maintenance is required. Basin sizes may be adjusted in the future if it appears that environmental impacts would be lessened by doing so.

84. The District intends to adopt the mitigation measures identified in this document with regard to the appropriate timing of maintenance activities. This information will be made available to any interested parties.

85. Thank you for your comments.

86. The focus of environmental documents is on mitigations that can feasibly be implemented in the foreseeable future. This does not, however, preclude other mitigations from being added in the future should they become feasible.

87. The summary section referred to in the comment is for the proposed project, and a summary table showing impacts to biological resources for all of the alternatives would not be appropriate there. The relative impacts are as follows:



Alternative	Area Dredged (ac)	Staging/Spoil Storage (ac)
Proposed Project	25.2	5.9
Increased Basin	25.4	5.9
Reduced Basin	22.1	5.9
Traditional Maintenance	25.2	32.8
Beach Deposition	25.2	9.4
Pipeline on Ground	25.2	5.9+

The dredging values include all five basin locations, the three stream channels, and the Goleta Slough channel. The alternative of placing the discharge pipeline from the hydraulic dredge on uplands would also impact an unknown amount of habitat, depending on the exact location used. The traditional maintenance alternative upland impacts include the 28.9 acres for Atascadero, San Jose, and San Pedro creeks plus the 3.9 acres for Tecolotito and Carneros creeks.

88. Impacts to cultural resources were noted in the Draft EIR/EA. The level of impact and nature of the impact would be comparable to the proposed project, but the text has been amended to indicate that a smaller area would be affected but that impacts would occur more frequently.
89. Less frequent maintenance would be required if the basin size were increased; however, a larger area would be impacted, and air quality impacts would be significant and unmitigable. The questions raised by the SBUEC have been considered and are addressed in the document. The proposed project represents an intermediate size and was designed with the intent of balancing the area disturbed with the frequency of maintenance. It should be noted that the level of impact does not change with increased or decreased frequency of maintenance. If the District determines that different basin sizes would be desirable in the future, based on frequency of maintenance or other factors, basin sizes could be modified.
90. The increased basin size would result in reduced frequency of maintenance, although a larger area would be affected, with a concomitant decrease in salt marsh habitat; and air quality impacts would be increased substantially. Projected frequency of maintenance is now included for alternative basin dimensions in Table 4.1-6.
91. This figure has been modified per your recommendations.
92. Corrected dimensions have been added to the text.
93. Comment noted.
94. Comment noted.
95. Phase II will excavate the creeks from their confluence with Tecolotito Creek to the basins. This is now indicated on Figure 2.2-2.

Minimization of dredging could be necessary to avoid air quality or other impacts. This is an issue to be determined by decisionmakers and permitting authorities. The District has merely indicated that this is a possibility. As indicated above, Phase II would extend from the basins to the confluence with Tecolotito Creek. The following table indicates Phase II dimensions at each station. Complete plans are available at the District and have been reduced and included in Appendix B of this document.

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### Pilot Channel and Phase II Dimensions

<u>Creek</u>	<u>Total Length (feet)</u>	<u>Station* (feet)</u>	<u>Pilot Channel Top Width (feet)</u>	<u>Phase II Top Width (feet)</u>	<u>Depth (feet)</u>	<u>Side Slope</u>
Atascadero	3,122	0	22	215	-3.94	3:1
		356	15	136	-3.94	3:1
		1000	35	131	-3.94	3:1
		1197	35	161	-3.94	3:1
		1486	35	185	-3.94	3:1
		1795	40	112	-3.94	3:1
		2295	50	115	-3.94	3:1
		2768	50	87	-3.94	3:1
		3122	50	85	-3.94	3:1
San Jose	1,175	0	40	78	-3.94	2.5:1
		300	40	40	-3.94	2.5:1
		855	45	35	-3.94	2.5:1
		1175	45	43	-3.94	2.5:1
San Pedro	1,221	0	40	78	-3.94	2.5:1
		290	40	42	-3.94	2.5:1
		827	40	38	-3.94	2.5:1
		1221	40	45	-3.94	2.5:1

Notes:     These widths were scaled from cross-section drawings furnished by the District.

- Station 0 is the same place for San Jose and San Pedro creeks. It is at station 1350 on Atascadero Creek.
- Station 0 for Atascadero Creek is just north of the Beachside Bar-Cafe.

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Phase II will not result in less frequent maintenance, because the increase in capacity to convey sediments would be offset by increased volume of sediments that would be conveyed.

A pilot channel to the mouth of the slough would not enhance sediment transport during high flows, because the mouth of the slough would begin to fill up immediately due to oceanographic conditions in the area.

96. Please see responses to comments 94 and 95.

97. The text has been corrected.

98. Please see the table included as a response to comment 95.

99. This figure has been modified to include Phase II.

100. Evaluating upstream soil conservation measures is beyond the scope of this document and is more appropriately a General Plan concern.

101. This table has been corrected.

102. Precise costs have not been calculated for these alternatives; however, as indicated on page 2-12 of the Draft EIR/EA, costs would be roughly comparable. They could be somewhat higher for the reduced project alternative because mobilization would be required more frequently and somewhat lower for the increased basin size alternative because of the less frequent maintenance that would be required. The discussion in the text has been expanded.

103. Comment noted.

104. This plan is still in draft form and subject to modification. Therefore, it was not considered in the cumulative impacts analysis.

105. This has been changed in the text.

106. The stream profiles during 3-year (3,500 cfs) and 5-year (6,500 cfs) floods have been added to the document (see figures 4.1-6 to 4.1-8).

107. The length of the dredged reach determines the extent along the creek of the benefits of dredging.

108. Please see response 82.

109. The text has been changed.

110. Comment noted. No text change is required.

111. This information has been added to the text (see the new Table 4.1-6)

112. This has been clarified in the text.

113. The mitigation measures in the Draft EIR/EA included timing constraints to protect sensitive species during critical times of the year, and the District will follow these measures. In addition, the District will develop a maintenance schedule and provide this to SBUCC.

MIKE POLLARD, Goleta Slough Committee, letter dated September 2, 1993.

114. No response is required.

115. This comment indicates support for the project. No response is required.

116. This comment indicates support for the project. No response is required.

117. This comment indicates support for the project. No response is required.

CHRISTINE KINNE, Deputy Director, Permit Assistance, State of California Office of Planning and Research, letter dated October 8, 1993.

118. No response is required.

**TABLE C-9. TOTAL EMISSIONS FROM THE PROPOSED ACTION - ONGOING MAINTENANCE**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	0.11	0.11	0.25	1.00	0.02	0.08	0.08
SDG&E Cutter Head	0.02	0.01	0.04	0.14	0.00	0.01	0.01
Boosterpump	0.11	0.11	0.25	1.00	0.02	0.08	0.08
Dragline Crane	0.03	0.03	0.14	0.28	0.03	0.03	0.03
<b>SUPPORT EQUIPMENT</b>							
Support Boat	0.04	0.04	0.12	0.00	0.00	0.00	0.00
Pickup Truck	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Loader	0.01	0.01	0.01	0.03	0.00	0.00	0.00
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Wheel Haul Truck - Idle	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Yard Crane	0.02	0.02	0.71	0.02	0.00	0.00	0.00
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.00	0.00	0.01	0.03	0.00	0.00	0.00
<b>STAGING AREAS - FUGITIVE DUST</b>	-----	-----	-----	-----	-----	1.93	0.97
<b>TOTAL</b>	0.35	0.33	1.56	2.50	0.08	2.15	1.17

**TABLE C-10. EMISSION SOURCE DATA FOR EQUIPMENT ASSOCIATED WITH TRADITIONAL MAINTENANCE - PHASE I**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
Dragline Crane - Upper Slough	300	1	0.50	10	150.0	26	260
Dragline Crane - Lower Slough	300	1	0.50	10	150.0	65	650
<b>SUPPORT EQUIPMENT</b>							
Pickup Truck (1)	-----	2	-----	10a	-----	65	1300a
Loader	125	1	0.50	3	62.5	65	195
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Tecolotito Creek	0.46(b)	1	-----	-----	-----	20	-----
Los Carneros Creek	0.46(b)	1	-----	-----	-----	16	-----
Atascadero Creek	0.46(b)	1	-----	-----	-----	40	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	25	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	25	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

**TABLE C-11. TOTAL EMISSIONS FROM TRADITIONAL MAINTENANCE - PHASE I**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
Dragline Crane - Upper Slough	0.05	0.05	0.20	0.47	0.04	0.04	0.04
Dragline Crane - Lower Slough	0.12	0.11	0.49	1.18	0.10	0.10	0.09
<b>SUPPORT EQUIPMENT</b>							
Pickup Truck	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Loader	0.02	0.02	0.04	0.12	0.00	0.01	0.01
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
STAGING AREAS - FUGITIVE DUST	-----	-----	-----	-----	-----	3.15	1.57
<b>TOTAL</b>	0.19	0.18	0.80	1.85	0.15	3.30	1.72
15% NOx reduction (w/o truck)				1.57			

**TABLE C-12. EMISSION SOURCE DATA FOR EQUIPMENT ASSOCIATED WITH TRADITIONAL MAINTENANCE - PHASE II**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
Dragline Crane	300	1	0.50	10	150.0	110	1100
<b>SUPPORT EQUIPMENT</b>							
Pickup Truck (1)	-----	2	-----	10a	-----	110	2200a
Loader	125	1	0.50	3	62.5	110	330
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Atascadero Creek	0.46(b)	1	-----	-----	-----	91	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	23	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	24	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.



**TABLE C-13. TOTAL EMISSIONS FROM TRADITIONAL MAINTENANCE - PHASE II**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
Dragline Crane	0.20	0.19	0.84	2.00	0.17	0.16	0.16
<b>SUPPORT EQUIPMENT</b>							
Pickup Truck	0.01	0.01	0.09	0.00	0.00	0.00	0.00
Loader	0.03	0.03	0.06	0.20	0.01	0.02	0.02
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
STAGING AREAS - FUGITIVE DUST	-----	-----	-----	-----	-----	3.48	1.74
<b>TOTAL</b>	0.24	0.23	1.01	2.28	0.18	3.67	1.92
15% NOx reduction (w/o truck)				1.94			

**TABLE C-14. EQUIPMENT EMISSION SOURCE DATA FOR THE REDUCED BASIN SIZE ALTERNATIVE - PHASE I**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
SDG&E Dredge	500	1	0.70	10	350.0	23.4	234
SDG&E Cutter Head	70	1	0.70	10	49.0	23.4	234
Boosterpump	500	1	0.70	10	350.0	23.4	234
Dragline Crane	300	1	0.50	10	150.0	16	160
<b>SUPPORT EQUIPMENT</b>							
Support Boat	50	1	0.40	1	20.0	23.4	23.4
Pickup Truck (1)	-----	3	-----	10a	-----	23.4	702a
Loader	125	1	0.50	3	62.5	23.4	70.2
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Drive (2)	-----	2	-----	25a	-----	4	200a
18 Wheel Haul Truck - Idle (2)	-----	2	-----	5	-----	4	40
Yard Crane	163	1	0.50	10	81.5	4	40
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Tecolofito Creek	0.46(b)	1	-----	-----	-----	20	-----
Los Carneros Creek	0.46(b)	1	-----	-----	-----	16	-----
Atascadero Creek	0.46(b)	1	-----	-----	-----	22	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	16	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	12	-----
Goleta Beach	0.46(b)	1	-----	-----	-----	8	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(2) Each truck assumed to travel 25 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

**TABLE C-15. TOTAL EMISSIONS FROM THE REDUCED SIZE ALTERNATIVE - PHASE I**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	0.12	0.12	0.27	1.26	0.02	0.09	0.09
SDG&E Cutter Head	0.02	0.02	0.04	0.18	0.00	0.01	0.01
Boosterpump	0.12	0.12	0.27	1.26	0.02	0.09	0.09
Dragline Crane	0.03	0.03	0.12	0.29	0.02	0.02	0.02
<b>SUPPORT EQUIPMENT</b>							
Support Boat	0.04	0.04	0.13	0.00	0.00	0.00	0.00
Pickup Truck	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Loader	0.01	0.01	0.01	0.04	0.00	0.00	0.00
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Wheel Haul Truck - Idle	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Yard Crane	0.02	0.02	0.71	0.02	0.00	0.00	0.00
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
<b>STAGING AREAS - FUGITIVE DUST</b>	-----	-----	-----	-----	-----	1.93	0.97
<b>TOTAL</b>	0.37	0.35	1.62	3.14	0.08	2.16	1.19
15% NOx reduction (w/o trucks & boat)				2.66			

**TABLE C-16. EQUIPMENT EMISSION SOURCE DATA FOR THE INCREASED BASIN SIZE ALTERNATIVE - PHASE I**

EQUIPMENT TYPE	POWER RATING (HP)	NUMBER ACTIVE	LOAD FACTOR	HOURS USED PER DAY	TOTAL HOURLY USE (HP/HR)	TOTAL DAYS OF CONSTRUCTION	TOTAL EQUIPMENT HOURS
<b>DREDGING</b>							
SDG&E Dredge	500	1	0.70	10	350.0	53.3	533
SDG&E Cutter Head	70	1	0.70	10	49.0	53.3	533
Boosterpump	500	1	0.70	10	350.0	53.3	533
Dragline Crane	300	1	0.50	10	150.0	16	160
<b>SUPPORT EQUIPMENT</b>							
Support Boat	50	1	0.40	1	20.0	53.3	53.3
Pickup Truck (1)	-----	3	-----	10a	-----	53.3	1598a
Loader	125	1	0.50	3	62.5	53.3	159.9
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Drive (2)	-----	2	-----	25a	-----	4	200a
18 Wheel Haul Truck - Idle (2)	-----	2	-----	5	-----	4	40
Yard Crane	163	1	0.50	10	81.5	4	40
<b>OPENING SLOUGH MOUTH</b>							
Dozer	300	1	0.50	10	150.0	6	60
<b>STAGING AREAS - FUGITIVE DUST</b>							
Tecolotito Creek	0.46(b)	1	-----	-----	-----	20	-----
Los Carneros Creek	0.46(b)	1	-----	-----	-----	16	-----
Atascadero Creek	0.46(b)	1	-----	-----	-----	41	-----
San Jose Creek	0.46(b)	1	-----	-----	-----	22	-----
San Pedro Creek	0.46(b)	1	-----	-----	-----	20	-----
Goleta Beach	0.46(b)	1	-----	-----	-----	8	-----

(1) Each pickup truck assumed to travel 10 miles per day.

(2) Each truck assumed to travel 25 miles per day.

(a) Represents vehicle miles travelled.

(b) Represents the size of staging areas in acres.

**TABLE C-17. TOTAL EMISSIONS FROM THE INCREASED SIZE ALTERNATIVE - PHASE I**

EQUIPMENT TYPE	TOTAL TONS						
	TOC	ROC	CO	NOx	SOx	PM	PM10
<b>DREDGING</b>							
SDG&E Dredge	0.27	0.26	0.62	2.88	0.05	0.21	0.20
SDG&E Cutter Head	0.04	0.04	0.09	0.40	0.01	0.03	0.03
Boosterpump	0.27	0.26	0.62	2.88	0.05	0.21	0.20
Dragline Crane	0.03	0.03	0.12	0.29	0.02	0.02	0.02
<b>SUPPORT EQUIPMENT</b>							
Support Boat	0.10	0.09	0.29	0.00	0.00	0.00	0.00
Pickup Truck	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Loader	0.01	0.01	0.03	0.10	0.00	0.01	0.01
<b>PIPE and FLOAT HAULING</b>							
18 Wheel Haul Truck - Miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Wheel Haul Truck - Idle	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Yard Crane	0.02	0.02	0.71	0.02	0.00	0.00	0.00
<b>OPENING SLOUGH MOUTH</b>							
Dozer	0.01	0.01	0.02	0.08	0.01	0.01	0.01
<b>STAGING AREAS - FUGITIVE DUST</b>	-----	-----	-----	-----	-----	2.98	1.49
<b>TOTAL</b>	0.76	0.73	2.58	6.65	0.14	3.46	1.95
15% NOx reduction (w/o trucks & boat)				5.65			



## **APPENDIX D**

### **PUBLIC COMMENTS ON THE DRAFT EIR/EA AND RESPONSES**

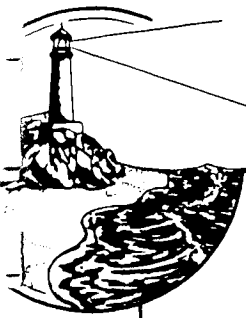




## **PUBLIC COMMENTS**

Comments on the Draft EIR/EA were received in both written form and verbally through a public hearing. Comments contained in letters and the minutes of the public hearing are numbered and included in the following section. Responses have also been numbered and follow the comments section. Where appropriate, changes have been made directly in the text of the DEIR/EA and this fact noted in the response.





# BEACON

BEACH EROSION AUTHORITY for CONTROL OPERATIONS and NOURISHMENT

OCT 9 12 10 PM '93

SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

6 October 1993

Karl Treiberg  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

**RE: Draft Environmental Impact Report/Environmental Assessment for  
Routine Maintenance Activities in the Goleta Slough (EIR-4; 92-CP-28)**

Dear Mr. Treiberg:


BEACON has reviewed the subject document. Our general comments are as follows:

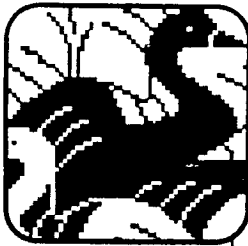
- 1 | 1. BEACON strongly supports the project's proposal to place beach quality sand in the surfzone east of Goleta Beach. Phase I would contribute an estimated 76,181 cubic yards of sand-sized material to the beach, with Phase II contributing an additional 110,525 cubic yards. The combined volume of the two Phases represents more than half of the net annual sediment transport along Goleta Beach. The project will benefit the coastline by widening downcoast beaches and reducing the need for immediate seawall construction.
- 2 | 2. Although the majority of the project conforms to BEACON's stated policy of retaining fluvial sediments within the fluvial/littoral transport system, the sediments which are to be removed from the Tecolotito and Carneros Creek Basins will be given away to private contractors for land fill uses. Grain size analyses of these sediments (see Appendix B) indicate general compatibility with Goleta Beach sand, thus BEACON urges that all project sediments be placed on the beach.
- 3 | 3. (Page 4.1-3). The erosion of sand from the shoreface by winter storm waves, and its associated transport into deeper water, is a seasonal process which is reversible. Long-term erosion is a separate (but related) process which is tied to local imbalances in the littoral transport rate. Long-term (as opposed to seasonal) beach erosion manifests itself over a period of several years or more.
- 4 | 4. (Pages 4.1-4, 4.1-5 and Appendix B). What is the connection between the sample numbers in Table 4.1-2, the boring numbers in Figure 4.1-2 and the sample numbers in Appendix B? A common numbering systems should be used for all.

5. (Page 4.1-5). The column marked "Ratio" in Table 4.1-2 should be marked "Overfill Ratio". A definition should be provided at the bottom of the table. Also, Table 4.1-2 should define how clay and silt percentages were computed and state the cut-off grain sizes for each sediment fraction. 5
6. (Page 4.1-8). Including Manning's and Bernoulli's equations in the text does not add anything to the discussion. Knowledgeable readers will already be familiar with these equations while other readers won't care. 6
7. (Page 4.1-17). The beach nourishment overfill ratio should not be used to estimate the amount of sand that will be suspended in a plume. The overfill ratio relates to the fraction of beach fill which will be transported into deeper water by wave sorting (i.e. near-bottom sediment transport processes). Processes relating to a visible plume occur at or near the water's surface. 7
8. (Page 4.1-20). It seems unlikely that the size of the plume generated by the proposed project size will be related in size to the plume generated by a storm runoff event. Runoff flows contain significant quantities of washload which is composed of very fine silts and clays. These sediments have very slow fall velocities and thus long residence times near the water surface. For this reason, washload sediments act as short-term tracers for the freshwater outflow which forms a thin layer overlying the denser ocean water. This layer, or plume, is moved about by wind- and ocean-driven currents. By contrast, project sediments will be much larger and will rapidly settle to the bottom. Waves will tend to disperse project sediments alongshore and, to a lesser degree, offshore. The primary zone of sediment movement will be longshore and confined to the immediate area of the surfzone. Sediment will also move in the cross-shore direction, but at a much slower rate. The zone of cross-shore movement will be limited to water depths of 20 feet or less. 8
9. (Pages 4.1-26, 4.1-27 and 4.1-28). The shoreline change modeling results (e.g. the ACOE Genesis Model) are confusing. Most shoreline evolution models (Genesis included) are based on the heat diffusion equation, since coastal sand transport can be represented as a combined advection/diffusion process. Simple analytic solutions (e.g. Larson et. al., 1987, ACOE Technical Report CERC-87-15) indicate that wave action tends to spread a volume of imported sand laterally (up and downcoast) while carrying it (as a whole) downcoast. For an observer on the beach, the beach width will gradually increase as the sand mass moves into the area. Latter, the beach will gradually narrow as the sand mass moves out of an area. The time required for the widening to first appear, and the time for the widening and narrowing processes to be completed, vary with the distance to the point of original deposition, the rate of longshore transport and the total volume of sand deposited. Figures 4.1-12 and 4.1-13 9

- 9 | don't seem to reflect this simple pattern. In fact, Figure 4.1-13 should not show any net change after the imported sand has moved out of the area. Two additional minor points: the vertical scale in Figure 4.1-12 is too small to be useful, and the orientation of the alongshore coordinate should be noted (e.g. which way is upcoast?).
- 10 | In summary, BEACON supports the proposed project. The Goleta Beach area will benefit from the additional sand that the project generates and the flood control benefits are clearly evident. Although the draft EIR/EA has a few technical problems that need correction, its overall conclusions (at least relating to coastal processes) are correct. If you have any questions relating to these comments, please feel free to contact me at (805) 684-5747.

Sincerely,

  
James A. Bailard, Ph.D.  
Technical Advisor



# Goleta Slough Management Committee

RECEIVED  
SEP 7 3 04 PM '93  
SANTA BARBARA COUNTY  
FLOOD CONTROL DISTRICT

Calif. Coastal  
Commission  
Calif. Dept. of Fish  
and Game  
Calif. Native Plant  
Society  
Delco Electronics  
Goleta Valley  
Mosquito  
Abatement  
District  
Goleta Sanitary  
District  
Land Trust for Santa  
Barbara Co.  
Private Property  
Owners  
Santa Barbara  
Airport  
Santa Barbara  
Audubon Soc.  
Santa Barbara City  
Planning  
Santa Barbara Co.  
Flood Control  
Santa Barbara Co.  
Parks Dept.  
Santa Barbara Co.  
Resource  
Management  
Dept.  
Southern California  
Gas Co.  
US Army Corps of  
Engineers  
US Fish and Wildlife  
Service  
UC Santa Barbara

September 23, 1993

Mr. Karl Treiberg  
Santa Barbara Co. Flood Control District  
123 East Anapamu Street  
Santa Barbara, CA 93101

## RE: COMMENTS ON DRAFT EIR/EA ON FLOOD CONTROL MAINTENANCE ACTIVITIES IN THE GOLETA SLOUGH

Dear Mr. Treiberg:

The Goleta Slough Management Committee has reviewed the EIR/EA  
referenced above and would like to offer the following comments:

### Project Description

1. It would be helpful if this section included a table or graphic that summarizes the projects being reviewed in the document. The EIR/EA covers several activities and this would help the reader understand what was being reviewed and at what level (coequal basis, etc.). 11
2. While some of the activities studied in this document are "routine," e.g., drag line dredging, the hydraulic dredge is not routine. We suggest that the project title delete the word "routine." 12

### Biological Resources

3. We noted that the impact on biological resources from a "large spill of fuel or hydraulic fluid" in several of the creeks is listed as a Class 1 impact. How is "large spill" defined? We understand that in the oil industry up to 5,000 gallons is considered a "small" spill and we aren't sure of the amount of fuel or fluid involved in this case. We suggest this be clarified. 13
4. We saw no mention of the three abandoned spoils areas near the confluence of Atascadero, San Pedro and San Jose Creeks. We understand that these three areas will no longer be used as spoils dewatering and storage sites assuming the hydraulic dredging of Atascadero Creek is successful. Is there any restoration of these areas 14



- 14 | planned as a part of this project? This appears to be a policy decision that may or may not be related to this project. In any case, these three areas seem appropriate for restoration and should be discussed in the report.

#### Plans and Policies

- 15 | 5. The fourth paragraph on page 5-2 describes the zoning in the vicinity of Tecolotito and Cameros Creeks. Please refer to the letter from the City of Santa Barbara staff relative to correct zoning in the vicinity of those two creeks.

#### Beneficial Impacts

- 16 | 6. Section 9.0 discusses the beneficial impacts from the project. We suggest that the discussion be strengthened relative to the project's benefits to the Slough, e.g., decreased siltation, keeping the mouth of the Slough open, etc.

Thank you for the opportunity to comment on this document.

Sincerely,



Karen Ramsdell  
Chairperson

# CITY OF SANTA BARBARA

## COMMUNITY DEVELOPMENT DEPT.

Planning Division ..... 564-5470  
Housing & Redevelopment Division ..... 564-5461  
Division of Land Use Controls ..... 564-5485  
Director's Office ..... 564-5455  
Fax Number ..... 564-5477



630 GARDEN STREET  
POST OFFICE BOX 1990  
SANTA BARBARA, CA 93102-1990

September 22, 1993

S.B. County Flood Control District  
c/o Karl Treiberg  
123 E. Anapamu Street  
Santa Barbara, CA 93101

SUBJECT: DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL  
ASSESSMENT FOR ROUTINE MAINTENANCE ACTIVITIES IN THE GOLETA  
SLOUGH

Dear Karl:

The City of Santa Barbara Planning Division has reviewed the Draft EIR/EA prepared for the Goleta Slough maintenance activities the Flood Control District is proposing. Additionally, because the City intends to rely on this document when the Planning Commission considers the application for the required Coastal Permits, the Environmental Review Committee and the Planning Commission have reviewed the document. The following comments relate to the document's discussion of the maintenance activities subject to the City's review (activities in Tecolotito and Carneros Creeks).

### INTRODUCTION/SUMMARY OF IMPACTS

Page 1-3, under Biological Resources, Description of Impact- What is the definition of "large spill"? | 17

### PROJECT DESCRIPTION

The map shown on pages 2-3, 4.1-4, 4.9-2, and 4.10-2 incorrectly identify the area of dredging in Tecolotito and Los Carneros Creeks. | 18

Page 2-4, Project Characteristics- What amount of sediment would be removed from the existing Tecolotito Creek and Carneros Creek basins? | 19

Same page, paragraph 5- Where would the public obtain access to remove the spoils? | 20

### ENVIRONMENTAL SETTING

Page 3-2, first full paragraph- Which drive-in theater is being referred to? | 21

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FLOOD CONTROL DISTRICT

- 22 | Same page, under Carneros Creek and Tecolotito Creek- When did these activities last occur?
- 23 | Same page, bottom of page- The Santa Barbara Airport is also to the east of the Goleta Slough.
- 24 | Page 3-7, under California Department of Fish and Game (DFG)- Maintenance conducted within the City watercourses are also required to obtain a Section 1601 Agreement with DFG. The Goleta Slough was established as part of the State Ecological Reserve System in 1987. This System is managed by DFG. This should be mentioned along with the required review by them.
- 25 | Same page, last sentence- Development at the Airport is not only subject to all of the policies contained in the Airport and Goleta Slough Coastal Plan (Component area nine of the City) but also all of the coastal policies contained in the City's Land Use Plan for the other eight component areas of the Coastal Zone. The regulations contained in Title 29 of the City Municipal Code and the goals and policies of the Conservation and Seismic Safety/Safety Elements apply to the project.
- 26 | Page 3-8, under City of Santa Barbara- Should add "The City Planning Commission will review and take action on the portion of the project within the City's jurisdiction" at the end of the paragraph.
- 27 | Page 3-10, Santa Barbara Municipal Airport- It should be made clear that numbers 1-6, 11-13, and 15 are alternative based, that is, not all of those items would occur. The EIR prepared on the Santa Barbara Master Plan will evaluate each of the proposed alternatives to determine which is environmentally superior.

#### AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

- 28 | Discussions in the Water Resources/Flooding, Air Quality and Geology Sections do not differentiate the impacts due to the hydraulic dredge and the dragline desilting. Please indicate the relationship between each activity and potential impacts as was done in subsequent sections of the document.
- 29 | Discussions in the document do not address the long term stock pile of the spoils nor does the document discuss the potential impacts due to the removal of the spoils (i.e.- Air quality, biological resources, noise, aesthetics, traffic/circulation).

#### Air Quality

- 30 | Are there any Air Quality impacts, due to wind erosion, associated with the long term stock pile of the spoils?
- 31 | Page 4.2-13- A mitigation measure should be added to require all trucks transporting excess spoils off-site be tarped.

Geology

Page 4.3-1, first paragraph- Why weren't the sites proposed for dragline desilting included? | 32

Biological Resources

Page 4.4-9, first full paragraph, third line- Should include "or City" after the word County. | 33

Same page, under Proposed Project- Would impacts/disturbances occur to the creek banks due to dragline desilting? | 34

Page 4.4-11, first couple of paragraphs- What happens if the spoils are not removed by the public? Would Flood Control District remove them within a specified amount of time? If not, what are the long term impacts to biological resources of leaving the spoils there? Would native species reclaim them? Is re-vegetation necessary? | 35

Page 4.4-12, last paragraph, lines 5 & 6- What is the definition of "very small spills" and "larger spills"? | 36

Page 4.4-20 & 4.4-21- Under "1.e", same comment as above, what happens if spoils are not removed by the public. Under "3.d", what is the definition of "very slow"? | 37

The EIR/EA should include discussion under the Biological Resource Section regarding spoil removal by public. How will areas be accessed, what impacts associated with removal in terms of habitat disturbance, should the time of year be limited, etc.? | 38

Noise

What noise impacts/levels would be associated with the removal of the spoils? | 39

Cultural Resources

Page 4.7-1 and 4.7-4- The City Landmarks Committee recently accepted a Phase I Archaeological Assessment for the Santa Barbara Municipal Airport property. The Airport Phase I should be discussed in the EIR/EA. The Airport Phase I indicates the project sites as being in a Prehistoric and Historic Native American sensitivity area. The study concludes that there is a low probability of finding cultural deposits in this area and given this, only a surface survey of the project site should be performed by a qualified archaeologist. The Cultural Resource section of the EIR/EA focuses on recorded sites and does not mention if an archaeologist performed a surface survey in these areas. Pursuant to the Airport Phase I, a qualified archaeologist must perform a surface survey on the proposed sites. Prior to the acceptance of the Airport Phase I by the Landmarks Committee, a full Phase I Cultural Resource Study, pursuant to the requirements of the City's Master Environmental Assessment, would have been required. | 40

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**APPENDIX C**  
**PROPOSED FINAL SUPPLEMENT TO THE ENVIRONMENTAL**  
**IMPACT REPORT (93-EIR-4)**  
**GOLETA SLOUGH DREDGING PROJECT**  
**SEPTEMBER 2000 - CD**

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**BOARD OF SUPERVISORS OF THE COUNTY OF SANTA BARBARA  
STATE OF CALIFORNIA  
CLERK OF THE BOARD OF SUPERVISORS**

\* \* \* \* \*

**MINUTE ORDER**

September 12, 2000, in the p. m.

**Present:** Supervisors Naomi Schwartz, Susan Rose, Gail Marshall,  
Joni Gray, and Thomas Urbanske  
Michael F. Brown, Clerk (Allen)  
Supervisor Rose in the Chair

**RE:** BOARD OF DIRECTORS, FLOOD CONTROL AND WATER CONSERVATION DISTRICT HEARING - Consider recommendations regarding the Goleta Slough Dredging Project, Second and Third Districts, as follows: (00-21,487) (FROM AUGUST 15, SEPTEMBER 5, 2000) (EST. TIME: 20 MIN.)

- a) Certify the Supplement to the Environmental Impact Report, 93-EIR-4, prepared for the project pursuant to the California Environmental Quality Act Guidelines;
- b) Certify that the Board has reviewed and considered the information contained in the Supplement to 93-EIR-4 as well as information presented during the public hearing and adopt the CEQA Findings.

**COUNTY ADMINISTRATOR'S RECOMMENDATION: APPROVE**

**Marshall/Schwartz** a) and b) Certified.



# SANTA BARBARA COUNTY BOARD AGENDA LETTER



Clerk of the Board of Supervisors  
105 E. Anapamu Street, Suite 407  
Santa Barbara, CA 93101  
(805) 568-2240

Agenda Number: 5  
Prepared by: [blank]  
Department Name: Flood Control/Public Works  
Department No.: 054-04-03  
Agenda Date: 090/12/00  
Placement: Departmental  
Estimate Time: 20 minutes  
Continued Item: NO  
If Yes, date from: [blank]  
Document Name: Brdsep12.goletaslough.doc

**TO:** Board of Directors  
Santa Barbara County Flood Control and Water Conservation District

**FROM:** Phillip M. Demery *PDF for PMB*  
Public Works Director

**STAFF CONTACT:** Karl Treiberg, Engineering Environmental Planner, Ext. 3443

**SUBJECT:** Goleta Slough Dredging Project, Second and Third Supervisorial District

## Recommendation(s):

That the Board of Directors:

- A. Certify the Supplement (SEIR) to the Environmental Impact Report (93-EIR-4) prepared for the project pursuant to the California Environmental Quality Act (CEQA) Guidelines; and
- B. Certify that the Board has reviewed and considered the information contained in the Supplement to 93-EIR-4 as well as information presented during the public hearing and adopt the CEQA Findings included in Attachment 1.

## Alignment with Board Strategic Plan:

The recommendations are primarily aligned with Goal No. 2. A Safe and Healthy Community in Which to Live, Work, and Visit.

## Executive Summary and Discussion:

In 1994, the Board approved and certified the Environmental Impact Report for the Goleta Slough Dredging Project (93-EIR-4). A Supplement (SEIR) to the Environmental Impact Report (93-EIR-4) has been prepared for the project. Under Section 15216 of the CEQA Guidelines, a supplement to a previously certified EIR must be prepared if substantial changes have occurred "with respect to the circumstances under which the project is undertaken" due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The District determined that a Supplement to the EIR for the project is required because two new environmental issues have arisen since implementation of the project and a minor modification to the project description is proposed. The SEIR addresses potential impacts to the endangered southern steelhead and effects of the project on water quality. In addition, the SEIR includes the option of moving the dredge discharge to the west end of the Goleta Beach Park to provide beach nourishment. This addition will allow the County more options to beach erosion,

which prompted emergency protection measures last winter by the Parks Department. A discussion of impacts to recreation and aesthetics are discussed in the SEIR as they relate to moving the discharge.

The project consists of removing sediment that has been deposited from Atascadero, San Jose, San Pedro, Carneros, and Tecolotito Creeks within the Goleta Slough. Sediment will be removed with a hydraulic dredge and/or a crane rigged with a dragline. The SEIR considers dragline desilting for the creeks if the sediment is not suitable for surf zone disposal. Hydraulic dredging on Atascadero, San Jose, and San Pedro Creeks is proposed if the sediment is suitable for surf zone disposal. As your Board is aware, the surf zone disposal option aids in achieving beach nourishment which is desired by your Board and BEACON.

Prior to your Board approving the project, Goleta Slough was undergoing sedimentation and thus the loss of salt marsh habitat. In addition, the loss of capacity in the Slough threatened adjacent and upstream urban areas including residential and commercial development. The Santa Barbara Airport is also deeply impacted by the condition of the creeks in the Slough.

Staff will work closely with Parks Department to maximize the nourishment of Goleta Beach for protection of the park facilities. Historically, excavated material from Tecolotito and Carneros Creeks has been removed by private contractors. Staff has committed to make this material available to Parks first, if suitable for beach nourishment or deposition in the surf zone.

The SEIR was circulated for public review for 45 days. The District received two comment letters. Comments generally were concerned with the need for the project, emergency maintenance, beach nourishment, and impacts on steelhead. Responses to those comments are included in the SEIR. As a result of those comments, modifications were made to the SEIR to address the concerns of the commentors.

The District has applied for permit renewals from the Corps of Engineers, Coastal Commission, State Lands Commission, California Department of Fish & Game, City of Santa Barbara and the Planning & Development Department. The Regional Water Quality Control Board Permit is still valid. In addition, the District consulted with the National Marine Fisheries Service for steelhead for this project. The District is currently negotiating with the EPA for permission to discharge sediments at Goleta Beach. The District expects to conduct maintenance in October pending approval from the regulatory agencies listed above.

### **Mandates and Service Levels:**

Dredging the slough this year is estimated to cost \$350,000. This project is budgeted this FY in Dept: 054, Acct: 7701, Fund: 2610, Program: 3002.

### **Fiscal and Facilities Impacts:**

There are no fiscal or facilities impacts with this action.

**Special Instructions:**

Direct the Clerk of the Board to send a copy of the minute order to the Flood Control office, attn: Karl Treiberg.

## ATTACHMENT 1

### 1.0 CEQA FINDINGS

#### FINDINGS PURSUANT TO PUBLIC RESOURCES CODE SECTION 21081 AND THE CEQA GUIDELINES SECTIONS 15090 AND 15091:

##### A. CONSIDERATION OF THE SUPPLEMENT TO 93-EIR-4

The Supplement (SEIR) to 93-EIR-4 was presented to the Board of Directors and all voting members of the Board have reviewed and considered the SEIR and its appendices prior to approving this proposal. In addition, the Board has reviewed and considered testimony and additional information presented at or prior to the public hearing on September 12, 2000.

##### B. FULL DISCLOSURE

The Board of Directors finds and certifies that the SEIR constitutes a complete, accurate, adequate and good faith effort at full disclosure under CEQA, and represents the independent judgement of the Board of Directors. The Board further finds and certifies the SEIR has been completed in compliance with CEQA and is adequate for this project.

##### C. LOCATION OF DOCUMENTS

The documents and other materials which constitute the record of proceedings upon which this decision is based are in the custody of the Deputy Director of the Water Resources Division, Santa Barbara County Public Works, located at 123 E. Anapamu St., Santa Barbara, CA 93101.

##### D. FINDINGS THAT CERTAIN IMPACTS ARE MITIGATED TO INSIGNIFICANCE BY CONDITIONS OF APPROVAL

The SEIR for the Goleta Slough Dredging Project identifies significant but mitigable impacts for Biological Resources, Recreation, and Water Resources. Each of these impacts is discussed below along with the appropriate findings as per CEQA Section 15091:

###### 1. Biological Resources

Due to the noise and turbidity associated with dredging, steelhead could be expected to avoid the vicinity of the dredge, and dredging 24 hours a day could interfere with their migration upstream. Beginning maintenance October 15 will help avoid the rainy season when steelhead would be expected to be in the area. If the creeks entering the slough begin to flow, dredging will be reduced to less than 24 hours a day. These mitigation measures will reduce impacts to steelhead to a less than significant level.

## 2. Recreation

Discharging dredged sediments into the surfzone at Goleta Beach would have the potential to affect recreational activities. Closing the beach within 200' of the discharge and posting advisories on the beach informing the public of potential exposure to elevated levels of bacteria will protect beach users. These mitigation measures will reduce impacts to Recreation to a less than significant level.

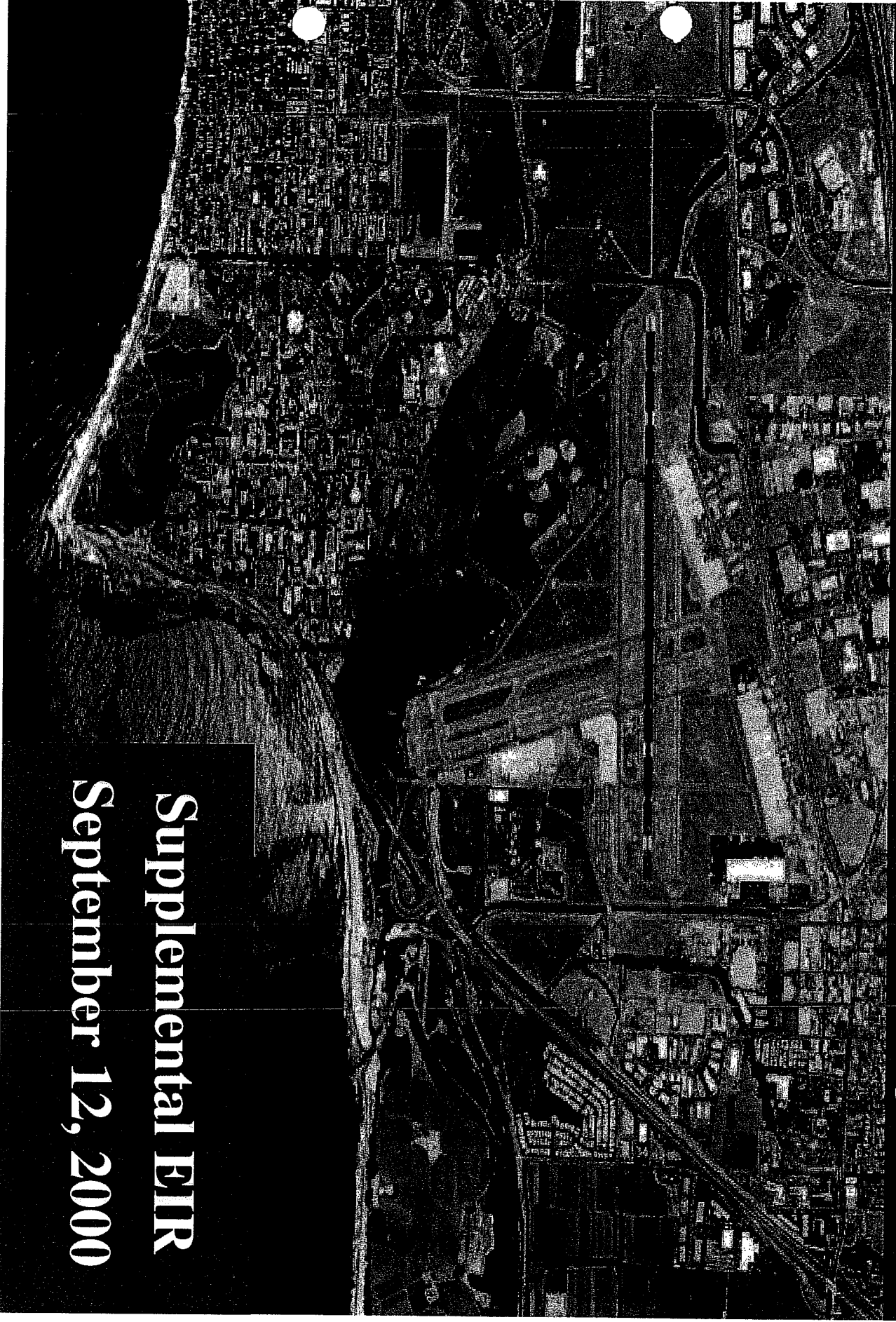
## 3. Water Resources

Bacteria levels near the discharge location are expected to periodically exceed state criteria for protection of public health in the immediate vicinity of the discharge. Posting advisories at the beach prior to, during, and after dredging occurs will protect the public from exposure to elevated levels of bacteria. This mitigation measure will reduce impacts to water quality to a less than significant level.

## E. ENVIRONMENTAL REPORTING AND MONITORING PROGRAM

Pursuant to Public Resources Code Section 21081.6, the Board hereby adopts the approved project description and mitigation measures, with their corresponding mitigation monitoring requirements, as the monitoring program for this project. The monitoring program is designed to ensure compliance during project implementation and mitigation or avoidance of significant effects on the environment.

# Goleta Slough Dredging Project



Supplemental EIR  
September 12, 2000

1940-1941

1941-1942

1942-1943

1943-1944

1944-1945

1945-1946

1946-1947

1947-1948

1948-1949

1949-1950

1950-1951

1951-1952

1952-1953

1953-1954

# Project Operation

- Hydraulic Dredging of Slough – Beach Nourishment
- Previous Contracts; 1994-95, 1995-96, 1998

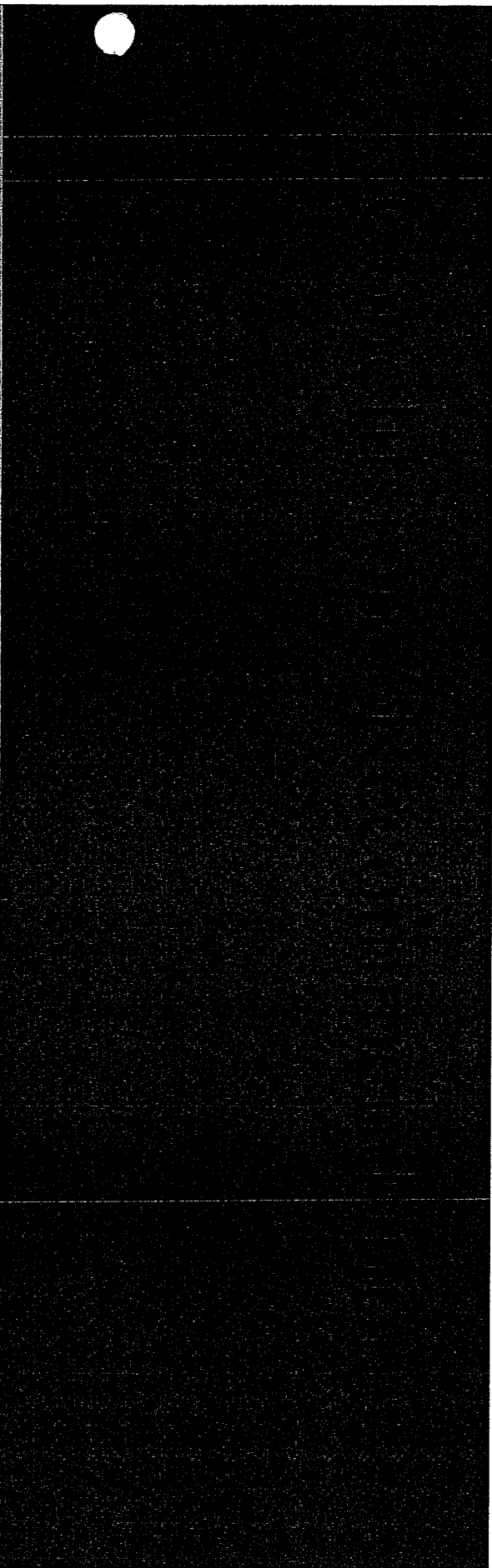
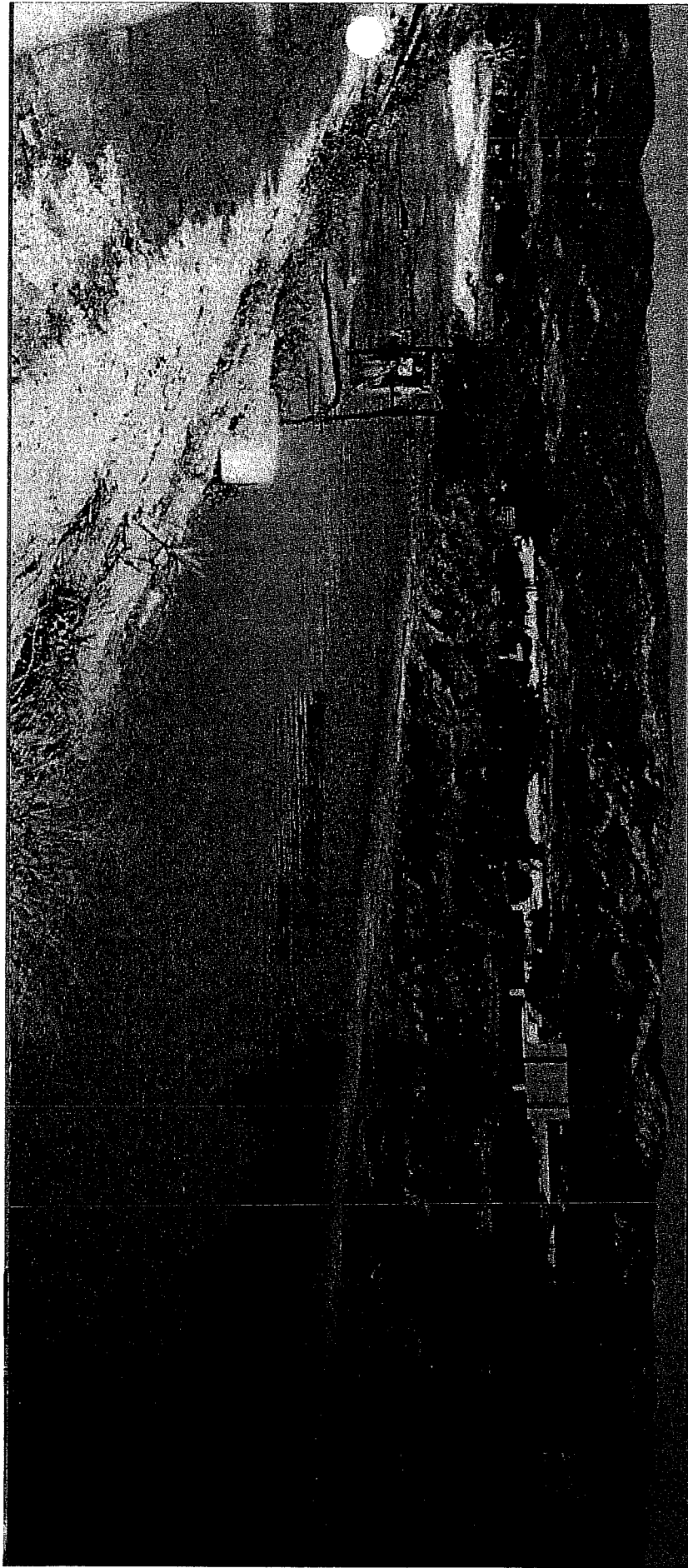
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# Supplemental EIR Issues

- Purpose
- New Issues Addressed / SEIR Recommendations
  - Steelhead, Listed Endangered Species
  - Water Quality / Recreation
  - Additional Beach Nourishment Sites
- Public Comments







# County of Santa Barbara Planning and Development

John Patton, Director

#57

## TRANSMITTAL OF PROPOSED FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT GOLETA SLOUGH DREDGING PROJECT

Supplement to 93-EIR-4 (State Clearinghouse # 2000031092)

September 1, 2000

COUNTY OF SANTA BARBARA  
BOARD OF SUPERVISORS  
CLERK OF THE

2000 SEP -6 AM 11:08

Pursuant to the California Environmental Quality Act (CEQA), a proposed Final SEIR has been prepared for the Goleta Slough Dredging Project. This proposed Final SEIR discusses the potential environmental impacts of the proposed project and suggests measures which could eliminate or reduce these impacts. As a result of this project, Class II significant effects on the environment are anticipated in the following categories: Biological Resources, Water Resources, and Recreation. This SEIR is intended to serve as an informational document that informs the public, decision-makers and other interested agencies of the potential environmental consequences of the proposed project. The SEIR will be reviewed by the decisionmakers in their consideration of the proposed project. While CEQA requires that major consideration be given to avoiding environmental damage, the County of Santa Barbara and other responsible public agencies are obligated to balance the environmental effects of the project with other public objectives, including economic and social factors, in determining whether and in what manner, the project should be approved.

A Draft SEIR for the Goleta Slough Dredging Project was released for public review on July 12, 2000. The public review period closed on August 26, 2000. **All comments received on the Draft SEIR have been responded to in the Response to Comments section of the proposed Final SEIR.<sup>1</sup> Where appropriate, changes have been made to the Draft SEIR text in response to comments received, and have been incorporated into this proposed Final SEIR.**

County staff will prepare a staff report and forward it with the proposed Final SEIR and staff recommendation to the Board of Supervisors. The Board of Supervisors will review the environmental document and the staff report and will conduct a public hearing at a later date. Please contact Karl Treiberg, of the Santa Barbara County Flood Control District at 805/568-3440 for additional project and hearing date information. Final action on the project and certification of the EIR will be taken by the Board of Supervisors at their public hearing.

If a copy of the proposed Final SEIR is not attached, a copy may be obtained at S.B. County Flood Control District offices at 123 E. Anapamu Street, S.B., CA 93101. All documents referenced in the EIR are also available for review at that location. Additionally, the proposed Final SEIR is available for review at the Santa Barbara Public Library, 40 E. Anapamu Street, Santa Barbara, CA and the Goleta Branch Library, 500 N. Fairview Avenue, Goleta, CA.

*Patricia S. Miller for*  
Jackie Campbell, Environmental Hearing Officer

<sup>1</sup> Pursuant to PRC 21092, public agencies that commented on the draft EIR are herewith provided a copy of the Final EIR or relevant portions and our response to agency comments.

**PROPOSED FINAL  
SUPPLEMENT TO THE ENVIRONMENTAL IMPACT  
REPORT (93-EIR-4)**

**GOLETA SLOUGH DREDGING PROJECT**

**State Clearinghouse No. 2000031092**

**September 2000**

**Prepared by:**

**Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101**

**Prepared with the assistance of:**

**Science Applications International Corporation  
816 State Street, Suite 500  
Santa Barbara, CA 93101**

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## 1.0 INTRODUCTION

A *Final Program Environmental Impact Report/Draft Environmental Assessment for Routine Maintenance Activities in the Goleta Slough* (93-EIR-4, 92-CP-28) was prepared in November 1993 in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA). This Supplement to that Environmental Impact Report (EIR) is being prepared to support renewal of permits for routine maintenance activities in Goleta Slough and to consider new information that has become available since the EIR was completed. The new information includes the federal listing of steelhead as endangered and designation of critical habitat, another potential location for disposal of the dredge material along the beach, and water quality data related to the dredging discharge.

This Supplement to the EIR focuses on analysis of the new information.

## 2.0 PROJECT DESCRIPTION

### 2.1 PROPOSED ACTION

The proposed project is essentially the same as that described in 93-EIR-4 and is summarized here. The Santa Barbara County Flood Control District (District) has routinely maintained the creeks that flow into Goleta Slough for over 25 years. In the past five years this has included dragline desilting of the sedimentation basins in Tecolotito and Carneros creeks, and hydraulic dredging the sedimentation basins in Atascadero, San Pedro, and San Jose creeks. Figure 1 shows the locations of these basins and the spoil disposal areas adjacent to Tecolotito and Carneros creeks. Sediments dredged from the other three creeks were discharged into the surf zone east of the mouth of the slough. An alternative discharge location at the west end of the park is being added to the project as shown in Figure 1. The project also includes periodic breaching of the sandbar at the mouth of the slough.

In the proposed project, dragline desilting would continue to be used for the sedimentation basins in Tecolotito and Carneros creeks, and the spoils would be stored on adjacent disturbed uplands for dewatering before being made available to the public. Typically, dragline desilting would take place 10 hours per day, five days a week. An estimated 100 cubic yards per hour can be removed by dragline desilting. The length of time necessary to complete the work in any given year is estimated to be four weeks or less at each creek, depending on the amount of sediment that has accumulated since the last desilting operation. Removal of the spoils by the public usually occurs in less than one year. Most of the spoils are taken by contractors who must obtain an encroachment permit before bringing their own loader and truck to the spoil storage site. No more than five trucks per hour are allowed to haul spoil away, and a District representative is present when spoils are being removed. Access to Tecolotito Creek is from Hollister Avenue while access to Carneros Creek is from Firestone Road.

Hydraulic dredging would be performed with a cutterhead dredge, similar to an Ellicot 370, selected by the contractor. The dredge is approximately 12 feet wide by 40 feet long and can remove about 200 cubic yards per hour. Dredging would occur 10 hours per day but could take

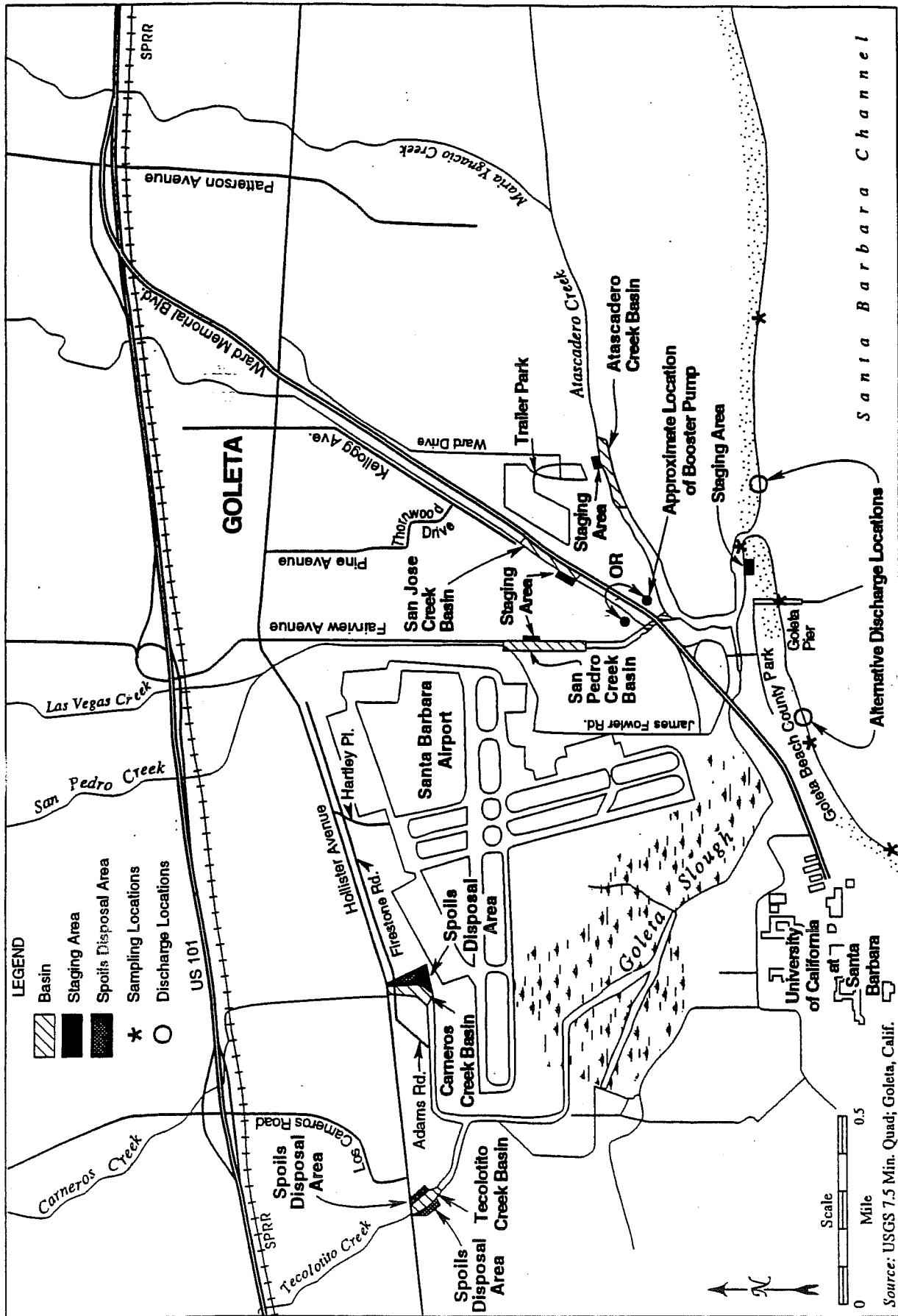


Figure 1  
 LOCATION OF KEY PROJECT COMPONENTS

place up to 24 hours a day, seven days a week. The number of days necessary to remove the silt from each of the sedimentation basins in Atascadero, San Pedro, and San Jose creeks would depend on the amount that has accumulated since the last desilting operation. The dredge is moved forward in the sedimentation basin with cables pulled by a truck on existing access roads along the basins banks. The dredged materials are transported to the beach through a 10- to 12-inch diameter polyurethane pipe and discharged into the surf zone where the sands are distributed by wave action along the beach. The discharge point would be moved back and forth along approximately 100 feet of beach every few days, using a loader, for more even distribution of the sand. The pipeline would be trucked from one creek to the next and/or transported by small boat. The discharge point would be either east of the eastern parking lot or just west of the western parking lot (see Figure 1). The latter location would provide the maximum beach nourishment benefits for Goleta Beach County Park.

If sediments that have accumulated in Atascadero, San Pedro, and San Jose creeks are found to be unsuitable for beach disposal (as determined by the Corps of Engineers based on sediment testing), the sedimentation basins would be maintained by the dragline desilting method as described in 93-EIR-4 under traditional maintenance. This desilting operation would take twice as long as hydraulic dredging since only half as much sediment could be removed per hour by the dragline. In addition, work would occur no more than 10 hours per day. The sediments removed would be stockpiled adjacent to the basins until removed by the public (see Figure 2). These storage areas would be "bluetop" staked where sensitive biological or cultural resources are present to limit excavation on the spoils to above the resource.

Sedimentation basin maintenance is normally required at approximately three- to five-year intervals. Severe storm events or fires in the watershed, however, can increase that frequency to annually. Dragline desilting requires one or two workers plus a District representative while dredging requires a minimum of three workers.

Timing of the maintenance activities would be contingent upon conditions imposed by permits. Past permits have restricted beach disposal to 1 November to 1 March and desilting in Carneros and Tecolotito creeks to 1 August to 1 November. Traditional maintenance (by dragline) in Atascadero, San Pedro, and San Jose creeks would likely be on the same schedule as Carneros and Tecolotito creeks. Sampling of the sediments to be dredged and discharged on the beach has been required by the Regional Water Quality Control Board (RWQCB) and Corps of Engineers to determine their suitability for such discharge. Parameters to be sampled included total and fecal coliform bacteria, particle size distribution, and chemicals such as heavy metals, selected pesticides, and polynuclear aromatic hydrocarbons.

## 2.2 PROJECT ALTERNATIVES

A number of alternatives were addressed in 93-EIR-4 in accordance with CEQA and NEPA. The alternatives considered and not carried forward as well as the No-Project Alternative have not changed and are not addressed in this Supplement. The sedimentation basin sizes have already been established and would not be changed. The only other alternatives considered in this Supplement to the EIR are related to location of the beach discharge for dredging operations as noted above.



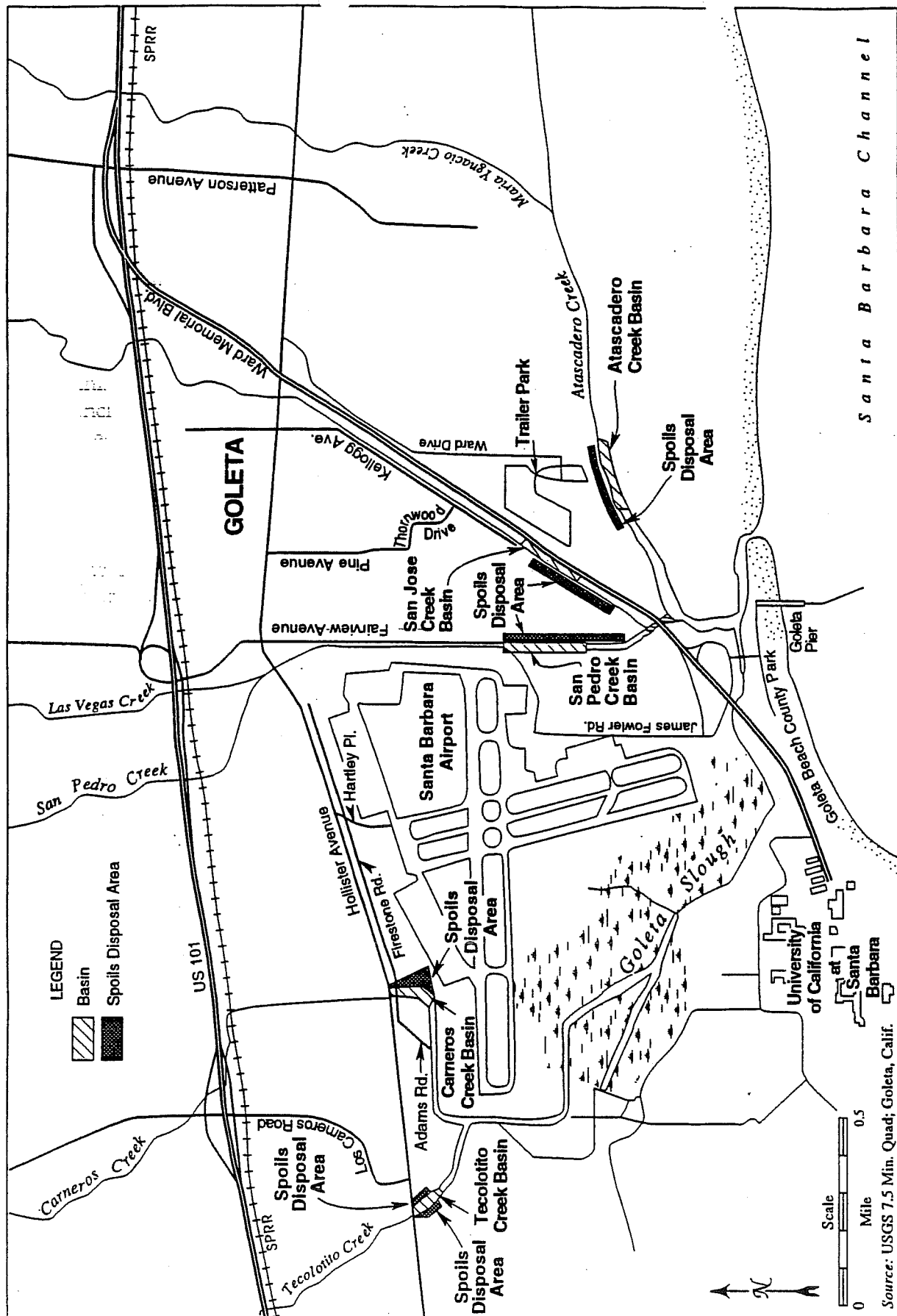


Figure 2  
TRADITIONAL MAINTENANCE PROJECT COMPONENTS

## **3.0 ENVIRONMENTAL SETTING**

### **3.1 EXISTING SITE AND SURROUNDING LAND USES**

Goleta Slough and the five creeks that drain into it were described in 93-EIR-4. Undisturbed areas within the slough support salt marsh plants such as pickleweed, and the slough is an ecologically important area for a variety of wildlife and aquatic species. The surrounding land uses have not changed appreciably since 93-EIR-4 was prepared. Atascadero Creek, from the confluence of Hospital Creek to the check structure at Ward Drive (a distance of 2.1 miles), is regularly maintained by the District for flood control purposes under the approved Atascadero Creek Maintenance Program. This program underwent CEQA review, and a supplement to the EIR (SB Flood Control 2000) is being prepared to address the new issues of potential impacts to steelhead and stormwater quality.

### **3.2 COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS**

Environmental requirements have not changed, but the federal listing of steelhead as endangered requires analysis of the potential project impacts on this species under CEQA and NEPA, and as part of the permitting process.

### **3.3 PROJECTS CONSIDERED FOR CUMULATIVE ANALYSES**

CEQA requires that the cumulative impact analysis discuss the incremental change in the environment resulting from impacts of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Projects considered for the cumulative analysis are listed in Appendix A. Most of these projects are located in upland areas and are expected to have no direct effects on the waters and habitats of Goleta Slough, although some indirect effects could occur as discussed below. The primary project that could contribute to cumulative impacts in Goleta Slough is the Atascadero Creek Maintenance Project.

## **4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

The following descriptions and analyses focus on the new information available since the original EIR was prepared.

### **4.1 WATER RESOURCES**

#### **4.1.1 Affected Environment**

Water quality of local streams and coastal waters has become a public health issue in recent years after sampling found periodically high concentrations of coliform and enterococcus bacteria in these waters. The primary source of these bacteria in coastal waters along the

beaches appears to be runoff from coastal streams. Project Clean Water was initiated by the County of Santa Barbara in cooperation with the Cities of Santa Barbara and Carpinteria in 1998 to investigate the sources and levels of bacterial contamination in local waters (URS Greiner Woodward-Clyde 1999). As part of the District's past hydraulic dredging of the sedimentation basins, water samples were regularly collected at several locations along the beach (1,200 m and 600 m west of Goleta Pier, at the pier, and 1,200 m east of the pier) and in the slough mouth for bacterial analysis from 19 October 1998 through 25 January 1999 (see Figure 1 for sampling locations).

State health and safety regulations were established by Assembly bill 411 (AB411) for bacteria in waters adjacent to public beaches or areas of public water contact sports on 26 July 1999. Counties and cities are allowed to adopt more stringent standards under AB 411. The bacterial standards for a single sample are:

- 1,000 total coliform bacteria per 100 ml (if fecal to total ratio is greater than 0.1), or
- 10,000 total coliform bacteria per 100 ml, or
- 400 fecal coliform bacteria per 100 ml.

Fecal and total coliform bacteria are present in the water and sediments of Goleta Slough. Water samples from near the slough mouth showed both total and fecal coliform bacteria levels to range from near 0 to over 1,600 MPN. (Bacterial levels are expressed as the 'most probable number' [MPN] of individual bacterial cells, and the maximum reporting value was 1,600 MPN.) The results of this sampling are shown in Figures 3 and 4 (dashed lines). The peak numbers occurred both when the slough mouth was open and when it was closed (open after 20 November 1998). In addition, total coliform bacteria levels in the slough usually increased after rainfall, and when the slough mouth was open, the levels usually increased for a short time at the down coast sampling location (see Figure 3).

Bacterial sources in the slough include runoff from the watersheds of the creeks tributary to the slough (includes urban, agricultural, and undeveloped lands) and bird use of the slough and creek waters. The fate of these bacteria depends on a variety of environmental conditions such as temperature, salinity, and predation. These conditions may even favor bacterial growth at times. In addition, die-off rates in sediments are much lower than in water (Gerba and McLeod 1976), so sediments can act as a sink for bacteria. The sediments to be dredged can contain varying amounts of bacteria depending on the level in the overlying water, rates of sediment deposition, depth of sediments, predation, and growth rates. Samples taken when no dredging discharge occurred indicate that bacterial levels in the water along Goleta Beach vary from near 0 to 900 MPN for total coliform bacteria and are less than 200 for fecal coliform bacteria (Figures 3 and 4).

Other pollutants that may enter Goleta Slough in stormwater runoff, groundwater seepage, and irrigation runoff include nutrients, herbicides, pesticides, petroleum hydrocarbons, and heavy metals. The sources of these pollutants are related to human activities in the watershed of the slough and its tributary streams. Most of these pollutants (except nutrients) have a very low solubility in water and, thus, adsorb onto particulate matter such as sediments. Sediment testing is required by RWQCB prior to dredging, and these before past dredging in the slough

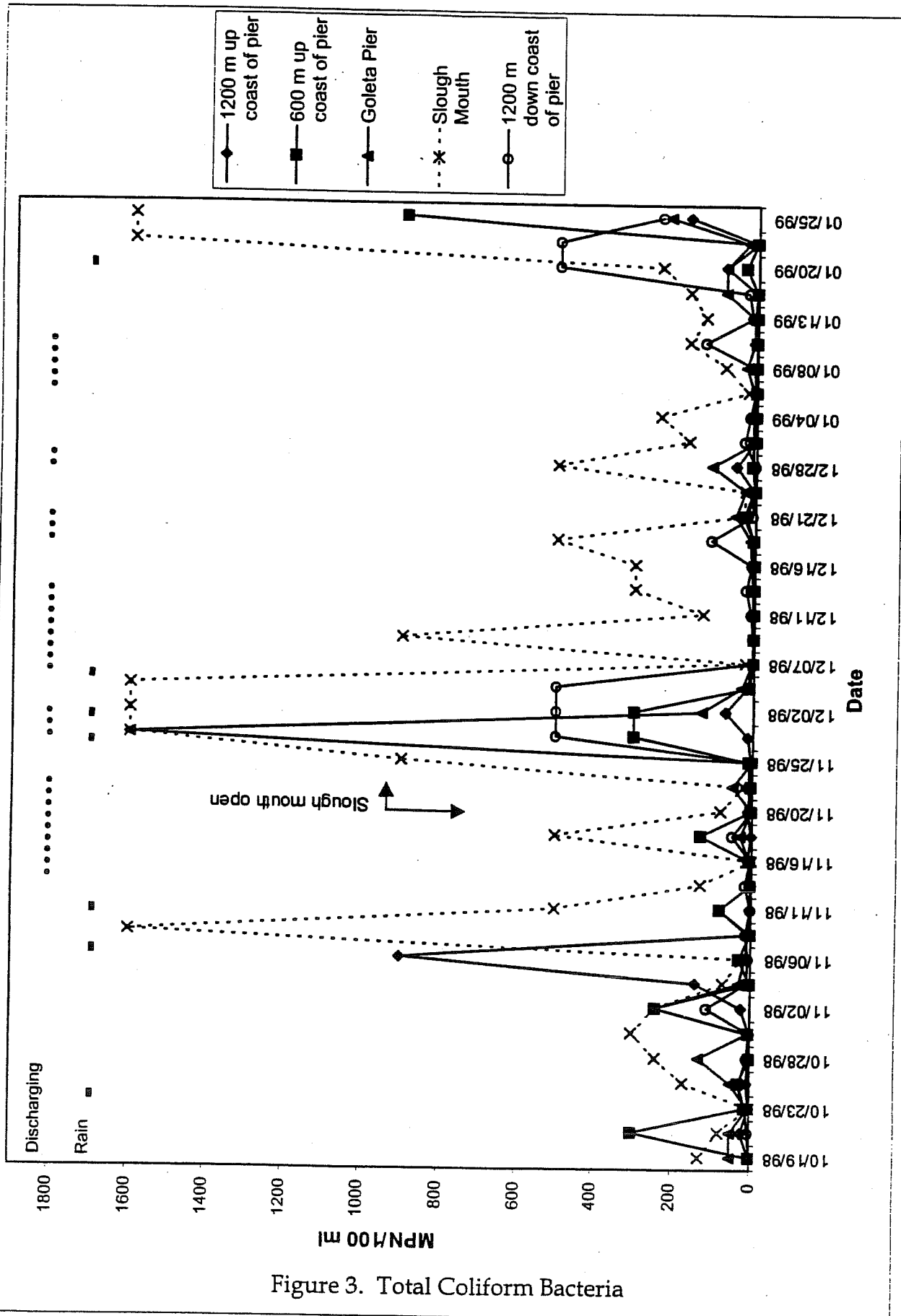


Figure 3. Total Coliform Bacteria

have shown pollutants in the sediments to be at very low levels that are not a water quality or health concern.

#### 4.1.2 Environmental Consequences

Dredging the sedimentation basins in Carneros and Tecolotito creeks using a dragline would have essentially the same impacts on water resources and water quality as described in 93-EIR-4. Hydraulic dredging or dragline desilting of the Atascadero, San Jose, and San Pedro creek sedimentation basins would also have impacts as described in that EIR. Hydraulic dredging discharges on the beach at either of the alternative locations could adversely affect water quality through release of turbidity and bacteria. Turbulence in the surf zone and longshore currents would dilute and disperse the discharged materials. Turbidity effects would be localized and of short duration, disappearing within hours after the discharge stops. The extent of the turbidity plume would depend on local current patterns at the time of the discharge (e.g., tidal and longshore currents). The estimated extent of the plume in 93-EIR-4 was 475 m long by 212 m wide. The presence of turbid storm runoff may also be present at times and could mask dispersion of the project plume. Impacts of turbidity on water quality are expected to be adverse but not significant (Class III) due to their short duration and their occurrence during the time of year when storm runoff can produce similar turbidity.

Based on the results of the monitoring prior to, during, and after dredging discharges took place and sampling of bacterial levels in ocean waters up and down the coast from the Arroyo Burro Creek mouth (URS Greiner Woodard-Clyde 1999), the proposed continuation of this discharge whenever dredging is necessary would have intermittent and temporary impacts on water quality in terms of bacteria levels. The Arroyo Burro Creek study showed that elevated total coliform bacteria levels (above 10,000 MPN/100 ml) extended less than 100 m from the creek mouth, while levels above background could be detected approximately 400 m down current (eastward) when creek flow into the ocean was high (28 cfs). Samples taken at three locations west of the Goleta Slough dredging discharge and one location to the east (Figure 1) at the time of the discharge show that the bacterial levels were always below the standards for single samples, except one instance (30 November 1998) for total coliforms at Goleta Pier (Figures 3 and 4). The slough mouth was open at that time, it had rained two days prior, and bacterial levels in the water at the mouth were high and could have contributed to the elevated sample at Goleta Pier. In general, however, the sampling results do not show a correlation between dredge material discharges and bacterial levels in nearby ocean waters. Nevertheless, bacterial levels near the discharge location are expected to periodically exceed state criteria for protection of public health, and thus, the beach discharge has the potential for significant impacts in the immediate vicinity of the discharge for short periods of time (Class II).

Other pollutants in the discharged sediments are expected to have no significant impacts on water quality in ocean waters because the concentrations present in the sediments are well below levels of concern and the chemicals adsorbed onto the sediments are generally not released to the water.

Dragline desilting of Atascadero, San Pedro, and San Jose creeks would have no impacts on nearshore waters because no beach or surf zone discharge of the sediments would occur. Any suspended sediments from the dredging that reach the slough mouth would have negligible

impacts on marine waters (Class III). No beneficial impacts related to beach sand nourishment would occur.

#### **4.1.3 Mitigation Measures**

To mitigate the potential bacterial health hazards of discharging the dredged materials on the beach the District shall:

1. Post advisories at the beach immediately prior to, during, and for two days after dredging discharges occur.

**Timing:** During beach discharges.

**Monitoring:** The District shall regularly check to ensure that the signs are visible to the public while discharges are occurring.

#### **4.1.4 Cumulative Impacts**

Cumulative impacts of the proposed project and

Other development projects in the area (see list in Appendix A) would increase the amount of impervious surfaces in Goleta, thereby decreasing precipitation infiltration into the ground. Runoff would be increased but conveyed to drainage channels in a controlled manner. The increase in impervious surface and runoff would be small compared to that from existing development in the area and would have no significant effects on surface or ground water. Stormwater runoff from development projects in the watershed of the slough and its tributaries would add incrementally to the pollutants, including sediments, entering the slough. Testing of the sediments to be dredged in prior years has shown that the level of chemical pollutants is very low. Although the projects considered in the cumulative analysis would add an increment to the amount of chemicals in the sediments, the dredging project would remove these sediments at intervals, thereby preventing their accumulation to higher levels. Maintenance activities in Atascadero Creek result in sediment runoff into the sedimentation basin as a means to remove accumulated sediments from the creek. Use of herbicides in the spring as part of this creek maintenance is not expected to add substantially to the amount present in the sediments in the Atascadero Creek basin, particularly since testing immediately after herbicide application has shown low concentrations to be present (SB Flood Control 2000). As noted above for other development projects, periodic dredging of the sedimentation basin in Atascadero Creek would limit the accumulation of these chemicals in the sediments. Consequently, cumulative impacts of the project are considered less than significant (Class III).

## **4.2 BIOLOGICAL RESOURCES**

The biological resources analysis for this Supplement addresses the potential impacts to steelhead and their critical habitat. Impacts to other biological resources generally would be unchanged from those described in 93-EIR-4. Recent information, however, indicates that Belding's savannah sparrows use the beach, and potential impacts to this species are addressed as well. Critical habitat for the western snowy plover was designated on 7 December 1999, and the project area beaches were not included in this designation (USFWS 1999). The closest

critical habitat is located to the west at Devereux Beach. Impacts to this species are not considered further in this report because no critical habitat would be affected by the project. The tidewater goby was federally listed as endangered on 4 February 1994 (USFWS 1994). This species was addressed in 93-EIR-4 as potentially present, but surveys in 1993-95 (Ambrose 1995) reported this species to be absent from Goleta Slough. No further impact analysis is warranted.

#### 4.2.1 Affected Environment

##### *Steelhead Description*

Southern California Evolutionary Significant Unit (ESU) of steelhead was federally listed as endangered in August 1997 (NMFS 1997). Goleta Slough and its tributary streams are within this ESU. Critical habitat was designated for steelhead on 16 February 2000 (NMFS 2000) and includes all coastal streams from the Santa Maria River to Malibu Creek that are accessible to steelhead. The species is also a state species of special concern (Moyle et al. 1995).

Adult steelhead enter creeks in the winter, usually after the first substantial rainfall (Moore 1980), and move upstream to suitable spawning areas. Spawning can occur in winter to spring, generally in riffle areas that contain clean, coarse gravel. After the eggs hatch, fry emerge from the gravel and disperse throughout the creek, typically occupying shallow areas along stream margins. Juvenile steelhead often move to deeper pools as they grow and will remain in freshwater for an average of 2 years before migrating to the ocean (NMFS 1997; Titus et al. 1994). Downstream movement of adults after spawning and juveniles migrating to the ocean usually occurs from March through July, depending on suitable stream flow conditions. The adults can spawn more than once, although most do not spawn more than twice.

Optimal habitat for steelhead throughout its range on the Pacific Coast can generally be characterized by clear, cool water with abundant instream cover, well-vegetated stream banks, relatively stable water flow, and a 50:50 pool-to-riffle ratio (Raleigh et al. 1984). Pool-to-riffle ratios between 40:60 and 60:40 are generally thought to provide the most productive habitat for steelhead (WESCO 1987). Although optimal water temperatures for steelhead are considered to range from 12 to 20°C, various sources document southern steelhead as persisting in streams with water temperatures ranging from 14.4 to 25.5°C during the summer and early fall months of drought years (WESCO 1987; Titus et al. 1994).

The presence of a well-developed riparian corridor along the stream course is considered an essential component in southern steelhead streams. This plant community inhibits substantial erosion of stream banks during high flows, maintains lower stream temperatures, and provides organic input to the stream (Faber et al. 1989). Suitable spawning gravels generally are 0.5 to 3 inches in diameter, 8 inches in depth or more, and not heavily compacted and have low amounts of sand or silt in them; however, steelhead can successfully spawn in gravels not meeting these characteristics. Good rearing habitat contains low current velocities (such as behind boulders or other velocity barriers) and good cover (e.g., undercut banks, logs or brush, surface turbulence). Cobble embeddedness (amount of sediment surrounding rocky substrate) can be used as a measure of shelter availability for aquatic insects (food for fish) and young fish. At an embeddedness of above 35 percent, rearing habitat quality decreases substantially (WESCO 1987). Embeddedness can also be used to indirectly evaluate habitat suitability for incubation of fish eggs and for salmonid overwintering.

Stream flow within the southern extent of southern steelhead range varies seasonally and annually. In central and southern California coastal drainages, droughts of one or more years can cause streams to have intermittent flow in late summer and fall with reductions in pool depths, thereby reducing the quality and quantity of available habitat. Although southern steelhead are capable of withstanding substantial seasonal and annual fluctuations in stream flow and other physical conditions, prolonged drought periods can periodically result in mortality to juvenile fish inhabiting a stream (Moore 1980).

#### *Steelhead Occurrence in Project Area*

Steelhead have historically entered Goleta Slough to migrate up the tributary streams for spawning, and several of these streams have records of steelhead since 1982 (Swift et al. 1993; Titus et al. 1994; personal communication, B. Trautwein 2000). The number of steelhead observed, however, is very low. Stream alterations such as channelization, debris dams, and check structures under bridges have resulted in barriers to steelhead migration upstream to suitable spawning habitat. The slough and lower reaches of the tributary streams provided a migration corridor, while the slough may have provided habitat for juvenile steelhead to feed and adapt to increased salinity prior to entering the ocean.

#### *Belding's Savannah Sparrow Occurrence in Project Area*

Field observations from 1990 into 2000 have found that Belding's savannah sparrows forage on the beach and in adjacent uplands westward from the restroom at Goleta Beach County Park (UCSB 2000). Individuals of this species have been seen on or adjacent to the beach in most months of the year.

### **4.2.2 Environmental Consequences**

Several project activities have the potential to affect steelhead. Periodic opening of the slough mouth could benefit juvenile steelhead by improving water quality in the slough and by allowing access to the ocean. The opening could have adverse effects through allowing predatory fish from the ocean to enter the slough and feed on the young steelhead and could allow steelhead to enter the ocean before they have developed enough to increase their survival rate in the ocean. These benefits and detriments are expected to about balance, although improved water quality may be more important to steelhead survival. Impacts to steelhead would be less than significant (Class III).

Dredging activities have a low potential to adversely affect steelhead migrating into the streams tributary to Goleta Slough because few individuals are expected to use the area (i.e., low potential for the dredge and steelhead to come in contact) and because dredging is not likely to occur when steelhead migrate. Dragline dredging in Carneros and Tecolotito creeks has been authorized by project permits for 1 August to 1 November, which is before the rainy season when steelhead migrate into local creeks. Dragline desilting in Atascadero, San Pedro, and San Jose creeks, if used, would occur within the same time window. Thus, if the permits do not change this window, steelhead would not be affected by dragline desilting activities. Hydraulic dredging activities have been authorized for November through February previously as specified in the project permits. This places the dredging during the time when adult steelhead could be entering coastal streams, depending on the amount of rainfall that occurs at that time.



In years when rainfall begins late, the potential for impacts would be negligible. In early rainfall years, steelhead migrating past the dredge (if it is operating at that time) could potentially be injured by the suction cutterhead. Due to the noise and turbidity associated with the cutterhead operation, steelhead would be expected to avoid the vicinity of the dredge, and dredging for 24 hours per day could interfere with their migration upstream. Impacts would be considered significant (Class II) even though few, if any, individuals are likely to be affected and the dredging schedule would be modified to allow passage (see section 4.2.3 below) when runoff events that could trigger steelhead migration into streams occur.

Dredging could also benefit steelhead through increasing the stream channel depth. When sediments have accumulated in the sedimentation basins and downstream into the slough, the water depth can become too shallow for steelhead migration, and dredging would restore the channel depth. Dredging would have minimal effects on water temperatures.

Turbidity associated with the hydraulic dredging is expected to be low and temporary. The amount of turbidity caused by the dredging is not expected to adversely affect adult steelhead migration into the streams since steelhead normally migrate during high runoff times when turbidity in streams can be high. Hydraulic dredging, if only conducted for part of the day, would offer an opportunity for steelhead to move into the streams when the equipment is not operating. Dragline desilting is expected to cause somewhat higher, but still temporary, turbidity than dredging. Turbidity in the slough from the desilting activities (both dredging and dragline) is not expected to affect juvenile steelhead since they generally move out of estuaries in the late spring to early summer when the mouth of the creek (or slough) is still open due to stream flow and thus would not be present in the fall/winter when hydraulic dredging occurs or late summer to fall when dragline desilting occurs.

The proposed dredging activities would not adversely affect steelhead critical habitat. No riparian vegetation would be removed during the work and no spawning or rearing habitat would be affected. The removal of sediment from the creek channels could benefit migration habitat by increasing channel depth for steelhead movement.

Discharge of the hydraulic dredged material on the coastline is not expected to adversely affect steelhead. The discharge of sediments and seawater (from tidal inflow) at approximately 2 cfs near the mouth of the slough would not be expected to induce steelhead to migrate into the slough because the discharge would be much less than normal creek flows that induce migration and the discharge would contain little, if any, fresh water. The alternative location for disposal of the dredged materials at the west edge of the park would have no attraction to steelhead for the same reasons. The turbidity in the discharge would dissipate before having any adverse effects on steelhead in the ocean since they are generally further offshore than the discharge plume except when migrating into a stream mouth. In addition, when freshwater outflow from the slough is high enough to attract steelhead, turbidity in that outflow could be similar to the level in the dredging discharge but over a larger area.

Overall, the potential for impacts to steelhead is very low, with dragline desilting having essentially no potential for impact to migrating steelhead due to the work schedule (dry season). The potential for impacts of hydraulic dredging could be reduced by conducting the work earlier in the fall when the probability of adult steelhead being present is much lower.

Discharge of dredged materials east of the slough mouth would not affect Belding's savannah sparrows since none are known to use the beach in that area. Use of the alternative location at the west end of the park has the potential to affect individuals using that area, but impacts are predicted to be less than significant (Class III) for several reasons. The discharge would temporarily (several months every 3 to 5 years) affect a small proportion of the foraging area available on the beach through human activities when the pipe is placed and moved. These activities would be short term, very localized, and similar to recreational uses of the beach. The discharge is not expected to substantially alter the accumulation of kelp wrack on the beach, and any such effects would generally be limited to within about 200 feet of the discharge point. Kelp wrack could be buried by the discharge in that area or diverted to adjacent areas where it would be available for use by the birds. Furthermore, the discharge would be during the fall to winter, which is after the breeding season for Belding's savannah sparrows (when their food requirements are highest). Use of dragline desilting instead of hydraulic dredging would have no impacts on beach use by this species because the sediments would not be discharged on the beach. Potential impacts to Belding's savannah sparrows during dragline desilting of Atascadero Creek would be the same as described for traditional maintenance in 93-EIR-4.

#### 4.2.3 Mitigation Measures

Several measures could be implemented to minimize the potential for impacts to steelhead.

1. Hydraulic dredging activities should be scheduled to begin earlier in the fall (15 October) if permitting agencies will authorize this, thereby increasing the probability that dredging would be completed prior to the rains that result in runoff and creek flow to the ocean triggering steelhead to enter the streams. Beginning dredging two weeks earlier in the fall (15 October) would have no increased impacts to biological resources in the slough or at the discharge location.

**Timing:** Scheduling the dredging activities should occur at least two months before the work begins.

**Monitoring:** The District shall verify that the contractor has begun work on 15 October.

2. Hydraulic dredging will be reduced to less than 24 hours per day after rainfall events that results in a runoff pulse (10 to 20 cfs as measured at the Maria Ygnacia Creek gauge). The threshold flow amount will be determined through the Section 7 (of the Endangered Species Act) consultation process associated with issuance of a Corps of Engineers permit for the work.

**Timing:** Flow event size and dredge schedule will be established in the permitting process prior to dredging activities. Flow will be measured during runoff events.

**Monitoring:** The District will monitor flow rates at the Maria Ygnacia Creek gauge and will verify that the contractor dredges according to the permitted hourly schedule.

For impacts of traditional maintenance on Belding's savannah sparrow habitat, mitigation measure number 4 in 93-EIR-4 would be implemented.

#### **4.2.4 Cumulative Impacts**

The hydraulic dredging component of the proposed project would only slightly increase the potential for injury of steelhead adults that migrate into Atascadero, San Jose, or San Pedro creeks to spawn. Maintaining the channels in the sedimentation basins of all five tributary creeks would benefit steelhead by allowing passage upstream. The proposed project is expected to have no significant cumulative impacts to steelhead, including impacts from the Atascadero Creek maintenance project. The low potential for impacts to Belding's savannah sparrow foraging would add very little to cumulative impacts on this species. Desilting the sedimentation basins would add no significant impacts to biological resources of the creeks and the slough. By periodically removing the sediments that accumulate in the basins (primarily from human disturbances in the watershed), the project would decrease the impacts of new development in the watershed. Traditional maintenance, rather than hydraulic dredging would have a lower potential for impact to steelhead (due to timing of the work) but could have greater, but not significant, cumulative impacts on aquatic and upland biological resources due to turbidity and spoil disposal.

### **4.3 RECREATION**

#### **4.3.1 Affected Environment**

Goleta Beach County Park is operated by the County Park Department and is located south of the Santa Barbara Municipal Airport on a sand spit of the Goleta Slough. This popular park offers picnicking facilities, group barbecue areas, volleyball courts, horseshoe pits, playground equipment, and a snack bar and restaurant. Water-related activities include swimming, surfing, windsurfing, and the use of Goleta Pier for boat launching, fishing, and strolling.

During calendar years 1998 and 1999, the park received 1,766,305 and 1,580,933 visitors, respectively (personal communication, M. Gibson 2000). Attendance is calculated on a quarterly basis. The period of heaviest use is from July through September (38 percent), followed by the period from April through June (22 percent). Twenty-one percent of visitors use the park from October through December, and 18 percent use the park from January through March.

#### **4.3.2 Environmental Consequences**

Discharging dredged sediment into the surf zone at Goleta Beach at either alternative location (shown on Figure 1) would have the potential to significantly affect recreational activities while the discharge occurred (Class II). Operation of the dredge pipe in the surf zone could have safety impacts to nearby swimmers and waders, and as described in section 4.1.2, there is a potential for sediment containing elevated fecal coliform bacteria levels to be discharged when swimmers might be present. These impacts would be mitigable to a less than significant level. Swimming and general use of the beach in the immediate vicinity of the dredge pipe would be made less desirable due to the presence of the dredge plume, although the increased turbidity would be comparable to that generated by winter storms. The degradation of this area would be short-term and confined to a relatively small area. Impacts of turbidity would not be significant (Class III). Beginning dredging two weeks earlier in the fall (15 October) would not increase impacts to recreation.

Traditional maintenance (by dragline) in Atascadero, San Pedro, and San Jose creeks would have no impacts on beach recreation and would have less than significant (Class III) impacts on bikepath use as described in 93-EIR-4.

#### **4.3.3 Mitigation Measures**

To minimize the potential for impacts on recreation, the following measures shall be implemented:

1. To avoid potential safety impacts from dredging operations, the portion of the beach and water within 200 feet of the mouth of the dredge pipe shall be closed to public access for the duration of dredging. The District shall ensure that the area is well-marked prior to the onset of dredging.
2. To prevent potential public exposure to fecal coliform in ocean waters, beach advisories shall be posted in accordance with state and county public health standards. The advisories shall be posted at the onset of dredging by the District.

**Timing:** Immediately prior to and during dredging.

**Monitoring:** The District shall check the advisory markers on a regular basis during dredge discharges to ensure that they are visible to the public.

#### **4.3.4 Cumulative Impacts**

The only project considered for cumulative analysis that could potentially affect recreational resources in the project area is the Beach Nourishment Demonstration Project (BNDP), which identifies Goleta Beach County Park as a possible receiver site. The EIR/EA prepared for this project found temporary, unavoidable significant recreational impacts resulting from the closure of a portion of the nearshore area west of the pier (Chambers Group, Inc. 1992). Because BNDP activities would be in nearshore waters, recreational activities such as windsurfing and jet skiing would be affected. Indirect less than significant impacts were found for onshore recreation. If the proposed project took place at the same time as the BNDP, different water-based recreational resources at Goleta Beach would be affected by these projects (e.g., sunbathing and wading versus offshore activities) for a combined impact on recreation. Cumulative impacts would be short-term but significant and unavoidable. The likelihood of these two projects occurring at the same time is low, however, since the beach nourishment project remains unfunded eight years after the Final EIR/EA was prepared.

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**APPENDIX A  
CUMULATIVE PROJECT LIST**

County of Santa Barbara  
Goleta Cumulative Project List  
May 1, 2000  
(Discretionary Projects Only)

*Kase Thompson*  
966-0811 (BH)  
965-6944 (FAX)

NOTE: For public inquiries, call the main Planning and Development desk at 568-2000.  
Shaded projects are either new projects or changed position on the list.

	PROJECT NAME / ADDRESS / ACREAGE	PROJECT DESCRIPTION	CONSTRUCTION STATUS & COMMENTS
<b>APPROVED COMMERCIAL/INDUSTRIAL PROJECTS</b>			
1.	Ablitt Mini Storage 955 Embarcadero del Mar APN: 075-161-003	5,250 s.f. addition to existing mini-storage	Approved 11/4/98. Applicant: Leslie Monser 98-DP-004
2.	ACE-ABLE Industrial 7200 Hollister Ave. 2.7 acres APN: 073-020-018	35,177 s.f. of Office Space and Research and Development Manufacturing	Approved, land use permit pending. Developer: Max Benton, 685-2262 83-DP-049 RV01 Anne Almy
3.	Anderson Plumbing 5958 Corta Drive APN 071-182-014, -015, -016	750 s.f. addition to existing office.	Approved 5/12/97, pending construction Developer: Jerry Anderson 96-DP-021
4.	Arco Links Golf Course South of Hwy 101, west of Winchester Canyon exit 202 acres APN: 79-180-05, -16, -18; 79-200-04, -08	18 Holes, 9 Hole Executive Putting Course, Clubhouse	Approved: 5/26/93, Outside Goleta Planning Area. County permits appealed by Coastal Commission. Pending approval at Coastal Commission. Agent: Ken Marshall 91-CP-85
5.	Bacara West of Sandpiper Golf Course HT Santa Barbara 73 acres APN: 79-200-006 & -007	400 Room Hotel and Public Snack Bar & Restroom Facility at Haskell's Beach	Approved 9/18/96, under construction, completion anticipated in Fall 2000. Developer: c/o Barton Clemens. Hatch & Parent 86-DP-046 Jackie Campbell
6.	Bermant Pine Ave. 600 Pine Ave APN: 071-130-040	14,520 s.f. Office/Warehouse addition	Approved 9/18/96 Developer: Bermant Development 75-DP-034 RV01
7.	Congregation B'nai B'rith San Antonio Creek & Via Los Santos (SE corner) 5 acres APN: 59-040-11	1,936.5 s.f. Caretaker residence, 4,573 s.f. pre- school building w/ classrooms, office/reception rooms, 19 parking spaces. Expansion from 32 to 76 pre-school students.	Approved 9/22/99 Agent: Roger Himovitz 85-CP-060 RV01
8.	Cushman Office Building 5350 Overpass Road APN: 071-220-003	8,064 s.f. office building	Approved 1/20/99, LUP Approved. 98-DP-20 Eva Alvarez
9.	Foodmaker, Inc (Jack-in-the-Box) 80 N. Patterson Ave. 0.56 acres APN: 067-200-005	2,637 s.f. Fast Food Restaurant	Approved, development plan valid 5 years from date of approval (March 11, 1997). No development activity anticipated. Applicant: Foodmaker, Inc., 96-DP-004, 96-CP-007



10.	Goleta Presbyterian Church 6067 Shirrel Way 6.1 Acres APN: 77-170-009	12,500 s.f. Addition to existing church	170 Approved 9/1/99. BOS final approval 9/22/99 LUP pending TPM 1-1, 85, 98-CP-029 98-DP-037 Cindy Moore
11.	Hillel Jewish Community Center 781 Embarcadero Del Mar 0.92 Acres APN: 75-033-001	11,000 sf. Facility	CDP Approved, Under construction. 98-CP-075 Approved: 9/15/99 Applicant: Rabbi Cohen Anne Almy
12.	Lash Construction Kellogg Ave between Southern Pacific Railroad & Hwy 101 1.0 acre APN: 071-043-002	4,937 s.f. Commercial/Industrial	Approved LUP 2/00 Developer: Howard Wittausch. Art Lash, 965-8766 97-DP-003 Peter Lawson
13.	Page Net Communications 5490 Olney Street 6,200 s.f. APN: 071-153-011	Validate existing antenna site on top of existing building.	Approved 1/00. 98-CP-104 99-V-010 Eva Alvarez
14.	Raytheon Addition 6380 Hollister APN: 73-050-27 & 73-050-43	11,524 sf of additions. 6,918 sf to be demolished (4,606 s.f. net new addition)	Approved 10/98. Under construction. Applicant: Dennis Paulazzo 879-2191 82-DP-002 AM02 Bob Goda
15.	Rockber Tract Map (Raytheon) 1 S. Los Carneros Rd. 66.4 Acres APN: 73-330-017	8 lots in M-RP zone district	Approved by P/C on 8/25/99, MC pending Agent: S. Elledge PPS. Laurel Perez TM 14,500 Eva Alvarez
16.	Rockber 1 South Los Carneros Rd. 67 acres APN: 073-040-008	204,000 s.f. Industrial Park and Office Space	Approved, construction timing unknown, permit valid to 2004. Applicant: Bermant Development Co. 95-OA-011 Eva Alvarez
17.	Santa Barbara Humane Society 5399 Overpass Road APN: 071-220-031	4,740 net s.f. addition (3,800 s.f. educ. facility, 2,000 s.f. spay and neuter facility, demo 1,060 s.f. classroom)	Approved 2/00. On appeal to PC. 78-DP-026 AMO1 73-CP-029 AMO1 Joddi Leipner
18.	Santa Barbara Shores Park Master Plan 118 acres APN: 79-210-12,-17,-18	120 acres Park/Rec On hold pending Parks Dept. decision re: processing with Monarch Point. Existing Master Plan includes BMX track, velodrome, horse stables	Approved 4/11/97, Application complete, preparing Supplement EIR. Currently on hold during processing of 95-SP-002 RV03 Applicant: Coleen Lund, County Park Dept 95-SP-002 RV01 Alan Hanson
19.	Storke Hollister Research Center NW corner Storke and Hollister 3.5 acres APN: 073-140-019	56,800 s.f. Industrial Park	Approved 6/6/95, Under construction. Developer: Michael Towbes/Suzanne Elledge 86-DP-048 LUC Patty Miller
20.	Storke Ranch Day Care KinderCare Day Care Center East of Storke Road, on Phelps Road. 0.75 acres APN: 073-470-029	6,426 s.f. center, comprised of seven classrooms, kitchen, offices and ancillary rooms, 24 parking spaces. Increase enrollment up to 103 children.	Approved 4/24/00. Developer: Bermant Development Co. 91-CP-104-RV02 Steve Goggia

**APPROVED RESIDENTIAL PROJECTS**

21.	Cerebral Palsy 6067 Shirrel Way 4.5 Acres APN: 77-170-009	13 attached units	Approved 9/22/99. LUP pending. TPM 14,485; 98-DP-037. 98-CP-029 Cindy Moore
22.	Devereux School Master Plan 701 Storke Road 33 acres APN: 73-090-029	20 Residential Units	Approved 11/11/92, School additions built. residential units still pending CDP's. Developer: Devereux Foundation. Chuck Klein 91-DPF-025 AM01 Patty Miller
23.	Emanuel Development 4318 Modoc Rd. 0.375 acres APN: 061-092-018	3 Residential Units (1,965 s.f. each condo)	Approved 10/7/98. Developer: Mary Lou Emanuel TPM 14,396, 96-DP-008 Caroline Kuizenga
24.	Forouzandeh 4314 Cuna Drive Residential Units APN: 061-091-004	3 residential units	Approved 6/16/99, Developer: 96-DP-007/TPM 14,473 Kimberley McCarthy
25.	Forte Ranch Phase II 273 San Antonio Rd. 29.7 acres APN: 59-140-07 & -08	57 residential units plus three 7-acre RR-5 lots	Approved 10/28/98 and 4/20/96. clearances pending. Developer: Hugh B. Thorson TM 14,340, 94-DPF-008 Steve Goggia
26.	Heritage House Special Care Home 5200 Hollister Ave. 2 acres APN: 065-072-023	30,600 s.f. Senior Assisted Living Facility, 50 beds	Approved 6/1/98, LUP pending Developer: Bill McGeever 97-CP-025 Anne Almy
27.	Hinkle/Stillwell Parcel Map 1071 Via Chaparral 7.73 acres 059-080-036	4 residential lots	Approved 10/25/99 TPM 14,476 Zoraida Abresch
28.	Hollipat Apartments (Hollipat Center Drive - SE corner Hollister/Turnpike) 1.98 acres APN: 65-090-028	35 Residential Units	Approved, land use permit pending. Construction anticipated within one year. Developer: Mike Pollard 96-DP-015 Steve Goggia
29.	Jeffrey DRSU 5059 Hollister Ave. APN: 065-110-005, -006	Detached 2 <sup>nd</sup> residential unit	Approved 2/00. 99-CP-095 Eva Alvarez
30.	Jeffrey Tract Map 5045, 5059 Hollister Ave. APN: 065-110-005, -006	9 Residential Lots (8 net new lots)	Approved 7/28/99. LUPs submitted 4/13/00. Eva Alvarez
31.	Koopmans Lot Split Patterson and Cathedral Oaks 4.8 acres APN: 67-500-18	4 Residential Lots (3 new, 1 existing)	Approved 3/24/99. Map recorded 1/00. LUPs pending. Developer: JM Development, Jarret Gorrin TPM 14,480 Jean Pare

32.	La Sumida Gardens Apartments NW of Hollister & Patterson 10 acres APN: 071-330-001, -002, 071-090-013, -044	176 Residential Units	Approved, 11/2/94. Developer: Michael Towbes 94-DP-007, approved 11/2/94 1-year time extension submitted Eva Alvarez
33.	Maravilla Senior Community 4586 Calle Real 20.12 acres APN: 69-160-036	369 Residential Units (92 senior apartments, 120 assisted living units, 157 independent living units and Senior Day Center)	Approved 9/1/98, LUP pending. Developer: Senior Resources. Bill Drake 97-DP-012, 97-CP-045, 97-CP-046 Bob Thiel
34.	Meldahl Condominiums 6640 Abrego APN: 075-051-007	11 units (1 existing unit, 10 net new units)	Approved 7/15/98. Under construction. 97-DP-28/ TPM 14, 460
35.	Mountain View Ranch Cathedral Oaks Rd. & Calle Real 22.55 acres APN: 79-120-054	112 Residential Units (29 units remaining)	Approved, Phase I & II (83 units) built. Phase III under construction. Developer: Investec. Rich Ridgway TM 14,387 Approved 10/2/97. 95-DP-027 Approved 12/2/98, 97-LUS-437 GO Steve Goggia
36.	Oak View Homes (Walnut Lane) at Hollister 5.25 acres APN: 65-102-04, -015, 016: 65-101-10	22 Residential Lots	Approved 9/18/98, Under construction Developer: JM Development TM 14,475 Jackie Campbell
37.	Orchard Park Patterson Ave. & Calle Real (NW corner) 5 acres APN: 69-525-021	20 Residential Units	Approved 9/18/98, Map Clearance Pending Developer: JM Development 98-DP-006; TM 14,465: 98-RN-003 Anne Almy
38.	Pozzato/La Riata 1300 La Riata Ln. 28.5 acres APN: 059-010-066	24 Residential Units	Approved 7/15/97, map recorded, land use permit approved for tract improvements. Developer: Dennis Emory TM 14,281, 93-DP-016 AP01 Catherine Callahan
39.	Rancho Esperanza 1500 N. Patterson Ave. 40 acres APN: 069-010-035	8 Residential Lots	Approved, Under construction. Developer: Gary Cavalletto TM 14,304 Veronica Lanz
40.	Storke Ranch Storke Rd. near Phelps Rd. (Isla Vista) 84 acres APN: 73-120-09	275 Residential Units (approx. 181 units built with 94 units remaining)	Approved 2/26/97, under construction. Developer: Bermant Development, TM 14,393 Steve Goggia
41.	Vintage Ranch 745 Puente Drive 7.23 acres APN: 61-271-06	11 Residential Lots (20,000 s.f.), 1 Commercial Horse Boarding Facility (1.35 acre)	Approved, residential under construction, horse facility within one year. Agent: Suzanne Elledge c/o Laurel Fisher Perez TM 14,357 MC 97-LUS-440 GO
42.	Warkentin Lot Split 1100 San Antonio Creek Rd. 4 acres APN: 59-440-021	4 Residential Lots (3 net new lots)	Approved by P/C 7/7/99 Developer: Investec TPM 14,464

43.	Westfield LLC Cathedral Oaks west of Storke 26 acres APN: 79-120-047, 77-530- 19, 79-120-094	43 Residential Units south of Cathedral Oaks (approx. 14 units constructed with 29 units remaining)	Approved 10/27/98. Under construction. Agent: Jennifer Trunk TM 14,461 Patty Miller
44.	Willows Lot Split 4531 Hollister Ave. 1.0 Acre APN: 61-070-009	4 Residential Lots (3 net new lots)	Approved 11/3/99 TPM 14,488 Developer: Dave Willows
45.	Willow Springs Multi-family Housing Hollister east of Los Carneros 17.5 acres APN: 073-060-50 073-070-036	235 Residential Units	P/C approved 12/1/99 BOS approval 4/11/00. Developer: Michael Towbes 85-DP-008 RV01, 83-SP-005 AM 01 98-6P-013, 98-0A-005 Catherine Callahan
46.	Winchester Commons Hwy 101 & Winchester Canyon at Calle Real 39.5 acres APN: 79-090-018 & -019 (parent parcels)	146 Residential Units & Day Care Facility (94 remaining units)	Approved 12/10/91, 57 units and day care already built. Phase III under construction (94 units). Developer: Day Construction, Bob Yari, or Roy Monette TM 14, 974, 88-DP-023 Jackie Campbell

**TOTAL: 1,274 residential units, 50 senior care beds, 1-acre Horse Boarding Facility.**

#### **PROPOSED COMMERCIAL/INDUSTRIAL PROJECTS**

47.	Absolute Mini Storage 4001 State St. APN: 061-120-003	75,000 s.f., 3-story mini storage building	Application submitted 7/6/99, currently incomplete. 99-DP-028, 99-CP-061, 99-RZ-007 Cindy Moore
48.	ARCO Mini Mart/Gas Station 80 N. Patterson Avenue APN 067-200-005	3,300 sq. ft. gas station and 1,200 sq. ft. AM PM mini-mart. Gas station includes 2 storage tanks/42,000 gallons	Application submitted, 11/22/99 99-DP-052 Applicant: George Garcia Jean Pare'
49.	Boys & Girls Club Addition Hollister Ave. APN: 071-130-009	Approx. 4,000 s.f. addition for expanded childcare (+20)	Application submitted 2/00, currently incomplete. 00-DP-008 Bob Goda
50.	Cabrillo Business Park 6767 Hollister Avenue APN: 073-450-005	700,000 s.f. addition to existing 300,000 s.f. Delco site	Application complete. 11/23/99. TM 14,518 99-DP-016, 99-OA-008, 99-RZ-003, 99-GP-002 Catherine Callahan
51.	Fairview Corporate Center 500 S. Fairview Ave. (Old Town Goleta) 17.16 acres APN: 71-130-026	66,660 s.f. Office & R&D building and addition of 11,664 s.f. to existing building Total net new s.f. = 79,409 s.f.	Application submitted in 1998, currently incomplete. Developer: ORIX, Steve Hess 98-DP-024 Bob Thiel
52.	Fairview Shopping Center 25, 28 Fairview Avenue APN: 077-170-036, -025	Remodel, expansion of existing Vons supermarket and shopping center (23,891 s.f.)	Application submitted 1/3/00, currently incomplete. 99-DP-055, 99-OA-015, 99-M-010 Cindy Moore

53.	Girls Inc. 4973 Hollister Ave. 4.13 acres APN: 65-180-035	Small greenhouse and four portable classroom buildings, 17,440 sf building for classrooms and admin offices, an attached 9,523 sf gymnasium, a soccer field, and other playfields, picnic areas, etc.	Application submitted. 11/12/99, currently incomplete. 99-DP-050 Bob Thiel
54.	Keeler Guest Ranch 2720 Painted Cave Road 156 acres APN: 153-160-023,-010,-012	Approximately 30 acre Retreat and Single Family Dwelling Units, 10 people per retreat with 12 retreats per year.	Application complete. Environmental review in progress. PC hearing scheduled for August 2000. Developer: Keeler Trust 97-CP-065 Anne Almy
55.	McDonald's Drive-Thru 6900 Market Place Drive, Camino Real Center 32,916 sf. Lot APN: 73-440-023	Drive through lane for existing fast food restaurant	P/C hearing continued to August 2000. 99-CP-009 Victoria Greene
56.	Meyer Thrifty Car Rental 5971 Placencia Street 0.11 acres APN: 071-182-007	Installation of a 12' x 35', 420 s.f. office trailer.	Application complete, IS in progress. Agent: John Burke Leslie Monser Zoning Violation needs to abate by June 8. 97-DP-006
57.	Page Family Hotel Mission Industries Old Town Goleta 12.36 acres APN: 071-130-023	250 room hotel (187,808 s.f.), 18,600 s.f. retail, 15,000 s.f. conference center	Application submitted 9/15/99, currently incomplete. TPM 14,539 99-DP-037 Joddi Leipner
58.	Price Gas Station/ Mini Mart 7798 Calle Real APN: 079-120-071, -072	Re-open a previously existing gas station, w/ 4-gas and 1-diesel pumps, 800-s.f. mini market, and 400 s.f. car wash.	Submitted 10/5/99, currently incomplete Developer: Tom Price 99-CP-041 Eva Alvarez
59.	Sandpiper Golf Course Remodel Hollister & Las Armas 212 Acres APN: 79-210-59	Golf course reconfiguration and replace existing 9,000 s.f. clubhouse with 24,000 s.f. facility (15,000 s.f. new)	Application incomplete. Developer: Environmental Golf 99-DP-025 TM 14,526/99-CP-056 Bob Thiel
60.	Veteran's Admin. Clinic 5385 Hollister APN: 071-140-075	Lot split	Application complete. TPM 14,517 99-DP-014 Cindy Moore
61.	Walgreen's Drug Store 5900 Calle Real APN: 069-110-049	Demo 7,229 s.f. and construct new 12,112 s.f. store.	Application submitted 4/00, currently incomplete. 00-DP-014 00-CP-030 Eva Alvarez

**TOTAL: 981,819-s.f., 250 hotel rooms, 30-acre retreat**

#### **PROPOSED RESIDENTIAL PROJECTS**

62.	Anderson Lot Split 1550 Fairview Avenue APN: 069-010-001, -006	2 lots	Application complete. Pending env review. Agent: Jim Staples TPM: 14,437 Kimberley McCarthy
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63.	El Encanto Apartments Calle Real, west of Glen Annie 0.94 Acres APN: 77-490-039	18 apartments (low income), General Plan amendment and Rezone required.	Application Incomplete. PC initiated GP and RZ request in January 2000. 99-GP-008, 99-RZ-010, 99-DP-045 Steve Goggia
64.	Funke Lot Split 1240 San Antonio Creek Rd. 4.6 Acres APN: 59-440-017	4 residential lots (3 net new)	Application complete. Draft ND in public comment period. Developer: Werner Funke TPM 14,493 Anne Almy
65.	Gallego Lot Split 1095 Mockingbird Lane 2.0 acres APN: 065-680-040	Lot split & development of one new single family home	Application complete. 12/5/98. TPM 14,454, 97-DP-029 Anne Almy
66.	Harwin Lot split APN: 077-030-022	Divide approx. 10-acres into two lots.	Submitted February 2000, currently incomplete. TPM 14,548 Eva Alvarez
67.	Mockingbird Properties Calle Las Brisas @ Mockingbird Lane 4.15 acres APN: 65-680-039	8 residential lots	Application complete. Developer: Jack Maxwell TM 14497, 98-DP-041 Anne Almy
68.	Monarch Point Reserve/ Ellwood Beach/ SB Shores 135 acres APN: 79-210-13, -14, -15, - 24, -51	161 Residential Units & Recreational Area	Application complete. Developer: Jack Maxwell TM 14,417, 96-DP-026 Anne Almy
69.	Park Hills Estates 4700 Via Los Santos 14.36 acres APN: 059-290-041	14 Lots	Application incomplete Applicant: Raymond Appleton TM 14,484 Jean Pare
70.	Rainbolt 4835 Vieja Drive APN 065-240-025	3 Lots	Application incomplete Applicant: Cal Rainbolt TPM 14,444; 97-DP-020 Kimberley McCarthy
71.	Rancho Danza Del Sol 1140 Via Regina 10.85 acres APN: 59-010-079	3 way lot split (2 net new)	Application complete. under review. TM 14,447 Gordon Bell/Patty Miller
72.	Sandpiper Residential Project Hollister & Las Armas 212 acres APN: 79-210-49	157 Residential Units (includes 46 affordable density bonus units)	Application complete. SEIR to be prepared. TM 14,541, 99-DP-51 Anne Almy
73.	Thompson Map 945 San Antonio Creek Rd. 2.1 acres APN: 67-010-023	Two way lot split (one net new)	Application complete 2/00. Environmental review in progress. TM 14,509 Cindy Moore
<b>Total: 372 residential units</b>			

# POTENTIAL FUTURE PROJECTS TO BE BUILT OUT OVER 10 YEARS

74.	Camino Real Marketplace Hotel Storke & Hollister (SE corner) 3 acres APN: 073-440-016	50 Room Hotel	Part of approved specific plan. no formal application submitted. Developer: Mark Linehan
75.	Hollipat Commercial Corner of Hollister and Patterson APN: 065-090-028	40,000 s.f. of medical office space	Unknown when application will be submitted.
76.	Hourigan 1118, 1119 N. Patterson 5.80 acres APN: 069-060-040	8 single family dwellings	Planner Consultation only, no formal application submitted.  Catherine Callahan
77.	La Sumida Commercial Patterson South of Hollister APN: 071-090-013, -014, 071-330-001, -002	165,000 s.f.	Unknown when application will be submitted.
78.	Los Carneros Plaza Hollister Ave. west of Los Carneros Rd. 48 acres APN: 073-450-005	300,000 s.f. Commercial	Unknown when application will be submitted.
79.	More Mesa Southern terminus of Mockingbird Ln. 300 acres APN: 065-320-001, -002, -007 to -010	70 Residential Units & Open Space	Unknown when application will be submitted.
80.	NW Storke/Hollister APN: 073-030-20, 073-140-018	271 Residential Units	Unknown when application will be submitted.
81.	Raytheon APN: 073-040-008	292,000 s.f. Light Industrial	Specific Plan approved, development permits required; timing unknown.
82.	Santa Barbara Christian School 1001 Cieneguitas Rd. 34 acres APN: 059-020-009	800 Student Private School, K- (most likely 400 students)	PC denied. Likely to re-submit with reduced project (assume 400 students for traffic model run). 96-CP-031
83.	Santa Felicia APN: 073-030-006, -009	81 Residential Units	Unknown when application will be submitted.
84.	Theater/Retail Complex Old Town Goleta 4.76 acres APN: 071-130-047	128,550 s.f. Six-Eight Screen Theater & Retail Complex.	Development application expected.
85.	Thornwood Industrial Park Old Town Goleta 26.1 acres APN: 071-170-079, -080, -081, -083	Unknown s.f., project up to 290,000 s.f. industrial park	Development application expected.

## PRE-APPLICATION PROJECTS

86.	Miller SFD South Patterson APN: 065-230-17	1 single family unit 1 second residential unit (1,000sf)	Pre-Application, submitted 7/29/98 98-PA-014 Caroline Kuizenga
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	Raytheon Triangle APN: 073-330-017	and 2 restaurants	Lot 8 of TM 14,500 E Alvarez
88.	Sumida Hotel (Commercial and Residential) Key Site 3 Old Town Goleta APN: 71-090-77, -78	130 rooms	Pre-application submitted 12/10/98 98-PA-016
<b>UCSB and City of Santa Barbara Projects</b>			
89.	City of Santa Barbara Airport Facilities Plan 950 acres APN: 073-450-003	Terminal and airport operations. 60,000 sf.	Development and expansion of City of Santa Barbara Airport facilities.
90.	City of Santa Barbara Airport Specific Plan 225 acres APN: 073-080-036	412,000 s.f. Commercial/Industrial (172,000 s.f. existing, 240,000 s.f. net new)	Approved. Development of parcels under city jurisdiction which are adjacent to City of Santa Barbara Airport.
91.	UCSB Housing (UEC) North Campus & West Campus 260 acres APN: 073-090-061	513 Residential Units	Part of UCSB LRDP.
92.	UCSB Long Range Development Plan (LRDP) APN: 073-130-001	Educational Facility (Housing, offices, classrooms, etc.).	Approved, phased construction.
<b>Total: Future + Pre-App + UCSB and City of SB Projects: 1,687,550 s.f., 180 hotel rooms, 945 residential units, 400 students private school.</b>			

PREPARED BY THE PLANNING AND DEVELOPMENT DEPARTMENT, COMPREHENSIVE PLANNING DIVISION.

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**APPENDIX B**

**RESPONSE TO COMMENTS**



Gray Davis  
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research  
State Clearinghouse



Steve Nissen  
ACTING DIRECTOR

August 25, 2000

Karl Treiberg  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

Subject: Routine Maintenance Activities in Goleta Slough  
SCH#: 2000031092

Dear Karl Treiberg:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on August 24, 2000, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts  
Senior Planner, State Clearinghouse

## RESPONSE TO COMMENTS

### Santa Barbara Urban Creek Council

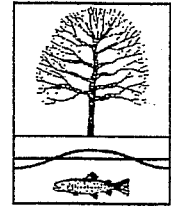
- 1 Erosion and sedimentation are natural processes. It is impossible to manage the Goleta Slough and its tributary creeks such that all sediment is conveyed to the ocean. The Goleta Slough has a long history of sedimentation and if it wasn't for periodic desilting, a large portion of the slough would be uplands. The theory behind the bankfull channel concept is that a creek neither erodes nor aggrades. This means that the creeks are efficient at transporting their sediment loads, a portion of which is naturally deposited in coastal estuaries thus necessitating sediment management.

### Audubon Society

- 2 Comment noted. The EPA sets the standards for beach disposal, surf zone disposal, or ocean disposal. The EPA is currently reviewing the results of the sediment samples taken from the Goleta Slough and will render a decision as suitability for beach/surfzone disposal in the near future.
- 3 Dragline desilting is used when storms deposit large amounts of sediment because hydraulic dredging is not efficient enough to remove the sediments in a timely manner. The District is working in cooperation with BEACON to allow for beach/surfzone disposal of storm sediments.
- 4 Section 4.4.4 in 93-EIR-4 does require restoration of disturbed areas (mitigation measures 1, 4, 6, 7, and 8). All of the areas were experienced extreme sedimentation after the project commenced in November 1994 (January 1 and March 1, 1995 floods). All of the areas were desilted using draglines under emergency conditions. In many circumstances, the channels are completely filled with sediment and the desilting re-establishes the banks. The banks, through the process of succession, are typically colonized by weeds. No mitigation was required during the emergency desilting. Revegetation did occur along San Jose Creek after the 1995 floods but the areas were once again severely impacted by floods in 1998 resulting in emergency desilting (with draglines) again. The District currently wishes to conduct the Goleta Slough Dredging Project under non-emergency conditions and will comply with the mitigation measures listed in Section 4.4.4 in 93-EIR-4.
- 5 Comment noted.
- 6 The check structure at Ward Drive is not owned by the District. The degree to which it is an impediment depends on the tide and the flow. Since adult steelhead have been found further upstream, it may not be a significant impediment.

# SANTA BARBARA URBAN CREEKS COUNCIL

P.O. Box 1083, Carpinteria, CA 93014 (805) 968-3000



August 23, 2000

Karl Treiberg  
Santa Barbara County Flood Control &  
Water Conservation District  
123 East Anapamu Street  
Santa Barbara, California 93101-2025

**Re: Draft Supplement to Final Program Environmental Impact Report/Draft Environmental Assessment for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) and Supplement to the Environmental Impact Report (94-EIR-1), Atascadero Creek Maintenance Project**

Dear Karl Treiberg,

The Santa Barbara Urban Creeks Council is a non-profit organization whose mission is to preserve, protect, and restore both natural and urban streams. We are an advocacy voice for environmentally sound flood control project design, streambank stabilization methods, and land use planning measures that enhance the resources of streams and waterways. The Urban Creeks Council, as a member organization of the South Coast Watershed Alliance, is in full support of the comments that have been submitted to you by S.C.W.A. pertaining to the documents cited above. We also fully support the comments that have been submitted by Santa Barbara Audubon Society on both of these maintenance project documents. Our goals include bringing about the return of natural stream function and riparian habitat that reflects an awareness of the needs of federally listed endangered species, and other native species in our creeks. We are also in full support of meeting the requirements that have been identified by the larger community on the south coast reflecting the needs that people have for a healthy environment and clean water. An adequately shaded creek with pools and riffles present, and with appropriate native plantings are elements that are essential to all of us who live and recreate on the south coast.

In addition to the concerns as stated by S.C.W.A. and Audubon, the Urban Creeks Council wants to address an important hydrogeomorphological element that is missing from Atascadero Creek, San Jose, San Pedro, Carneros, and Tecolotito Creeks. Over many years of urbanization, all of these creeks have undergone modifications that have greatly diminished their sediment transport capability. This is due to the way in which these streams have been channelized, and the way in which current maintenance practices defeat the streams' natural tendency to restore equilibrium. The important width and depth dimensions of the "active" or "bankfull" channel have been systematically eliminated. Water velocities have been altered in this process, so that excessive scouring and excessive deposition occurs with every storm. This necessitates that intensive hydraulic dredging and dragline operations be performed regularly, in addition to discing of the stream bottom and intensive maintenance and management of vegetation by such methods as scraping vegetation from the channel banks and application of herbicides. The Urban Creeks Council urges you to consider restoration of correct "bankfull" channel width and depth dimensions throughout each reach within the project, based on 1 ½ to 2 year flow, as a means to allow the

stream to return to equilibrium. By allowing the bankfull channel to meander, where possible, within the banks of the larger high flow channel, stream velocities will be optimized. This will restore sediment transport efficiency, and will dramatically reduce the amount of maintenance that is required.

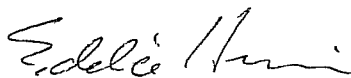
Shading that is provided by a mature canopy bordering the creek will help to minimize growth of cattails, reeds, and other bottom vegetation that captures sediments. The establishment of canopy trees should be among the long-range goals of the maintenance program. The need for intensive maintenance will be dramatically reduced once this canopy has been established.

In her book, "Restoring Streams in Cities," Dr. Ann L. Riley defines bankfull channel as the stream channel that is formed by the dominant, or bankfull discharge. The bankfull discharge, responsible for the active channel that erodes and deposits, creates pools, riffles, and meanders. The discharge, in terms of flood frequency, usually has a return period or recurrence interval of 1 ½ to 2 years in natural channels. This represents a flow condition in which the stream flow completely fills the stream channel up to the top of the bank before overflowing onto the floodplain. It is recognized by leading authorities that restoring width and depth dimensions to closely approximate the bankfull channel will allow the dominant flow to regulate stream velocities, thereby restoring equilibrium, and will result in balanced sediment transport.

The benefit of restoring this important element of stream dynamics is obvious. Far less maintenance will be necessary. Far less disturbance to habitat will result. Through implementation of watershed management practices that promote the restoration of the natural hydrogeomorphic contours and meanders to our streams, the goals that are shared by both the Santa Barbara Urban Creeks Council and the larger community will be achieved. We urge you to make restoration of the bankfull channel a part of the maintenance program for all waterways within the boundary of the two maintenance projects.

Thank you for your consideration of our input on these very important maintenance projects.

Sincerely,



Eddie Harris

Member of the Board of Directors

Santa Barbara Urban Creeks Council

cc: Goleta Slough Management Committee  
South Coast Watershed Alliance  
Environmental Defense Center

# Santa Barbara Audubon Society, Inc.

*A Chapter of the National Audubon Society*

5679 Hollister Avenue, Suite 5B, Goleta, California 93117 805-964-1468



August 24, 2000

Karl Treiberg  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

## RE: Goleta Slough Dredging Project

Dear Mr. Treiberg:

Santa Barbara Audubon would like to comment on the Draft Supplemental EIR for the Routine Maintenance Activities in the Goleta Slough. I was present at the discussion about this at the Goleta Slough Management Committee, and concur with a statement made by Dave Hubbard, the manager of UCSB lands in Goleta Slough: sediment removal is the most valuable action which can be taken to retain tidal circulation in the Slough, and thus ecological health of the slough.

The primary issues addressed in the Supplemental EIR are: federal listing of steelhead as endangered and designation of critical habitat, and another potential location for disposal of dredge material, and water quality.

2 { **Beach deposition of sediments:** Goleta Beach is eroding, and the community is looking at options for protecting the beach and park resources. The Goleta Slough sediments belong on the beach, and Audubon would support more lenient standards for sediment size compatibility between the source and receiving beach site. Certainly standards of pollutants must be adhered to, and if the discrepancy in sediment size to relatively large, deposition in the surf zone rather than on the beach itself may be warranted. } 2

3 { **Hydraulic dredging/dragline desilting:** Hydraulic dredging is environmentally superior, with less impacts to the vegetation along the slough margins. In Atascadero, San Pedro, and San Jose Creeks, we support hydraulic dredging, recognizing that dragline desilting is necessary in big storm events where the channels fill up with sediment. More lenient standards for sediment size compatibility would allow hydraulic dredging under most circumstances, and allow for more frequent beach disposal of sediments from dragline desilting operations. } 3

4 { **Permitting of dragline desilting:** Dragline desilting is the only real option for Tecolotito and Los Carneros Creeks. Adding the dragline desilting of the eastern creeks, rather than conducting these under emergency permits, allows for mitigation of the environmental impacts of these activities. Dragline desilting can be expected to be needed, and only the timing is unpredictable; these activities should be covered under regular permits and mitigation of impacts required. } 4

Audubon has been active in restoration activities on the Southern Gas Company properties adjacent to Atascadero, San Jose and San Pedro Creeks. The past Flood Control dragline desilting along these creeks have resulted in disturbance of the creekbanks and establishment

of extensive non-native invasive vegetation. For example, along the reach of Atascadero Creek below the Ward Drive check dam, the lower bank is native Pickleweed, Sparscale, *Atriplex triangularis* with occasional Tule. On the top of the bank, there are sensitive native plants such as Southern tarweed, *Hemizonia parryi* (CNPS 1B) and the annual Horned Sea-Blite, *Suaeda calceoliformis*. The dominant plants on the upper bank and the top of bank as well are non-native plants found in disturbed habitats: Castor bean, thistles including Italian and Russian thistle, mustard, and sweetclover. The very invasive Pampas grass and Giant reed are found at other desilting sites. In patches along the upper bank are native species appropriate to the habitat: *Suaeda taxifolia*, California sagebrush, Mugwort, Quail bush (*Atriplex lentiformis*).

Audubon recognizes that drag-line desilting will be required at irregular intervals in the future, but finds the degraded condition of the creek banks unacceptable in the interim periods, especially since hydraulic dredging can be employed most of the time. We recommend restoration efforts to establish rhizomatous species on most of the upper bank, which can recover from the disturbance with some minor weed control, such as: Alkali ryegrass (*Leymus triticoides*), Saltgrass, Western goldenrod (*Euthamia occidentalis*) and Frankenia. In triangular patches spaced at intervals on the bank where they can probably be undisturbed during drag-line operations, more stands of the existing shrub vegetation should be established. These species should be able to be established by seeding: Quail bush, *Suaeda taxifolia*. California sagebrush, Mugwort and Coast goldenbush. Thus if future disturbance is unavoidable, some weed control and reseedling could accomplish re-establishment. This seems reasonable mitigation for the impacts of these activities.

**Water Quality:** Wetland vegetation has been shown to have high nutrient and pollutant uptake values. Establishment of the native perennial species on the bank can be expected to act as a natural biofilter superior to the annual and perennial upland species now dominating the upper creekbanks and top-of banks. The dEIR states that the mouth of Goleta Slough rarely exceeds the acceptable pollutant standards, there are other creek sources. However, the standards are exceeded, are we must alter our management practises where improvements can be made.

## STEELHEAD IMPACTS

**Timing of hydraulic dredging:** The dEIR recommends that hydraulic dredging be shifted earlier in the season to lessen the likelihood of dredging during steelhead migration upstream during storm events. This seems a reasonable accommodation, starting in mid-October rather than November.

**Potential barrier to fish passage:** The check dam at Ward Drive may pose a barrier to steelhead at moderate flows. At high flows they can reach the upper sections of the creek, as evidenced by sitings in the watershed, especially Maria Ygnacio Creek. The check dam must be evaluated to determine if it does in fact pose a barrier at moderate flows. If so, modification of the structure to facilitate fish passage would reduce the risk of "taking" of this endangered fish, and allow for more lenient scheduling of the hydraulic dredge if fish can escape the area of disturbance by continuing upstream rather than waiting for a high-flow event.

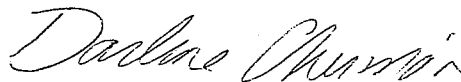
## SUMMARY

Sediment removal from Goleta Slough by the Flood Control District is beneficial to the ecological functioning of the slough. We can however, mitigate the negative impacts of the desilting operations to a greater extent than occurs at present. Vegetation management is a necessary component following disturbance, especially the extensive disturbance associated with dragline desilting. Given that dragline desilting will certainly be required, and only the timing is uncertain, these activities should be covered under the usual permit process rather than emergency permitting.

Whether the impacts to steelhead of the dredging operation can be reduced by modification of the Ward Drive check-dam needs to be evaluated.

Thank you for the opportunity of commenting on the Goleta Slough Dredging Project.

Sincerely,



Darlene Chirman  
President, Santa Barbara Audubon

Copies:

CORPS, Jim Mace  
CCC, Mark Capelli  
CaDFG, Natasha Lohmus/Morgan Wehtje  
NMFS, Darren Brumbach  
GSMC, Pat Saley



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**APPENDIX D**  
**NOISE DATA AND CALCULATIONS**

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## **Attachment 1 Noise Calculations**

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**Goleta Slough Flood Control Maintenance Activities Project Noise Model Calculation Results**  
**Construction Activity**

Hydraulic Dredging	Total Construction Est. L10 (dBA)	Ambient ( Day	Total Energy of Construction Equip [Energy 1] =10^(dba total/10)	Total Energy of Ambient [Energy 2 Day] =10^(dbaambient/10)	Construction+ Ambient Total Energy = Energy 1+Energy 2	Total dBA 10*log(Total Energy)	LEQ dBA L10-3=LEQ
Atascadero Creek Bank at Bike Path (Southwest of Ward, South of Rancho Goleta Mobil Home Park)	82.8	45.0	190546071.8	31622.7766	190577694.6	82.80072069	79.8007207
San Jose Creek (South of Residential Homes: Rancho Goleta)	68.1	51.7	6456542.29	147910.8388	6604453.129	68.19836862	65.1983686
San Pedro Creek (Fairview @ Placencia)	87	55.8	501187233.6	380189.3963	501567423	87.00329321	84.0032932
Goleta Beach	86.8	60.2	478630092.3	1047128.548	479677220.9	86.80949095	83.8094909
Dragline Dredging	Total Construction Est. L10 (dBA)	Ambient ( Day	Total Energy of Construction Equip [Energy 1] =10^(dba total/10)	Total Energy of Ambient [Energy 2 Day] =10^(dbaambient/10)	Construction+ Ambient Total Energy = Energy 1+Energy 2	Total dBA 10*log(Total Energy)	LEQ dBA
Tecolotito Creek (based on Goleta General Plan)	66.6	72	4570881.896	15848931.92	20419813.82	73.10051778	70.10051778
Carneros (based on Goleta General Plan)	64.5	72	2818382.931	15848931.92	18667314.86	72.71081853	69.71081853
Upland Disposal	Total Construction Est. L10 (dBA)	Ambient ( Day	Total Energy of Construction Equip [Energy 1] =10^(dba total/10)	Total Energy of Ambient [Energy 2 Day] =10^(dbaambient/10)	Construction+ Ambient Total Energy = Energy 1+Energy 2	Total dBA 10*log(Total Energy)	
Landfill	64.3	56.2	2691534.804	416869.3835	3108404.187	64.92537485	61.92537485
Nighttime Hydraulic Dredging	Total Construction Est. L10 (dBA)	Ambient ( Night	Total Energy of Construction Equip [Energy 1] =10^(dba total/10)	Total Energy of Ambient [Energy 2 Day] =10^(dbaambient/10)	Construction+ Ambient Total Energy = Energy 1+Energy 2	Total dBA 10*log(Total Energy)	LEQ dBA L10-3=LEQ
San Jose Creek (South of Residential Homes: Rancho Goleta)	67.8	41.7	6025595.861	14791.08388	6040386.945	67.8106476	64.8106476
San Pedro Creek (Fairview @ Placencia)	86.9	55.8	489778819.4	380189.3963	490159008.8	86.90336989	83.90336989

Notes: Tecolotito and Los Carneros estimated construction noise is lower than ambient. Therefore, based on the RCNM as well as the contours provided by City of Goleta, construction noise would likely not be perceptible.

Construction noise calculated using the default setting in the RCNM for L10 which includes an adjustment factor of 3. LEQ is therefore determined by subtracting 3 dBA from L10 range.

Equipment lists for Total Construction (L10) provided in Attachment 2

Analysis is based on ambient noise measurements provided in Attachment 3

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## **Attachment 2 RCNM Noise Analysis Results**



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## Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 12/16/2009

Case Description: Hydraulic

### ---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
		Daytime	Night			
Atascadero Creek Bike Path	Residential	45	35			
		Impact Device	Usage(%)			
Crane		No	16		80.6	50
Hydraulic Desilting Dredge		No	94		84	120
Front End Loader		No	40		79.1	75
Welder / Torch		No	40		74	90
Pumps		No	50		80.9	90
Results		Calculated (dBA)				
Equipment		*Lmax	L10			
Crane		80.6	75.6			
Hydraulic Desilting Dredge		76.4	79.1			
Front End Loader		75.6	74.6			
Welder / Torch		68.9	67.9			
Pumps		75.8	75.8			
	Total	80.6	82.8			

### ---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
		Daytime	Night			
Rancho Goleta Mobile Home Park	Residential	51.7	41.7			
		Impact Device	Usage(%)			
Crane		No	16		80.6	580
Hydraulic Desilting Dredge		No	94		84	500
Front End Loader		No	40		79.1	600
Welder / Torch		No	40		74	598
Pumps		No	50		80.9	600
Results		Calculated (dBA)				
Equipment		*Lmax	L10			
Crane		59.3	54.3			
Hydraulic Desilting Dredge		64	66.7			
Front End Loader		57.5	56.5			
Welder / Torch		52.4	51.5			
Pumps		59.4	59.3			
	Total	64	68.1			

### ---- Receptor #3 ----

Description	Land Use	Baselines (dBA)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
		Daytime	Night			
Fairview at Placencia	Residential	55.8	45.8			
		Impact Device	Usage(%)			
Crane		No	16		80.6	100
Hydraulic Desilting Dredge		No	94		84	50

Front End Loader	No	40	79.1	135
Welder / Torch	No	40	74	147
Pumps	No	50	80.9	190

#### Results

Equipment	Calculated (dBA)		Day
	*Lmax	L10	Lmax
Crane	74.5	69.6	N/A
Hydraulic Desilting Dredge	84	86.7	N/A
Front End Loader	70.5	69.5	N/A
Welder / Torch	64.6	63.7	N/A
Pumps	69.3	69.3	N/A
Total	84	87	N/A

#### ---- Receptor #4 ----

Description	Land Use	Baselines (dBA)		Spec Lmax	Actual Lmax (dBA)	Receptor Distance (feet)
		Daytime	Night			
Goleta Beach	Residential	60.2	50.2			
Description	Device	Impact Usage(%)		Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)
Crane	No		16		80.6	254
Hydraulic Desilting Dredge	No		94		84	50
Front End Loader	No		40		79.1	238
Welder / Torch	No		40		74	230
Pumps	No		50		80.9	200
Results		Calculated (dBA)				
Equipment		*Lmax	L10			
Crane		66.4	61.5			
Hydraulic Desilting Dredge		84	86.7			
Front End Loader		65.6	64.6			
Welder / Torch		60.7	59.8			
Pumps		68.9	68.9			
Total		84	86.8			

\*Calculated Lmax is the Loudest value.

## Roadway Construction Noise Model (RCNM),Version 1.1

Report date:

9/4/2009

Case Description:

dragline desilting

### ---- Receptor #1 ----

---- Receptor #1 ----		Baselines (dBA)			
Description		Daytime	Night		
Los Carneros Creek	Commercial	72	62		
		Equipment			
			Spec	Actual	Receptor
	Impact		Lmax	Lmax	Distance
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)
Crane (dragline)	No	94		80.6	570
Excavator	No	40		80.7	590
Dump Truck	No	40		76.5	600
Dump Truck	No	40		76.5	590
		Calculated (dBA)			
Equipment		*Lmax	L10		
Crane (dragline)		59.5	62.2		
Excavator		59.3	58.3		
Dump Truck		54.9	53.9		
Dump Truck		55	54		
	Total	59.5	64.5		

### ---- Receptor #2 ----

---- Receptor #2 ----		Baselines (dBA)			
Description		Daytime	Night		
Tecolotito Creek	Commercial	72	62		
		Equipment			
	Impact	Spec		Actual	Receptor
	Device	Lmax		Lmax	Distance
Description		Usage(%)	(dBA)	(dBA)	(feet)
Crane (dragline)	No	94		80.6	440
Excavator	No	40		80.7	480
Dump Truck	No	40		76.5	500
Dump Truck	No	40		76.5	490
		Calculated (dBA)			
Equipment		*Lmax	L10		
Crane (dragline)		61.7	64.4		
Excavator		61.1	60.1		
Dump Truck		56.5	55.5		
Dump Truck		56.6	55.6		
Total		61.7	66.6		

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/3/2009

---- Receptor #7 ----

		Baselines (dBA)					
Description		Daytime	Evening	Night			
Landfill	Residential	56.2	56.2	46.2			
		Equipment					
		Impact		Spec	Actual	Receptor	
Description		Device	Usage(%)	(dBA)	(dBA)	Distance	
Dozer		No	40			81.7	400
Dump Truck		No	40			76.5	450
Dump Truck		No	40			76.5	450
		Calculated (dBA)					
Equipment		*Lmax	L10				
Dozer		63.6	62.7				
Dump Truck		57.4	56.4				
Dump Truck		57.4	56.4				
Total		63.6	64.3				

\*Calculated Lmax is the Loudest value.

## Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 9/4/2009

Case Description: Night

### ---- Receptor #1 ----

		Baselines (dBA)		
Description		Daytime	Evening	Night
San Jose	Residential	51.7	51.7	41.7

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Hydraulic Dredge	No	94		84	500	0
Pumps	No	50		80.9	600	0
Crane	No	16		80.6	580	0
Welder / Torch	No	40		74	598	0

### Calculated (dBA)

Equipment	*Lmax	L10
Hydraulic Dredge	64	66.7
Pumps	59.4	59.3
Crane	59.3	54.3
Welder / Torch	52.4	51.5
Total	64	67.8

### ---- Receptor #2 ----

		Baselines (dBA)		
Description		Daytime	Evening	Night
San Pedro	Residential	55.8	55.8	45.8

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Hydraulic Dredge	No	94		84	50	0
Pumps	No	50		80.9	190	0
Crane	No	16		80.6	100	0
Welder / Torch	No	40		74	147	0

### Calculated (dBA)

Equipment	*Lmax	L10
Hydraulic Dredge	84	86.7
Pumps	69.3	69.3
Crane	74.5	69.6
Welder / Torch	64.6	63.7
Total	84	86.9

\*Calculated Lmax is the Loudest value.

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### **Attachment 3 Noise Modeling Field Notes**



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AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name: Goleta Slough  
Location: Trailer park @ ward.  
Operator: Sh  
Conditions: Sky Clear Wind None

Project Number: 0702-006  
Date: 3/23/09  
Day of Week: Tuesday

Noise Sources: Birds, overhead air traffic 8B Airport, Ward Memorial in distance. Walkers, bikers

Distance from Primary Source: ~50 ft fr: Banks of Slough, 75 ft fr: nearest residential yard, 1350 ft fr: Ward Memorial Hwy

Begin Time: 11:24 am  
Leq: 45.0  
SEL: \_\_\_\_\_

End Time: 11:39 am  
Lmax: 80.1  
Lmin: 40.2

Notes: Calibration took about 1/2 hr but seems very accurate

Noise Meter: LD LXT  
Calibrator: 114 @ 114 dBA

11:32	45.5	LASEQ	44.8
11:37	45.0		46.7
11:39	45.2	peak	80.1

①

Keith Baarsch  
Manager945 Ward Drive  
Santa Barbara, CA 93111

Office: (805) 964-5515

Fax: (805) 967-0207

E-mail: ranchogoleta@yahoo.com

Office Hours M-F 9-12~1-3 Closed Holidays

## OISE MEASUREMENT DATA SHEET

Project Name: Goleta Slough Project Number: 0702 - 006  
Location: SW Corner of Park homes Date: 3/24/09  
Operator: JB Day of Week: Tuesday  
Conditions: Sky Clear Wind Calm

Noise Sources: Ward memorial Blvd, Air traffic, ~~pad~~ pond pump,  
birds in distance

Distance from Primary Source: ~430 ft fr: Center Hwy 217, 500 ft  
fr: Banks of Slough

Begin Time: 12:58 End Time: 1:13  
Leq: 51.7 Lmax: 92.6  
SEL: NA Lmin: NA

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Noise Meter: LD LX+  
Calibrator: 114 @ 114dBA

Permission granted Keith

1:10 pm: 47.8

48.9  
48.9

Peak 92.6  
51.7

P/s note  
time on noise  
meter not  
adjusted for  
Time change

Saved  
data

2

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name: Goleta Slough  
Location: Fairview @ Placentia  
Operator: gh  
Conditions: Sky Clear

Project Number: 0702-0062  
Date: 3/24/09  
Day of Week: Tues.  
Wind Breezy

Noise Sources: Street, Some noise fr. Goleta Sanitary  
facility, Some construction @ Airport parking lot,  
overhead Air traffic, birds.

Distance from Primary Source: primary source is street  
~32 ft fr. James Fowler, ~30 ft fr. Bank of Slough

Begin Time: 1:39 pm  
Leq: 55.8  
SEL: \_\_\_\_\_

End Time: 1:54  
Lmax: 86.4  
Lmin: 40.2

Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Noise Meter: LD LXT  
Calibrator: 114 @ 114 dBA

*Saved.*

46.2 @ 1:43  
peak 83.0  
SEQ 45.6

1:47pm 50.6  
peak 42.2  
SEQ 49.3

Unknown time  
43.4

1:52pm 50.5  
peak 82.6  
SEQ 50.3

1:54pm 44.8  
peak 86.4  
SEQ 45.8

(3)

AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name: Goleta Slough  
Location: Goleta Beach  
Operator: James Kelso  
Conditions: Sky Clear Wind Breeze, light

Project Number: 0702-0062  
Date: 3/24/09  
Day of Week: Tuesday

Noise Sources: Vehicle traffic, Ward Memorial, Birds,  
Car Stereo, pedestrians, overhead air traffic,  
Kids playing near meter

Distance from Primary Source: ~15 ft fr Slough, 20 ft fr parking  
lot of Goleta Beach, 315 ft from Hwy 217, 160 ft fr  
Sandspit

Begin Time: 2:20  
Leq: ~~60.4~~ 60.2  
SEL: \_\_\_\_\_

End Time: 2:35  
Lmax: 83.4  
Lmin: NA

Notes: I think the location I chose is one of  
those GPS scavenger hunt spots. People removing  
item fr. under bridge that replacing.

Noise Meter: LD LXT  
Calibrator: 114 @ 114dBA

56.6 peak

4

# AMBIENT NOISE MEASUREMENT DATA SHEET

Project Name: Goleta Slough

Project Number: \_\_\_\_\_

Location: 249 Sherwood @ landfill

Date: 5/20/09

Operator: Sh

Day of Week: Wed.

Conditions: Sky Overcast

Wind Slight Breeze

Noise Sources:  Hwy 101, other sources include 3 dogs barking, lawn mower @ adjacent residence, cars & pedestrians on Sherwood. planes overhead

Distance from Primary Source: (~600 ft)  
0.15 miles from Hwy 101, 0.3 miles fr. (432 ft)  
landfill property, 0.2 miles (103 ft) fr. Sherwood Drive, 0.29 miles fr.  
County dump road (1500 ft)

Begin Time: 3:55

End Time: 4:10

Leq: 00.1

Lmax: \_\_\_\_\_

SEL: \_\_\_\_\_

Lmin: \_\_\_\_\_

Notes: Spoke w/ home @ adjacent lot.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Noise Meter: Lantern Davis LxT

Calibrator: 44.3 @ 114 dBA

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**APPENDIX E**  
**AIR QUALITY MODELING RESULTS**

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**"Base Case" Scenario - Criteria Pollutants  
Mobilization/Demobilization**

**ON-ROAD SOURCES**

**Heavy-Duty Trucks**

Transport of heavy equipment from Ventura <sup>1</sup>			Grams/Mile					Pounds/Day					Tons						
Source	Miles/Trip	Trips/day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	80	4		15.257	0.605	0.462	2.944	0.016	10.763	0.427	0.326	2.077	0.011	2	0.011	0.000	0.000	0.002	0.000

Transportation Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			10.763	0.427	0.326	2.077	0.011
Tons			0.011	0.000	0.000	0.002	0.000

**Light-Duty Trucks**

Commute Trips (4 workers, 1 FDC employee) from Santa Barbara

Running Exhaust Emissions			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days <sup>3</sup>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	10	0.230	0.024	0.029	1.693	0.004	0.051	0.005	0.006	0.373	0.001	10	0.000	0.000	0.000	0.002	0.000

Starting Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.454	0.632	0.011	8.134	0.002	0.010	0.014	0.000	0.179	0.000	10	0.000	0.000	0.000	0.001	0.000

Hot Soak Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	5	0.000	0.015	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	10	0.000	0.039	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Commuting Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			0.061	0.036	0.007	0.553	0.001
Tons			0.000	0.000	0.000	0.003	0.000

Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			10.82	0.46	0.33	2.63	0.01
Tons			0.01	0.00	0.00	0.00	0.00

1. For the transportation of heavy equipment a 40-mile one way trip from Ventura to Goleta Beach is assumed
2. Mobilization and demobilization is assumed to take 5 days each.

**"Base Case" Scenario - Criteria Pollutants**

**Desilting of Atascadero, San Jose, San Pedro Creeks, Carneros and Tecolotito - 10 Hour Days**

**105,000 cy (100% dragline)**

Dragline Dredging						Pounds/BHP-Hour					Pounds/Day					Tons					
Source	Fuel	BHP	Number	Load Factor	Hours/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.01026	0.00059	0.00032	0.00228	0.00001	26.471	1.522	0.826	5.882	0.028	52.5	0.695	0.040	0.022	0.154	0.001
Bulldozer	Diesel	300	2	59	10	0.01006	0.00051	0.00030	0.00222	0.00001	35.612	1.805	1.062	7.859	0.039	52.5	0.935	0.047	0.028	0.206	0.001

Dredging Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					62.083	3.328	1.888	13.741	0.067
Tons					1.630	0.087	0.050	0.361	0.002

ON-ROAD SOURCES			Grams/Mile					Pounds/Day					Tons					
To Goleta Beach - 84,000 cy <sup>1</sup>																		
Source	Miles/Trip	Trips/day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks (80% to beach)	3.5	150	15.257	0.605	0.462	2.944	0.016	17.659	0.700	0.535	3.407	0.019	56	0.494	0.020	0.015	0.095	0.001

Truck Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					17.659	0.700	0.535	3.407	0.019
Tons					0.494	0.020	0.015	0.095	0.001

Light-Duty Trucks	Commuter Trips (4 workers, 1 FDC employee)																	
	Running Exhaust Emissions																	
	Grams/Mile						Pounds/Day						Tons					
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	10	0.230	0.024	0.029	1.693	0.004	0.051	0.005	0.006	0.373	0.001	56	0.001	0.000	0.000	0.010	0.000

Starting Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.454	0.632	0.011	8.134	0.002	0.010	0.014	0.000	0.179	0.000	56	0.000	0.000	0.000	0.005	0.000

Hot Soak Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	56	0.000	0.000	0.000	0.000	0.000

Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	5	0.000	0.015	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	56	0.000	0.000	0.000	0.000	0.000

Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	10	0.000	0.039	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	56	0.000	0.000	0.000	0.000	0.000

Commuting Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					0.061	0.036	0.007	0.553	0.001
Tons					0.002	0.001	0.000	0.015	0.000

Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					79.80	4.06	2.43	17.70	0.09
Tons					2.13	0.11	0.06	0.47	0.00

1. It is assumed that each truck can carry 10 cy of dredged material.
2. To calculate the "base case scenario," the average sediment volumes removed during dredging of the Goleta Slough from 1994 to 2008 was used, which was 105,000 cy.
3. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
4. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.
5. Base case scenario assumes 100% dragline dredge removal.
6. It is assumed that both dragline and hydraulic dredging could occur simultaneously at Atascadero, San Jose or San Predro.

"Base Case" Scenario - Criteria Pollutants

Upland Disposal of Dredged Material - 21,000 cy (20% of total material)

OFF-ROAD SOURCES

Loading 21,000 cy into trucks						Pounds/BHP-Hour					Pounds/Day					Days	Tons				
Source	Fuel	BHP	Number	Load Factor	Hours/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Loader/Dozer	Diesel	80	1	59	10	0.01350	0.00136	0.00116	0.00801	0.00001	6.372	0.642	0.548	3.781	0.006	14	0.045	0.004	0.004	0.026	0.000
<b>Loading Summary</b>						<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>PM10</b>	<b>CO</b>	<b>SO<sub>2</sub></b>											
Pounds/Day						6.372	0.642	0.548	3.781	0.006											
Tons						0.045	0.004	0.004	0.026	0.000											

ON-ROAD SOURCES

Heavy-Duty Trucks

16,800 cy from Atascadero, San Jose and San Pedro Creeks <sup>1</sup>				Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	4.5	100		15.257	0.605	0.462	2.944	0.016	15.136	0.600	0.458	2.921	0.016	16.8	0.127	0.005	0.004	0.025	0.000

4,200 cy from Tecolotito and Cameros Basins <sup>1</sup>				Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	5.5	100		15.257	0.605	0.462	2.944	0.016	18.499	0.734	0.560	3.570	0.019	4.2	0.039	0.002	0.001	0.007	0.000

Truck Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			33.635	1.334	1.019	6.490	0.035
Tons			0.166	0.007	0.005	0.032	0.000

Light-Duty Trucks

Commute Trips (Two workers and 2 visits per day by a district staff member)																		
Running Exhaust Emissions			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	8	0.230	0.024	0.029	1.693	0.004	0.041	0.004	0.005	0.299	0.001	14	0.000	0.000	0.000	0.002	0.000
Starting Emissions			Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.454	0.632	0.011	8.134	0.002	0.008	0.011	0.000	0.143	0.000	14	0.000	0.000	0.000	0.001	0.000
Hot Soak Emissions			Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	14	0.000	0.000	0.000	0.000	0.000
Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	3	0.000	0.015	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	14	0.000	0.000	0.000	0.000	0.000
Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	8	0.000	0.039	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	14	0.000	0.000	0.000	0.000	0.000
Commuting Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>											
Pounds/Day			0.049	0.029	0.005	0.442	0.001											
Tons			0.000	0.000	0.000	0.003	0.000											
Total Emissions			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>											
SBCAPCD			Pounds/Day	40.06	2.00	1.57	10.71	0.04										
			Tons	0.21	0.01	0.01	0.06	0.00										

1. It is assumed that each truck can carry 10 cy of dredged material.

GOLETA SLOUGH DREDGING PROJECT - "BASE CASE" AIR EMISSIONS SUMMARY		SBCAPCD				
		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
MOBILIZATION/ DEMOBILIZATION	Pounds/Day	10.824	0.463	0.333	2.629	0.012
	Tons	0.011	0.001	0.000	0.005	0.000
DRAGLINE DESILTING OF ALL 5 CREEKS	Pounds/Day	79.802	4.064	2.429	17.701	0.087
	Tons	2.126	0.108	0.065	0.472	0.002
UPLAND DISPOSAL	Pounds/Day	40.056	2.004	1.571	10.713	0.042
	Tons	0.211	0.011	0.009	0.062	0.000

<b>BEST CASE SCENARIO - PROJECT AIR EMISSIONS</b>	SBCAPCD				
	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Maximum Pounds/Day (Best Case Scenario)	79.80	4.06	2.43	17.70	0.09
Tons	2.35	0.12	0.07	0.54	0.00

For the most likely scenario, it is assumed that activity at Atascadero, San Jose or San Pedro would not occur simultaneously with activity at Carneros or Tecoma. 10 hour work days during hydraulic dredging was assumed for the most likely scenario. Upland disposal is not anticipated to correspond with any desilting activities.

**"Base Case" Scenario - Greenhouse Gases  
Mobilization/Demobilization**

**ON-ROAD SOURCES**

**Heavy-Duty Trucks**

Transport of heavy equipment from Ventura <sup>1</sup>			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	80	7	0.066	0.061	2028.200	0.082	0.075	2503.951	2	0.000	0.000	2.272

Transportation Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.082	0.075	2503.951
Metric Tons					0.000	0.000	2.272

**Light-Duty Trucks**

Commute Trips (4 workers, 1 FDC employee) from  
Santa Barbara to Goleta Beach

			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	10	0.049	0.085	590.733	0.011	0.019	130.232	10	0.000	0.000	0.591

Commuting Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.011	0.019	130.232
Metric Tons					0.000	0.000	0.591

Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.09	0.09	2634.18
Metric Tons					0.00	0.00	2.86

1. For the transportation of heavy equipment a 40-mile one way trip from Ventura to Goleta Beach is assumed
2. For the transportation of dredging equipment a 125 mile one way trip from the Port of Longbeach to Goleta Beach is assumed.
3. Mobilization and demobilization is assumed to take 5 days each.

## "Base Case Scenario" - Greenhouse Gases

### Desilting of Atascadero, San Jose, San Pedro Creeks, Carneros and Tecolotito - 10 Hour Days

105,000 cy (100% dragline)

#### OFF-ROAD SOURCES Assuming 100 cy/hour and 10 hours/day

Source	Fuel	BHP	Number	Load Factor	Hours/Day	Pounds/BHP-Hour			Pounds/Day			Days	Metric Tons		
						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.00001	0.00017	1.25528	0.026	0.444	3238.620	52.5	0.001	0.011	77.124
Bulldozer	Diesel	300	2	59	10	0.00001	0.00017	1.25528	0.035	0.609	4443.688	52.5	0.001	0.014	105.821

Dredging Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.061	1.053	7682.307
Metric Tons					0.001	0.025	182.945

#### ON-ROAD SOURCES

To Goleta Beach - 84,000 cy<sup>1</sup>

**Heavy-Duty Trucks**  
(80% to beach)

Source	Miles/Trip	Trips/day	Grams/Mile			Pounds/Day			Days	Metric Tons		
			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	3.5	150	0.066	0.061	2028.200	0.077	0.070	2347.454	56.0	0.002	0.002	59.629

Truck Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.077	0.070	2347.454
Metric Tons					0.002	0.002	59.629

**Light-Duty Trucks**

Commute Trips (Two workers and 2 visits per day  
by a district staff member)

Source	Miles/Trip	Trips/Day	Grams/Mile			Pounds/Day			Days	Metric Tons		
			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	8	0.049	0.085	590.733	0.009	0.015	104.186	56	0.000	0.000	2.646

Commuting Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.009	0.015	104.186
Metric Tons					0.000	0.000	2.646

Summary					N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day					0.15	1.14	10133.95
Metric Tons					0.00	0.03	245.22

1. It is assumed that each truck can carry 10 cy of dredged material.
2. To calculate the "most likely scenario," the average sediment volumes removed during dredging of the Goleta Slough from 1994 to 2008 was used, which was 105,000 cy.
3. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
4. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.

## "Base Case Scenario" - Greenhouse Gases

### Upland Disposal of Dredged Material - 21,000 cy (20% of total material)

#### OFF-ROAD SOURCES

Loading 21,000 cy into trucks						Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Fuel	BHP	Number	Load Factor	Hours/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Loader/Dozer	Diesel	80	1	59	10	0.00011	0.00018	1.29631	0.052	0.084	611.856	14	0.000	0.001	3.886
Loading Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>							
Pounds/Day						0.052	0.084	611.856							
Metric Tons						0.000	0.001	3.886							

#### ON-ROAD SOURCES

##### Heavy-Duty Trucks

16,800 cy from Atascadero, San Jose and San Pedro Creeks <sup>1</sup>						Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	4.5	100	0.066	0.061	2028.200	0.066	0.060	2012.103	16.8	0.001	0.000	15.333			
4,200 cy from Tecolotito and Carneros Basins <sup>1</sup>						Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	5.5	100	0.066	0.061	2028.200	0.081	0.073	2459.237	4.2	0.000	0.000	4.685			

Truck Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.146	0.134	4471.340
Metric Tons						0.001	0.001	20.018

##### Light-Duty Trucks

Commute Trips (Two workers and 2 visits per day by a district staff member)						Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	8	0.049	0.085	590.733	0.009	0.015	104.186	14	0.000	0.000	0.662			
Commuting Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>							
Pounds/Day						0.009	0.015	104.186							
Metric Tons						0.000	0.000	0.662							

Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.21	0.23	5187.38
Metric Tons						0.00	0.00	24.57

1. It is assumed that each truck can carry 10 cy of dredged material.
2. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
3. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.
4. It is assumed that 2 dragline dredges could operate simultaneously in one or more of the creeks within the Goleta Slough.



GOLETA SLOUGH DREDGING PROJECT - BASE CASE GHG EMISSIONS SUMMARY		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	CO <sub>2</sub> E
MOBILIZATION/ DEMOBILIZATION	Pounds/Day	0.093	0.093	2634.183	
	Tons	0.000	0.000	2.862	2.904
DRAGLINE DESILTING OF ALL 5 CREEKS	Pounds/Day	0.147	1.138	10133.947	
	Tons	0.004	0.027	245.220	246.924
UPLAND DISPOSAL	Pounds/Day	0.207	0.233	5187.382	
	Tons	0.001	0.001	24.565	24.915

PROJECT GHG EMISSIONS	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Maximum Pounds/Day (Most Likely Scenario)	0.15	1.14	10133.95
Total Metric Tons	0.00	0.03	272.65

TOTAL CO <sub>2</sub> EQUIVALENT <sup>1</sup>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	TOTAL
METRIC TONS	1.49	0.60	272.65	274.74

10 hour work days during hydraulic dredging was assumed for the most likely scenario.  
Upland disposal is not anticipated to occur simultaneously with desilting activities.

**"Worst Case" Scenario - Criteria Pollutants  
Mobilization/Demobilization**

**ON-ROAD SOURCES**

**Heavy-Duty Trucks**

Transport of heavy equipment from Ventura <sup>1</sup>			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	80	7	15.257	0.605	0.462	2.944	0.016	18.836	0.747	0.570	3.635	0.020	2	0.019	0.001	0.001	0.004	0.000

Transport of dredging equipment from POLB <sup>2</sup>			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	250	2	15.257	0.605	0.462	2.944	0.016	16.818	0.667	0.509	3.245	0.018	2	0.017	0.001	0.001	0.003	0.000

Transportation Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			35.653	1.414	1.080	6.880	0.037
Tons			0.036	0.001	0.001	0.007	0.000

**Light-Duty Trucks**

**Commute Trips (4 workers, 1 FDC employee) from Santa Barbara**

Running Exhaust Emissions			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days <sup>3</sup>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	10	0.230	0.024	0.029	1.693	0.004	0.051	0.005	0.006	0.373	0.001	10	0.000	0.000	0.000	0.002	0.000

Starting Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.454	0.632	0.011	8.134	0.002	0.010	0.014	0.000	0.179	0.000	10	0.000	0.000	0.000	0.001	0.000

Hot Soak Emissions		Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	5	0.000	0.015	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	10	0.000	0.039	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	10	0.000	0.000	0.000	0.000	0.000

Commuting Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			0.061	0.036	0.007	0.553	0.001
Tons			0.000	0.000	0.000	0.003	0.000

Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day			35.71	1.45	1.09	7.43	0.04
Tons			0.04	0.00	0.00	0.01	0.00

1. For the transportation of heavy equipment a 40-mile one way trip from Ventura to Goleta Beach is assumed
2. For the transportation of dredging equipment a 125 mile one way trip from the Port of Longbeach to Goleta Beach is assumed.
3. Mobilization and demobilization is assumed to take 5 days each.

**"Worst Case" Scenario - Criteria Pollutants**  
**Desilting of Atascadero, San Jose, and San Pedro Creeks - 24 Hour Days**  
**153,600 cy (50% dragline/50% hydraulic)**

**OFF-ROAD SOURCES**

76,800 cy assuming 200 cy/hour and 24 hours/day <sup>3</sup>						Pounds/BHP-Hour					Pounds/Day					Tons					
Source	Fuel	BHP	Number	Load Factor	Hours/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Hydraulic Dredge	Diesel	370	1	51	24	0.01002	0.00049	0.00030	0.00220	0.00001	45.379	2.219	1.359	9.963	0.050	16	0.363	0.018	0.011	0.080	0.000
Crane: 15 Ton Grove	Diesel	100	1	43	10	0.01267	0.00147	0.00093	0.00807	0.00001	5.448	0.632	0.400	3.470	0.006	16	0.044	0.005	0.003	0.028	0.000
Excavator <sup>1</sup>	Diesel	125	1	57	10	0.01117	0.00082	0.00058	0.00705	0.00001	7.959	0.584	0.413	5.023	0.009	61.4	0.244	0.018	0.013	0.154	0.000
Loader/Dozer <sup>1</sup>	Diesel	125	1	55	10	0.01350	0.00136	0.00116	0.00801	0.00001	9.281	0.935	0.798	5.507	0.009	61.4	0.285	0.029	0.024	0.169	0.000
Welding Machine	Diesel	63	1	45	10	0.01316	0.00125	0.00106	0.00773	0.00001	3.731	0.354	0.301	2.191	0.004	16	0.030	0.003	0.002	0.018	0.000
Fusion Machine	Diesel	25	1	45	10	0.01270	0.00141	0.00084	0.00516	0.00002	1.429	0.159	0.095	0.581	0.002	16	0.011	0.001	0.001	0.005	0.000
Booster Pump	Diesel	250	1	74	24	0.01042	0.00041	0.00027	0.00214	0.00001	46.265	1.820	1.199	9.502	0.059	16	0.370	0.015	0.010	0.076	0.000

76,800 cy assuming 100 cy/hour/crane and 10 hours/day <sup>6</sup>						Pounds/BHP-Hour					Pounds/Day					Tons					
Source	Fuel	BHP	Number	Load Factor	Hours/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.01026	0.00059	0.00032	0.00228	0.00001	26.471	1.522	0.826	5.882	0.028	38.4	0.508	0.029	0.016	0.113	0.001
Buildozer	Diesel	300	1	59	10	0.01006	0.00051	0.00030	0.00222	0.00001	17.806	0.903	0.531	3.929	0.019	38.4	0.342	0.017	0.010	0.075	0.000
Excavator	Diesel	125	1	59	10	0.01006	0.00051	0.00030	0.00222	0.00001	7.419	0.376	0.221	1.637	0.008	38.4	0.142	0.007	0.004	0.031	0.000

Dredging Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					171.187	9.505	6.141	47.686	0.194
Tons					2.340	0.142	0.094	0.749	0.003

ON-ROAD SOURCES			To Goleta Beach - 122,880 cy <sup>2,4</sup>		Grams/Mile							Pounds/Day							Tons																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Heavy-Duty Trucks			Source	Miles/Trip	Trips/day																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

Truck Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					23.545	0.934	0.713	4.543	0.025
Tons					0.723	0.029	0.022	0.139	0.001

Light-Duty Trucks	Commuter Trips (4 workers, 1 FDC employee) X 3 shifts per day														Running Exhaust Emissions													
	Grams/Mile							Pounds/Day							Tons													
	Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>									
Light-Duty Trucks	10	30	0.230	0.024	0.029	1.693	0.004	0.152	0.016	0.019	1.120	0.003	100	0.008	0.001	0.001	0.056	0.000										

Starting Emissions		Grams/Trip					Pounds/Day						Tons				
Source	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	30	0.454	0.632	0.011	8.134	0.002	0.030	0.042	0.001	0.538	0.000	100	0.002	0.002	0.000	0.027	0.000

Hot Soak Emissions		Grams/Trip					Pounds/Day					Tons					
		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Source	Trips/Day																
Light-Duty Trucks	30	0.000	0.105	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	100	0.000	0.000	0.000	0.000	0.000

Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8	15	0.000	0.015	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	100	0.000	0.000	0.000	0.000	0.000

Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	30	0.000	0.039	0.000	0.000	0.000	0.000	0.039	0.000	0.000	0.000	100	0.000	0.002	0.000	0.000	0.000

Commuting Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					0.182	0.107	0.020	1.658	0.003
Tons					0.009	0.005	0.001	0.083	0.000

Summary					NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day					194.91	10.55	6.87	53.89	0.22
Tons					3.07	0.18	0.12	0.97	0.00

1. Bulldozer will be operating on the beach to push sediment delivered by trucks into surf, and the excavator will load trucks with sediment, therefore, duration for both is 61.4 days, same as truck activity to Goleta Beach.
2. It is assumed that each truck can carry 10 cy of dredged material.
3. To calculate a "worst case scenario," the maximum volume that could be removed from each creek was calculated by Maurren Spencer as follows:  
Atascadero Creek                      San Pedro Creek  
Total length of for Hydraulic desilting = 3600'      2000'x55'x8"= 33,000 cubic yards  
Total length for Dragline = 2800'                      Tecolotito Basin:  
800'x90'x8" = 22,000cubic yards                      550'x100'x10" = 21,000 cubic yards  
2800'x80'x8"=67,000 cubic yards  
  
San Jose Creek:                                      Los Carneros Basin:  
2500'x50'x8"=38,000 cubic yards                      600'x60'x8" = 11,000 cubic yards  
Total of 192,000 cubic yards maximum capacity.
4. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
5. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.
6. Based on previous years activity, of the material removed from Atascadero, San Jose and San Pedro Creeks, on average 50% has been dragline dredged and 50% has been dredged.
7. It is assumed that both dragline and hydraulic dredging could occur simultaneously at Atascadero, San Jose or San Pedro.
8. 55 days was used for the number of commute trip days because the sum of dragline desilting (38.4 days) and hydraulic desilting (16), is 54.4 days.

**"Worst Case" Scenario - Criteria Pollutants**  
**Desilting of Tecolotito and Carneros Basins**  
**38,400 cy (100% dragline)**

OFF-ROAD SOURCES 38,400 cy assuming 100 cy/hour/crane and 10 hours/day

Source	Fuel	BHP	Number	Load Factor	Hours/Day	Pounds/BHP-Hour					Pounds/Day					Days	Tons				
						NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.01026	0.00059	0.00032	0.00228	0.00001	26.471	1.522	0.826	5.882	0.028	19.2	0.254	0.015	0.008	0.056	0.000
Bulldozer <sup>1</sup>	Diesel	300	1	59	10	0.01006	0.00051	0.00030	0.00222	0.00001	17.806	0.903	0.531	3.929	0.019	15.4	0.137	0.007	0.004	0.030	0.000
Excavator <sup>2</sup>	Diesel	125	1	57	10	0.01117	0.00082	0.00058	0.00705	0.00001	7.959	0.584	0.413	5.023	0.009	15.4	0.061	0.004	0.003	0.039	0.000
<b>Dredging Summary</b>						<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>PM10</b>	<b>CO</b>	<b>SO<sub>2</sub></b>											
Pounds/Day						52.236	3.009	1.770	14.835	0.057											
Tons						0.453	0.026	0.015	0.125	0.000											

**ON-ROAD SOURCES**  
**Heavy-Duty Trucks**  
 (80% to beach)

Source	Miles/Trip	Trips/day	Grams/Mile					Pounds/Day					Days	Tons				
			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	3.5	200	15.257	0.605	0.462	2.944	0.016	23.545	0.934	0.713	4.543	0.025	15.4	0.181	0.007	0.005	0.035	0.000
<b>Truck Summary</b>			<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>PM10</b>	<b>CO</b>	<b>SO<sub>2</sub></b>											
Pounds/Day			23.545	0.934	0.713	4.543	0.025											
Tons			0.181	0.007	0.005	0.035	0.000											

**Light-Duty Trucks**

Commuter Trips (Two workers and 2 visits per day by a district staff member)																		
Running Exhaust Emissions			Grams/Mile					Pounds/Day					Days	Tons				
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	8	0.230	0.024	0.029	1.693	0.004	0.041	0.004	0.005	0.299	0.001	20	0.000	0.000	0.000	0.003	0.000
Starting Emissions			Grams/Trip					Pounds/Day					Days	Tons				
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.454	0.632	0.011	8.134	0.002	0.008	0.011	0.000	0.143	0.000	20	0.000	0.000	0.000	0.001	0.000
Hot Soak Emissions			Grams/Trip					Pounds/Day					Days	Tons				
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Days	Tons				
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	3	0.000	0.015	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Days	Tons				
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	8	0.000	0.039	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
<b>Commuting Summary</b>			<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>PM10</b>	<b>CO</b>	<b>SO<sub>2</sub></b>											
Pounds/Day			0.049	0.029	0.005	0.442	0.001											
Tons			0.000	0.000	0.000	0.004	0.000											
<b>Summary</b>			<b>NO<sub>x</sub></b>	<b>ROG</b>	<b>PM10</b>	<b>CO</b>	<b>SO<sub>2</sub></b>											
Pounds/Day			75.83	3.97	2.49	19.82	0.08											
Tons			0.63	0.03	0.02	0.16	0.00											

- Bulldozer will be operating on the beach to push sediment delivered by trucks into surf, and the excavator will load trucks with sediment, therefore, duration for both is 15.4 days, same as truck activity to Goleta Beach.
- It is assumed that each truck can carry 10 cy of dredged material.
- To calculate a "worst case scenario," the maximum volume that could be removed from each creek was calculated by Maurren Spencer as follows:
 

Atascadero Creek:	San Pedro Creek:
Total length of for Hydraulic desilting = 3600'	2000'x55'x8' = 33,000 cubic yards
Total length for Dragline = 2800'	
800'x90'x8' = 22,000cubic yards	Tecolotito Basin:
2800'x80'x8'=67,000 cubic yards	550'x100'x10' = 21,000 cubic yards
- San Jose Creek:
 

2500'x50'x8'=38,000 cubic yards	Los Carneros Basin:
	600'x60'x8' = 11,000 cubic yards
- Total of 192,000 cubic yards maximum capacity.
- Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
- Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.
- Of the sediment removed from Carneros and Tecolotito Creeks, 100% of the sediment will be removed using the dragline dredging method.
- It is assumed that both dragline and hydraulic dredging could occur simultaneously at Atascadero, San Jose or San Predro.
- 20 days was used for the number of commute trip days because, dragline desilting is expected to take 19.2 days.

**"Worst Case" Scenario - Criteria Pollutants**

**Upland Disposal of Dredged Material - 38,400 cy (20% of total material)**

**OFF-ROAD SOURCES**

Loading 38,400 cy into trucks						Pounds/BHP-Hour					Pounds/Day					Tons					
Source	Fuel	BHP	Number	Load Factor	Hours/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Loader/Dozer	Diesel	80	1	59	10	0.01350	0.00136	0.00116	0.00801	0.00001	6.372	0.642	0.548	3.781	0.006	20	0.064	0.006	0.005	0.038	0.000
Loading Summary						NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>											
Pounds/Day						6.372	0.642	0.548	3.781	0.006											
Tons						0.064	0.006	0.005	0.038	0.000											

**ON-ROAD SOURCES**

*Heavy-Duty Trucks*

30,720 cy from Atascadero, San Jose and San Pedro Creeks <sup>1</sup>			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	4.5	200	15.257	0.605	0.462	2.944	0.016	30.272	1.200	0.917	5.841	0.032	15.4	0.233	0.009	0.007	0.045	0.000

7,680 cy from Tecolotito and Cameros Basins <sup>1</sup>			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Heavy-Duty Trucks	5.5	200	15.257	0.605	0.462	2.944	0.016	36.999	1.467	1.120	7.139	0.039	3.9	0.072	0.003	0.002	0.014	0.000

Truck Summary		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Pounds/Day		67.271	2.668	2.037	12.981	0.071
Tons		0.305	0.012	0.009	0.059	0.000

*Light-Duty Trucks*

Commute Trips (Two workers and 2 visits per day by a distric staff member)																		
Running Exhaust Emissions			Grams/Mile					Pounds/Day					Tons					
Source	Miles/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	8	0.230	0.024	0.029	1.693	0.004	0.041	0.004	0.005	0.299	0.001	20	0.000	0.000	0.000	0.003	0.000
Starting Emissions			Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.454	0.632	0.011	8.134	0.002	0.008	0.011	0.000	0.143	0.000	20	0.000	0.000	0.000	0.001	0.000
Hot Soak Emissions			Grams/Trip					Pounds/Day					Tons					
Source	Trips/Day		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	8		0.000	0.105	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
Partial Day Resting Loss Emissions			Grams/Hour					Pounds/Day					Tons					
Source	Hours/Car	Cars/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	10	3	0.000	0.015	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
Evaporative Running Loss Emissions			Grams/Minute					Pounds/Day					Tons					
Source	Minutes/Trip	Trips/Day	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>	Days	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Light-Duty Trucks	15	8	0.000	0.039	0.000	0.000	0.000	0.000	0.010	0.000	0.000	0.000	20	0.000	0.000	0.000	0.000	0.000
Commuting Summary			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>											
Pounds/Day			0.049	0.029	0.005	0.442	0.001											
Tons			0.000	0.000	0.000	0.004	0.000											
Total Emissions			NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>											
SBCAPCD			Pounds/Day	73.69	3.34	2.59	17.20	0.08										
			Tons	0.37	0.02	0.01	0.10	0.00										

1. It is assumed that each truck can carry 10 cy of dredged material.

2. Total activity days for the loader dozer is equal to the sum of the days of truck activity from the slough.

GOLETA SLOUGH DREDGING PROJECT - WORST CASE SCENARIO AIR EMISSIONS SUMMARY		SBCAPCD				
		NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
MOBILIZATION/ DEMOBILIZATION	Pounds/Day	35.714	1.450	1.086	7.432	0.038
	Tons	0.036	0.002	0.001	0.010	0.000
DREDGING OF ATASCADERO, SAN JOSE AND SAN PEDRO CREEKS	Pounds/Day	194.914	10.546	6.874	53.887	0.222
	Tons	3.072	0.176	0.117	0.971	0.003
DREDGING OF CARNEROS AND TECOLOTITO BASINS	Pounds/Day	75.829	2.159	1.306	9.584	0.047
	Tons	0.634	0.034	0.021	0.165	0.001
UPLAND DISPOSAL	Pounds/Day	73.691	3.338	2.590	17.203	0.078
	Tons	0.369	0.019	0.015	0.101	0.000

WORST CASE SCENARIO - PROJECT AIR EMISSIONS	SBCAPCD				
	NO <sub>x</sub>	ROG	PM10	CO	SO <sub>2</sub>
Maximum Pounds/Day (Worst Case)	270.74	12.70	8.18	63.47	0.27
Tons	4.11	0.23	0.15	1.25	0.00

For the worst case scenario, it is assumed that activity at Atascadero, San Jose or San Pedro could occur simultaneously with activity at Carneros or Tecolotito. 24 hour work days during hydraulic dredging was assumed for the worst case scenario. Upland disposal is not anticipated to correspond with any desilting activities.

**"Worst Case" Scenario - Greenhouse Gases**  
**Mobilization/Demobilization**

**ON-ROAD SOURCES**

*Heavy-Duty Trucks*

Transport of heavy equipment from Ventura <sup>1</sup>			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	80	7	0.066	0.061	2028.200	0.082	0.075	2503.951	2	0.000	0.000	2.272

Transport of dredging equipment from POLB <sup>2</sup>			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	250	2	0.066	0.061	2028.200	0.073	0.067	2235.670	2	0.000	0.000	2.028

Transportation Summary			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day			0.155	0.142	4739.621
Metric Tons			0.000	0.000	4.300

*Light-Duty Trucks*

Commute Trips (4 workers, 1 FDC employee) from San Diego			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	10	0.049	0.085	590.733	0.011	0.019	130.232	10	0.000	0.000	0.591

Commuting Summary			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day			0.011	0.019	130.232
Metric Tons			0.000	0.000	0.591

Summary			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day			0.17	0.16	4869.85
Metric Tons			0.00	0.00	4.89

1. For the transportation of heavy equipment a 40-mile one way trip from Ventura to Goleta Beach is assumed
2. For the transportation of dredging equipment a 125 mile one way trip from the Port of Longbeach to Goleta Beach is assumed.
3. Mobilization and demobilization is assumed to take 5 days each.

**"Worst Case" Scenario - Greenhouse Gases**  
**Desilting of Atascadero, San Jose, and San Pedro Creeks - 24 Hour Days**  
**153,600 cy (50% dragline/50% hydraulic)**

**OFF-ROAD SOURCES**

76,800 cy assuming 200 cy/hour and 24 hours/day						Pounds/BHP-Hour			Pounds/Day			Metric Tons			
Source	Fuel	BHP	Number	Load Factor	Hours/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	Days	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Hydraulic Dredge	Diesel	370	1	51	24	0.00001	0.00017	1.25528	0.045	0.779	5684.908	16	0.000	0.006	41.259
Crane: 15 Ton Grove	Diesel	100	1	43	10	0.00001	0.00021	1.50021	0.005	0.089	645.091	16	0.000	0.001	4.682
Excavator <sup>1</sup>	Diesel	125	1	57	10	0.00011	0.00018	1.29631	0.078	0.127	923.617	61.4	0.002	0.004	25.724
Loader/Dozer <sup>1</sup>	Diesel	125	1	55	10	0.00011	0.00018	1.29631	0.076	0.122	891.210	61.4	0.002	0.003	24.821
Welding Machine	Diesel	63	1	45	10	0.00001	0.00021	1.50021	0.003	0.058	425.310	16	0.000	0.000	3.087
Fusion Machine	Diesel	25	1	45	10	0.00001	0.00022	1.62268	0.001	0.025	182.551	16	0.000	0.000	1.325
Booster Pump	Diesel	250	1	74	24	0.00001	0.00020	1.43898	0.053	0.875	6389.062	16	0.000	0.006	46.369

76,800 ssuming 100 cy/hour/crane and 10 hours/day						Pounds/BHP-Hour			Pounds/Day			Metric Tons			
Source	Fuel	BHP	Number	Load Factor	Hours/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	Days	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.00001	0.00017	1.25528	0.026	0.444	3238.620	38.4	0.000	0.008	56.411
Bulldozer	Diesel	300	1	59	10	0.00001	0.00017	1.25528	0.018	0.304	2221.844	38.4	0.000	0.005	38.700
Excavator	Diesel	125	1	59	10	0.00001	0.00017	1.25528	0.007	0.127	925.768	38.4	0.000	0.002	16.125

<b>Dredging Summary</b>					<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day					0.313	2.950	21627.981
Metric Tons					0.006	0.035	258.502

**ON-ROAD SOURCES**

**Heavy-Duty Trucks**  
(80% to beach)

To Goleta Beach - 122,880 cy <sup>1</sup>			Grams/Mile			Pounds/Day			Metric Tons			
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	Days	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	3.5	200	0.066	0.061	2028.200	0.102	0.094	3129.938	61.4	0.003	0.003	87.171

<b>Truck Summary</b>					<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day					0.102	0.094	3129.938
Metric Tons					0.003	0.003	87.171

**Light-Duty Trucks**

Commute Trips (4 workers, 1 FDC employee) X 3 shifts per day												
Source	Miles/Trip	Trips/Day	Grams/Mile			Pounds/Day			Days	Metric Tons		
			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	30	0.049	0.085	590.733	0.033	0.056	390.697	100	0.001	0.003	17.722

<b>Commuting Summary</b>					<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day					0.033	0.056	390.697
Metric Tons					0.001	0.003	17.722

<b>Summary</b>					<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day					0.45	3.10	25048.62
Metric Tons					0.01	0.04	363.39

1. Bulldozer will be operating on the beach to push sediment delivered by trucks into surf, and the excavator will load trucks with sediment, therefore, duration for both is 61.4 days, same as truck activity to Goleta Beach.
2. It is assumed that each truck can carry 10 cy of dredged material.
3. To calculate a "worst case scenario," the maximum volume that could be removed from each creek was calculated by Maurren Spencer as follows:  
Atascadero Creek: San Pedro Creek:  
Total length of for Hydraulic desilting = 3600' 2000'x55'x8' = 33,000 cubic yards  
Total length for Dragline = 2800'  
800'x90'x8' = 22,000cubic yards Tecolotito Basin:  
2800'x80'x8'=67,000 cubic yards 550'x100'x10' = 21,000 cubic yards  
  
San Jose Creek: Los Carneros Basin:  
2500'x50'x8'=38,000 cubic yards 600'x60'x8' = 11,000 cubic yards  
Total of 192,000 cubic yards maximum capacity.  
4. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.  
5. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.  
6. Based on previous years activity, of the material removed from Atascadero, San Jose and San Pedro Creeks, on average 50% has been dragline dredged and 50% has been dredged.  
7. It is assumed that both dragline and hydraulic dredging could occur simultaneously at Atascadero, San Jose or San Predro.  
8. 55 days was used for the number of commute trip days because the sum of dragline desilting (38.4 days) and hydraulic desilting (16), is 54.4 days.



**"Worst Case" Scenario - Greenhouse Gases**  
**Desilting of Tecolotito and Carneros Basins**  
**53,600 cy (100% dragline)**

**OFF-ROAD SOURCES** 38,400 assuming 100 cy/hour/crane and 10 hours/day

Source	Fuel	BHP	Number	Load Factor	Hours/Day	Pounds/BHP-Hour			Pounds/Day			Days	Metric Tons		
						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
100 Ton Crane	Diesel	300	2	43	10	0.00001	0.00017	1.25528	0.026	0.444	3238.620	19.2	0.000	0.004	28.205
Bulldozer <sup>1</sup>	Diesel	300	1	59	10	0.00001	0.00017	1.25528	0.018	0.304	2221.844	15.4	0.000	0.002	15.520
Excavator <sup>1</sup>	Diesel	125	1	57	10	0.00001	0.00017	1.25528	0.007	0.123	894.386	15.4	0.000	0.001	6.248

Dredging Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.051	0.871	6354.850
Metric Tons						0.000	0.007	49.973

**ON-ROAD SOURCES** To Goleta Beach - 30,720 cy<sup>1</sup> at 200 cy per hour

**Heavy-Duty Trucks**  
(80% to beach)

Source	Miles/Trip	Trips/day	Grams/Mile			Pounds/Day			Days	Metric Tons		
			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	3.5	200	0.066	0.061	2028.200	0.102	0.094	3129.938	15.4	0.001	0.001	21.864

Truck Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.102	0.094	3129.938
Metric Tons						0.001	0.001	21.864

**Light-Duty Trucks**

Commuter Trips (Two workers and 2 visits per day by a district staff member)

Source	Miles/Trip	Trips/Day	Grams/Mile			Pounds/Day			Days	Metric Tons		
			N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	8	0.049	0.085	590.733	0.009	0.015	104.186	20	0.000	0.000	0.945

Commuting Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.009	0.015	104.186
Metric Tons						0.000	0.000	0.945

Summary						N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Pounds/Day						0.16	0.98	9588.97
Metric Tons						0.00	0.01	72.78

1. Bulldozer will be operating on the beach to push sediment delivered by trucks into surf, and the excavator will load trucks with sediment, therefore, duration for both is 15.4 days, same as truck activity to Goleta Beach.
2. It is assumed that each truck can carry 10 cy of dredged material.
3. To calculate a "worst case scenario," the maximum volume that could be removed from each creek was calculated by Maurren Spencer as follows:  
Atascadero Creek: San Pedro Creek:  
Total length of for Hydraulic desilting = 3600' 2000'x55'x8'= 33,000 cubic yards  
Total length for Dragline = 2800'  
800'x90'x8' = 22,000cubic yards  
2800'x80'x8'=67,000 cubic yards  
Tecolotito Basin:  
550'x100'x10' = 21,000 cubic yards  
San Jose Creek: Los Carneros Basin:  
2500'x50'x8'=38,000 cubic yards  
600'x60'x8' = 11,000 cubic yards  
Total of 192,000 cubic yards maximum capacity.
4. Based activity between 1994 and 2008, of the total volume removed from all 5 creeks, it is assumed that 20% of the material will come from the Carneros and Tecolotito Creeks, and 80% will come from Atascadero, San Jose and San Pedro Creeks.
5. Based on past dredging operations, it is assumed that 80 percent of the total dredged material will be suitable for use at Goleta Beach as beach replenishment, and 20 percent of dredged material will need to be disposed of at the closed Foothill Landfill.
6. Of the sediment removed from Carneros and Tecolotito Creeks, 100% of the sediment will be removed using the dragline dredging method.
7. It is assumed that both dragline and hydraulic dredging could occur simultaneously at Atascadero, San Jose or San Pedro.
8. 20 days was used for the number of commute trip days because, dragline desilting is expected to take 19.2 days.

# "Worst Case" Scenario - Greenhouse Gases

## Upland Disposal of Dredged Material -38,400 cy (20% of total material)

### OFF-ROAD SOURCES

Loading 38,400 cy into trucks						Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Fuel	BHP	Number	Load Factor	Hours/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Loader/Dozer	Diesel	80	1	59	10	0.00011	0.00018	1.29631	0.052	0.084	611.856	20	0.000	0.001	5.551
<b>Loading Summary</b>						<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>							
Pounds/Day						0.052	0.084	611.856							
Metric Tons						0.000	0.001	5.551							

### ON-ROAD SOURCES

#### Heavy-Duty Trucks

30,720 cy from Atascadero, San Jose and San Pedro Creeks <sup>1</sup>			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	4.5	200	0.066	0.061	2028.200	0.132	0.120	4024.206	15.4	0.001	0.001	28.111
7,680 cy from Tecolotito and Carneros Basins <sup>1</sup>			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Heavy-Duty Trucks	5.5	200	0.066	0.061	2028.200	0.161	0.147	4918.474	3.9	0.000	0.000	8.701

<b>Truck Summary</b>			<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day			0.293	0.267	8942.681
Metric Tons			0.001	0.001	36.812

#### Light-Duty Trucks

Commute Trips (Two workers and 2 visits per day by a district staff member)			Grams/Mile			Pounds/Day			Days	Metric Tons		
Source	Miles/Trip	Trips/Day	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>		N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub>
Light-Duty Trucks	10	8	0.049	0.085	590.733	0.009	0.015	104.186	20	0.000	0.000	0.945
<b>Commuting Summary</b>			<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>							
Pounds/Day			0.009	0.015	104.186							
Metric Tons			0.000	0.000	0.945							

<b>Summary</b>			<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Pounds/Day			0.35	0.37	9658.72
Metric Tons			0.00	0.00	43.31

1. It is assumed that each truck can carry 10 cy of dredged material.
2. Total activity days for the loader dozer is equal to the sum of the days of truck activity from the slough.

<b>GOLETA SLOUGH DREDGING PROJECT WORST CASE SCENARIO GHG EMISSIONS SUMMARY</b>		<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
<b>MOBILIZATION/ DEMOBILIZATION</b>	Pounds/Day	0.166	0.160	4869.853
	Tons	0.000	0.000	4.890
<b>ATASCADERO, SAN JOSE AND SAN PEDRO CREEKS</b>	Pounds/Day	0.449	3.099	25048.616
	Tons	0.011	0.041	363.395
<b>CARNEROS AND TECOLOTITO BASINS</b>	Pounds/Day	0.162	0.979	9588.974
	Tons	0.001	0.008	72.782
<b>UPLAND DISPOSAL</b>	Pounds/Day	0.353	0.366	9658.723
	Tons	0.002	0.002	43.307

<b>WORST CASE SCENARIO - PROJECT GHG EMISSIONS</b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>
Maximum Pounds/Day (Worst Case)	0.61	4.08	34637.59
Total Metric Tons	0.01	0.05	484.38

<b>TOTAL CO<sub>2</sub> EQUIVALENT<sup>1</sup></b>	<b>N<sub>2</sub>O</b>	<b>CH<sub>4</sub></b>	<b>CO<sub>2</sub></b>	<b>TOTAL</b>
<b>METRIC TONS</b>	4.28	1.06	484.38	489.71

For the worst case scenario, it is assumed that activity at Atascadero, San Jose or San Pedro could occur simultaneously with activity at Carneros or Tecolotito. 24 hour work days during hydraulic dredging was assumed for the worst case scenario. Upland disposal is not anticipated to correspond with any desilting activities.

**APPENDIX F**  
**RESTORATION / REVEGETATION PLAN FOR THE**  
**PROPOSED SEDIMENT DISPOSAL AREAS**  
**AT THE CLOSED FOOTHILL LANDFILL**

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# **RESTORATION/REVEGETATION PLAN FOR THE PROPOSED SEDIMENT DISPOSAL AREAS AT THE CLOSED FOOTHILL LANDFILL**

Public Works Department  
Santa Barbara County, California

## **1. INTRODUCTION**

The closed Foothill Landfill has been identified as a potential upland disposal/receiver site for sediment from County maintenance activities. The County of Santa Barbara Public Works Department has prepared this restoration plan describing the proposed short and long term revegetation activities for areas disturbed by the proposed sediment disposal activities at the closed Foothill Landfill. Sediment imports to the landfill would increase the depth of the soil cap over the landfill materials and provide substrate for native plant revegetation.

The restoration effort is included as part of Santa Barbara County's management program for the Goleta Slough system and other County maintenance activities. Management of Goleta Slough requires periodic excavation of sediment to prevent flood hazards and to preserve the tidal function of the slough ecosystem.

Typically, much of the excavated sediment is delivered to Goleta Beach for beach replenishment. However, in some years, a fraction of excavated sediment exhibits a grain size distribution unsuitable for beach disposal. The Foothill Landfill is identified as a potential receiver site for excavated sediment that will not be delivered to Goleta Beach.

### **1.1 Objectives**

The restoration activities at the Foothill Landfill are *not* proposed as off-site compensatory mitigation for biological resource impacts of the Goleta Slough Management Program. The objectives of the Restoration Plan for areas disturbed by sediment disposal activities at the closed Foothill Landfill are to:

- Minimize erosion and dust;
- Maintain and improve the soil cap over the closed landfill;
- Provide visual screening and aesthetic improvements in the disturbed areas;
- Control highly invasive plants in the disturbed areas;
- Implement restoration activities that are compatible with and complement other restoration activities currently occurring at the site; and
- Improve habitat quality for plants and wildlife in the disturbed areas.

The Restoration Plan provides a cooperative and beneficial opportunity to use “excess” sediment to improve environmental resources and conditions at the closed Foothill Landfill site while meeting the need for upland disposal requirements for County maintenance activities.

## **2. EXISTING CONDITIONS**

### **2.1 Foothill Landfill**

The closed Foothill Landfill is located on a portion of Assessors Parcel Number 056-140-23 (which comprises the County Calle Real Campus) at Transfer Station Road and Calle Real in the unincorporated area between the cities of Santa Barbara and Goleta, California. The site is a former Class III (municipal waste) landfill that served the Santa Barbara south coast communities and was closed and covered with soil in 1967. The site is managed as a closed landfill by the County of Santa Barbara, Public Works Department, Resource Recovery and Waste Management Division (RRWMD).

The landfill is bordered by Calle Real and U.S. and Highway 101 to the south, the County’s South Coast Recycling and Transfer Station to the west, and County Parks Department and County road yard to the north and residential neighborhoods on El Sueno Road and Sherwood Drive to the east. The landfill site is used for passive recreation and areas of the site are leased to non-profit organizations. Current uses on the closed Foothill Landfill include the Hearts Adaptive Riding Program, including horse stables, pasture, and riding area, a native plant nursery operated by Growing Solutions Restoration and Education institute, dirt access roads (used as trails), an experimental jatropha (bio-diesel) plot, and a grant-funded revegetation project being conducted by RRWMD.

The existing native plant nursery, jatropha plot, and existing revegetation project are outside of the proposed disturbance areas and the area addressed in this Restoration Plan. Sediment disposal is proposed in the area of the Hearts Adaptive Riding Program and the Hearts’ facilities are proposed to be relocated to the north area of the Foothill Landfill site (outside of the proposed upland sediment disposal site).

### **2.2 Habitat**

The area that would be disturbed and subsequently restored at the closed Foothill Landfill ranges in elevation from 110 to 283 ft above mean sea level (MSL) and encompasses an area of approximately 20 acres. The current topography of the site is a result of the historic landfill and the soil cap that was placed when the landfill was closed. Dirt landfill access roads, trails, erosion gullies, and bare soil stockpiles are interspersed with patchy vegetation in various stages of development.

No riparian, wetlands, or other aquatic habitats occur at the proposed site. Across much of the area, vegetation is dominated by weedy and ruderal species such as black mustard (*Brassica nigra*), Castor bean (*Ricinus communis*), wild radish (*Raphanus sativus*), tree-tobacco (*Nicotiana glauca*), Russian thistle (*Salsola* spp.), non-native annual grasses, with patches of coast sunflower (*Encelia californica*) and California sagebrush (*Artemisia californica*). In the early 1990s, approximately 350 landscape trees (native coast live oak and non-native species) and 193 toyon shrubs were planted along Transfer Station Road and throughout the closed landfill through a grant. These trees were planted for aesthetic screening. Some of these screening trees would be removed as soil fill is imported for the restoration project.

Along the slopes at the south and east sides of the site, RRWMD is currently engaged in a grant funded riparian and coastal sage restoration project. This 7-acre restoration site is outside the areas proposed for sediment disposal and revegetation under this Plan. The RRWMD restoration effort has been very successful, with dense cover of coastal sage shrubs within the site and evidence of dispersal into adjacent disturbed habitats. Experience gained through RRWMD’s efforts has been employed to develop the planting palette, irrigation strategy, and weed management for this Restoration Plan.

### 3. RESTORATION STRATEGY

The proposed restoration area is approximately 20 acres divided into 3 areas. Restoration of the closed Foothill Landfill upland sediment disposal site will take several years and will be pursued in phases for each area.

#### 3.1 Soil Import

The initial phase of restoration will require the import of sediment and grading/shaping with heavy equipment to reach the designed topography. Depending on annual rainfall, siltation, and sediment characteristics at Goleta Slough, the amount of excavation varies considerably from year to year.

Because it is not known how much fill will be received from year to year, fill placement may occur in various locations throughout the landfill site to best utilize a particular amount of sediment in the overall site configuration.

Sediment fill and grading will follow all RRWMD-required specifications for maintenance of adequate soil cover over the former landfill. Existing vegetation will be removed or filled incrementally as needed to accommodate the new sediment as it is imported.

The grading design provides for storage of up to 210,000 additional cubic yards of sediment, increases the depth of the soil cap over the landfill and allows for slopes as well as flat habitats for revegetation. No wetlands or aquatic features are built into the design. Rainfall will percolate into the soil and run over the slopes into the existing drainages to the south and east of the site.

##### 3.1.1 Plant Palette

The restoration plan makes provisions for three different plant palettes designed for different vegetative treatments: Interim Seeding, Slopes, and Flat Areas (decks).

- **Interim Seeding:** Areas that are disturbed but have not reached final grades will be revegetated with a simple seed mix of rapid-germinating native species and sterile annual plants. Featured species may include native bromes, fescues, verbena, poppy, lupines and clovers. This treatment is designed to be used on disturbed areas that may have received initial sediment placement but may sit for long periods before the next phase of sediment placement. The goal of interim seeding is to establish quick cover for erosion control, dust control and weed abatement, while avoiding dense or woody growth that may make final grading and planting more difficult.
- **Slopes:** Slopes that have reached final grades will be revegetated with a mix of coastal sage scrub shrubs, forbs, native grasses. Dense growth will help stabilize slopes and provide wildlife food and cover. A seed mix and dispersed container plants will be used. Featured species include: California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), california sunflower (*Encelia californica*), elderberry (*Sambucus mexicana*), and ryegrasses (*Leymus* spp.). Laurel sumac (*Malosma laurina*), California rose (*Rosa californica*) and chaparral mallow (*Malcothamnus fasciculatus*) have also been very successful within the adjacent restoration project. Coast live oak (*Quercus agrifolia*) would be planted in clusters along some slopes for wildlife habitat and visual screening. These plantings would replace the existing screening trees on-site in approximately equal numbers.
- **Flat Areas:** Deck areas that have reached final grades will be revegetated with a mix of native forbs and grass seed, with occasional low shrubs from seed and containers. Featured species include deerweed (*Lotus scoparia*), white sage, lupines, *Lupinus* spp.), California poppy (*Eschscholzia californica*), and ryegrasses. This planting palette will require minimal water to



become established and the species chosen for these areas will be compatible with trails and passive recreational use on the flat terraces.

These planting palettes have been developed based on RRWMD's ongoing successful project at Foothill Landfill and modified with additional appropriate species to meet the restoration objectives. Some additional container plants would be strategically placed for aesthetic screening and wildlife habitat. Shrubs and small trees may include *Ceanothus* spp., laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), and toyon (*Heteromeles arbutifolia*).

Jute netting or other biotechnical slope stabilization methods may be used in combination with vegetation to control erosion and to improve the success of the restoration. The majority of the areas to receive sediment have been designed with 2:1 slopes, which would minimize erosion, but localized Best Management Practices (BMPs) such as mulching, fiber rolls, or straw bales may be deployed, as needed to control erosion, especially before vegetation is sufficiently established.

### **3.2 Maintenance**

The two major maintenance tasks for the restoration project are irrigation and weeding. The plant palettes chosen for the site are comprised of native drought-tolerant species that are anticipated to persist as mature plants without supplemental irrigation. However, RRWMD and the Santa Barbara County Flood Control District (District) have found that irrigation during the first 1 to 3 years of planting greatly improves survival and minimizes weed invasion. RRWMD's ongoing restoration area has been irrigated using a combination of water trucks, hose, drip and spray irrigation using an on-site water source owned by RRWMD. Irrigation for the proposed restoration would be applied in compliance with state regulatory requirements for closed landfills.

Areas with container plants and shrubs would be irrigated through a combination of hand watering, water truck, and drip irrigation, depending on weather conditions at the time of planting and distance from the water source. The existing irrigation system would be extended incrementally into the restoration areas as plants are installed. Mulch available from the South Coast Recycling and Transfer Station would be used to increase watering efficiency.

Mechanical and hand weeding and targeted use of glyphosate herbicide (e.g. "roundup") would be used to control weeds, outcompeting the native species, for up to 3 years following the final planting at each area. Mechanical and hand methods would be performed as the preferred weed control method once per year or more often as necessary. Herbicide would be used to control recurring emergence of particularly large or dense invasions of noxious weeds such as castor bean, mustard, poison hemlock, and tree tobacco in both the interim seeded areas as well as areas that have reached their final grade and have been planted.

Flat areas treated with the low density seed and shrub mix are expected to fill with an indeterminate amount of naturalized non-native grasses and annual forbs. These non-natives will not be extensively managed. The larger and noxious weeds as noted above will be treated.

Due to the relatively long life-span of this restoration project, weed control would be performed within whichever areas have been filled to the designed grade and planted with native species. Weed control around the perimeter and in areas that are still receiving sediment may be performed as appropriate to maintain the overall integrity of the restored areas.

### **3.3 Monitoring**

Sediment disposal and associated restoration at the closed Foothill Landfill will take many years to implement because the sediment import from Goleta Slough and other County maintenance projects would be periodic in nature. Ongoing monitoring and adaptive management will be priorities to evaluate the project and guide future efforts throughout the project.

Monitoring will include field inspection, photo-monitoring, and evaluation of soil conditions. Field visits will be performed as needed, generally semi-annually following major sediment imports and planting events. Monitoring shall include at least one site inspection during the wet season each year for erosion. Monitoring will continue for 3 to 5 years after initial planting at each area.

Each of the management objectives from Section 1 will be evaluated by one or more monitoring methods:

- **Minimize erosion and dust/Control highly invasive plants in the disturbed areas;**
  - Inspect final grading for desired slope and drainage capability.
  - Inspect initial planting for adequate seed distribution
  - Assess jute netting or biotechnical erosion control BMPs before and during the rainy season.
  - Inspect seasonally for germination and overall plant cover after seeding/planting,
  - Inspect interim-seeded areas for germination in the late winter/early spring.
  - Photo-monitor designated points annually.
  - Note well-performing and poor-performing plant species and adjust plant mixes appropriately.
  - Evaluate field inspections and photo-monitoring to determine the need for additional planting or BMPs.
- **Provide visual screening and aesthetic improvements**
  - Photo-monitor onsite and from off-site vantage points annually.
  - Assess the adequacy of screening vegetation and the need for pruning and/or supplemental plantings.
- **Improve habitat quality for plants and wildlife/Implement restoration activities that are compatible with and complement other restoration activities currently occurring at the site:**
  - Annually inspect and qualitatively assess total percent cover and the ratio of native to non-native cover for each restored area.
  - Note plant species that perform particularly well or poorly.
  - Inspect each restoration area and adjacent land within the landfill boundaries for dispersal and incipient weed infestations.

### 3.4 Success Criteria

Due to the relatively long timeline and unpredictable schedule associated with this project, the success criteria described here are tied to performance milestones for each area, rather than a specific year. Quantitative and qualitative success criteria are established below, with corrective actions indicated.

### 3.4.1 Quantitative

#### For slopes

Total cover will be:	25% at 2 years after initial planting
	50% at 3 years
	80% at 4 years
Ratio of native to non-native cover will be:	1:1 at year 2 after initial planting
	2:1 at year 3
	3:1 at year 4

#### For flat areas

Total cover will be:	25% at 2 years after initial planting
	40% at 3 years
	60% at 4 years

#### For interim-seeded areas

Total cover will be:	25% at 2 years after initial seeding
	50% at 3 years

Weeds and non-native species within areas that are still receiving sediment and grading shall not be interpreted as failure to meet success criteria. Flat areas treated with the low density seed and shrub mix are expected to fill with some percentage of non-native grasses and annual forbs. These non-natives are naturalized to the area and shall not be interpreted as failure to meet success criteria.

*Corrective actions: If success criteria for total cover and native species are not met, supplemental seeding and planting will take place, using an adjusted plant palette based on species performance at the closed Foothill Landfill.*

### 3.4.2 Qualitative

The amount of irrigation water required for each of the restoration areas will be reduced 2 years after initial planting; and irrigation will be discontinued at or before 5 years after planting unless extreme drought conditions result in the need for and extended time of supplemental water.

*Corrective action: If irrigation cannot be reduced at 2 years without negatively affecting plant survival (assuming consistent weather conditions), the sites will be reevaluated for irrigation leakage and/or additional mulching.*

The need for weed control efforts and herbicide applications in each restoration area will be reduced 2 years after initial planting.

*Corrective action: If weedy populations are too great at 2 years to allow reduced weed management, the sites may be replanted with additional native seed. Weed management may expand into the adjacent County-owned land to control invasion sources.*

Erosion gullies will be absent or well-controlled and stabilized 3 years after initial planting.

*Corrective action: If gullies are not vegetated and controlled at 3 years, light regrading and planting may be performed to provide suitable drainage. BMPs would be installed as necessary.*

Shrubs and trees will show progressive growth toward the desired screening design.

*Corrective action: Additional screening trees and shrubs will be planted to achieve the desired screening elements. Overgrown screening trees and shrubs may be pruned.*

## **4. CONTINGENCIES**

Reasonably foreseeable challenges and corrective management strategies are described in this section.

### **4.1 Delay**

The first potential contingency addresses the long time frame reaching the overall sediment disposal capacity of the site. Sediment inputs from Goleta Slough dredging and other Flood Control maintenance activities are difficult to predict in advance and may vary considerably from year to year. Areas designated to receive sediment may not achieve final grades for many years and would be engineered to create appropriate interim grades. The interim grades would be designed to allow proper drainage, minimize erosion, and to accommodate future filling events. The interim seeding strategy (Section 3) is the main contingency effort for this scenario. Additional management actions may include supplemental weeding and herbicide applications to prevent noxious weed infestations. In addition, some temporary screening vegetation may be installed at the perimeter of the fill areas. This screening vegetation would later be cleared or relocated and would not be considered part of the permanent restoration.

### **4.2 Weather**

Very dry years or very wet years may adversely affect seed establishment. In the event of very dry periods, supplemental irrigation may be required. Additional water may be required even the year after the dry season to effectively wean the plants off of irrigation. The irrigation system would be deployed and modified as necessary to address this contingency.

Wet years may pose an erosion risk to soil that is poorly vegetated. Additional BMPs and interim seeding plots may be established to prevent sediment loss. A non-native *sterile* seed mix (e.g. sterile brome) may be used to provide temporary rapid cover. These areas would be regraded and restored to native species after the wet season.

A hard freeze may damage some species in the plant palettes, particularly young woody plants and *Malosma laurelina*. Replanting in early spring would be performed as necessary to replace frost-damaged plants and maintain adequate cover. If frost damage is minor, no replanting would be necessary and damage plants would be replaced naturally.

### **4.3 Recreation**

The closed Foothill Landfill site is open to passive recreation. Public users may establish new trails through some of the slopes and terraces that are part of this restoration plan. However due to the proposed grade of the side slopes and the presence of clearly designated trails (landfill access roads), it is unlikely that consistent use of these areas will occur. The restoration effort is not designed to exclude public use; rather, the restoration activities are expected to enhance passive recreational use of the site. Lightly disturbed trails and public access points shall not be considered failure to meet the success criteria. RRWMD may implement additional trail maintenance and signage to manage trail usage.

## **5. REPORTING**

An annual report will be prepared, summarizing sediment disposal, planting efforts, monitoring events, weed control efforts and corrective actions performed or recommended. The report will include an overview of the current status of the site and progress toward the success criteria where appropriate. Photographs will be used to document plant cover and slope stability. Annual reporting will recommend

contingency measures and/or recommended modifications to the restoration strategy. Reporting will terminate after each area meets its restoration objectives.

**APPENDIX G**  
**RESPONSE TO COMMENTS**

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## APPENDIX G - RESPONSE TO COMMENTS

### PURPOSE

This document is the finalizing addendum to the Draft Subsequent Environmental Impact Report (DSEIR) for the Flood Control Maintenance Activities in the Goleta Slough Project. This Final Subsequent EIR (FSEIR, SCH No. 2000031092) has been prepared by the Santa Barbara County Flood Control and Water Conservation District (District) pursuant to the California Environmental Quality Act (CEQA) (Section 21000 et seq., Title 14 of the California Public Resources Code) and in accordance with the *Guidelines for the Implementation of the California Environmental Quality Act* (Section 15000 et seq., California Code of Regulations, Title 14).

Title 14 of the California Code of Regulations stipulates that an EIR must be prepared for any project that may have a significant impact on the environment. The Flood Control Maintenance Activities in the Goleta Slough Project is a "project" as defined by the referenced code. Upon preliminary review, the District determined that the project may have a significant adverse impact on the environment and, therefore, an EIR was required. A Draft Subsequent Environmental Impact Report (DSEIR) was prepared and circulated for public review from March 25, 2010 through May 10, 2010.

This document, together with the DSEIR prepared in March 2010, constitute the FSEIR for the proposed project. The District, as the Lead Agency for this project, is required by Section 15089 of Title 14 of the California Code of Regulations to prepare a Final EIR. The FSEIR will be used by the District as part of its approval process including incorporation of mitigation measures which have been developed through the environmental review process. The Project Mitigation Monitoring and Reporting Program (MMRP) is incorporated within the environmental analysis of this FSEIR.

### ORGANIZATION OF THE FINAL ENVIRONMENTAL IMPACT REPORT

As required by Section 15132 of Title 14 of the California Code of Regulations, the FSEIR includes of the following elements:

- The DSEIR (contained within the body of the FSEIR)
- A list of persons, organizations, and public agencies commenting on the Draft SEIR (see below).
- Comments and recommendations received on the Draft SEIR (see below).
- Responses to significant environmental points raised in the review and consultation process (see below).
- Revisions to the Draft SEIR/Errata Pages (Executive Summary and Sections 5.1, 5.2, and 5.9 of the FSEIR). Please note that changes to the Draft EIR (including the Initial Study) are denoted within the FSEIR by a double strike through for deleted text (~~example~~), and **bolded, underlined text** for new information.





## **DECISION-MAKING PROCESS**

The District is the lead agency for this FSEIR because it has the primary approval authority for the proposed project. The District will use the FSEIR in its decision-making process in determining whether or not to approve the proposed project.

Prior to approving the proposed project, the District must certify that:

- The FSEIR has been completed in compliance with CEQA;
- The FSEIR was presented to the decision-making body of the lead agency (District) in a public meeting and that the decision-making body reviewed and considered the information contained in the FSEIR prior to considering the proposed project; and
- The FSEIR reflects the District's independent judgment and analysis (Section 15090 of Title 14 of the California Code of Regulations).

For this project, the District will consider certification of the FSEIR and the discretionary project approvals.

In conjunction with certification of the FSEIR, the District has prepared written findings of fact for each significant environmental impact identified in the document. These findings either state that:

- The project has been changed (including adoption of mitigation measures) to avoid or substantially reduce the magnitude of the impact;
- Changes to the project are within another agency's jurisdiction and have been or should be adopted; or
- Specific considerations make mitigation measures or alternatives infeasible.

For impacts identified in an FSEIR which cannot be reduced to a level that is less than significant, the Lead Agency may issue a Statement of Overriding Considerations for approval of the project if specific social, economic, or other factors justify a project's unavoidable adverse environmental effects. A Statement of Overriding Considerations has been prepared on behalf of the Project for unavoidable adverse impacts to air quality, biological, and aesthetic resources. If the District decides to approve a project for which this FSEIR has been prepared, the District will issue a Notice of Determination (NOD).

## **SUMMARY OF PUBLIC REVIEW**

A Notice of Preparation (NOP) of an EIR for the proposed project was distributed by certified mail to interested parties (including responsible and trustee agencies) and the State of California Governor's Office of Planning and Research State Clearinghouse and Planning Unit (State Clearinghouse) by the District on January 14, 2009, posted on the District's web site and filed with the Santa Barbara County Clerk of the Board. The NOP was also forwarded by the State Clearinghouse to various State agencies that may potentially have an interest in the project on January 20, 2009. The State Clearinghouse number, 2000031092, which was assigned to the project originally in 2000 has been retained.



The DSEIR and Notice of Completion (NOC), including notice of the meeting on the DSEIR, were provided to agencies, organizations and individuals known to the District to have an interest in the project in March 2010. A Notice of Completion (NOC) was filed with the State Clearinghouse and the County of Santa Barbara Clerk of the Board's Office. Following the release of the DEIR there was a 45-day public review period that extended from March 25, 2010 through May 10, 2010. The document was also available on the District's web site.

One public meeting to solicit comments on the DSEIR was held on Monday, April 12, 2010 at 5:00 PM at the County of Santa Barbara Planning Commission Hearing Room. No persons attended this meeting; therefore no presentation was warranted and the meeting was called at approximately 5:30 PM.

During the public review and comment period, the District received letters in response to the NOC from the following agencies and interested parties:

- State of California, Governor's Office of Planning and Research, State Clearinghouse and Planning Unit
- State of California Department of Transportation, CalTrans
- State of California Department of Transportation, Division of Aeronautics
- State of California Regional Water Quality Control Board, Central Coast Region
- Santa Barbara County Air Pollution Control District



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## APPENDIX G - RESPONSE TO COMMENTS

### PURPOSE

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- The FSEIR was presented to the decision-making body of the lead agency (District) in a public meeting and that the decision-making body reviewed and considered the information contained in the FSEIR prior to considering the proposed project; and
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- State of California Department of Transportation, CalTrans
- State of California Department of Transportation, Division of Aeronautics
- State of California Regional Water Quality Control Board, Central Coast Region
- Santa Barbara County Air Pollution Control District



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ARNOLD SCHWARZENEGGER  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT  
DIRECTOR

May 11, 2010

Ms. Maureen Spencer  
County of Santa Barbara - Public Works, Flood Control Dist.  
123 E. Anapamu  
Santa Barbara, CA 93101

Subject: Santa Barbara Flood Control Maintenance Activities in the Goleta Slough  
SCH#: 2000031092

Dear Ms. Maureen Spencer:

SCH-1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 10, 2010, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

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

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

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

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

Sincerely,

Scott Morgan  
Acting Director, State Clearinghouse

Enclosures

cc: Resources Agency



STATE CLEARINGHOUSE  
Document Details Report  
State Clearinghouse Data Base

**SCH#** 2000031092  
**Project Title** Santa Barbara Flood Control Maintenance Activities in the Goleta Slough  
**Lead Agency** Santa Barbara County Flood Control District

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**Type** EIR Draft EIR  
**Description** Tha Santa Barbara County Flood Control District proposes to utilize a combination of hydraulic and dragline desilting methods as appropriate to perform maintenance within Tecolotito and Los Cameros Creek Basins as well as Atascadero, San Jose, and San Pedro Creeks. The methodology chosen each season will depend on volume of material required for removal, access to areas requiring maintenance, and seasonal conditions that would require expedient timing of operations.

---

**Lead Agency Contact**

**Name** Ms. Maureen Spencer  
**Agency** County of Santa Barbara - Public Works, Flood Control Dist.  
**Phone** 805 568-3437 **Fax**  
**email**  
**Address** 123 E. Anapamu  
**City** Santa Barbara **State** CA **Zip** 93101

---

**Project Location**

**County** Santa Barbara  
**City** Goleta  
**Region**  
**Lat / Long**  
**Cross Streets** Hwy 217 & Sandspit Rd  
**Parcel No.** 073-450-003,071-210-001,071-190...  
**Township** **Range** **Section** **Base**

---

**Proximity to:**

**Highways** 101  
**Airports** Santa Barbara Municipal  
**Railways** Amtrak  
**Waterways** Pacific Ocean  
**Schools**  
**Land Use**

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**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Cumulative Effects; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Septic System; Sewer Capacity; Toxic/Hazardous; Traffic/Circulation; Water Quality; Other Issues

---

**Reviewing Agencies** Resources Agency; Department of Fish and Game, Region 5; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Management Agency, California; Resources, Recycling and Recovery; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 5; Regional Water Quality Control Board, Region 3; Department of Toxic Substances Control; Native American Heritage Commission

---

**Date Received** 03/25/2010 **Start of Review** 03/25/2010 **End of Review** 05/10/2010



**Commenting Party: State of California, Governor's Office of Planning and Research,  
State Clearinghouse and Planning Unit**

Date of Comment Letter: January 28<sup>th</sup>, 2010

**Response(s):**

- SCH-1: This letter requires no response as it is a confirmation of the District's circulation of the Draft MND/IS through the State Clearinghouse. The letter also identified the State agencies that were given notice of the availability of the environmental document through the State Clearinghouse.



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# California Regional Water Quality Control Board

## Central Coast Region



Linda S. Adams  
Secretary for  
Environmental Protection

Internet Address: <http://www.swrcb.ca.gov/rwqcb3>  
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401  
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger  
Governor

May 11, 2010

BY ELECTRONIC AND REGULAR MAIL

Maureen Spencer  
County of Santa Barbara  
Public Works Department  
Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

Dear Ms. Spencer:

**RESPONSE TO DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT FOR SANTA BARBARA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT FLOOD CONTROL MAINTENANCE ACTIVITIES IN THE GOLETA SLOUGH, MARCH 2010, SANTA BARBARA COUNTY, CEQA TRACKING NO. 420410CQ3**

Thank you for the opportunity to comment on the Draft Subsequent Environmental Impact Report (DSEIR) for Santa Barbara County Flood Control and Water Conservation District (District) activities in the Goleta Slough (Project). Central Coast Regional Water Quality Control Board (Water Board) staff understands that this Project involves dredging sediment from Tecolotito, Carneros, Atascadero, San Jose, and San Pedro Creeks, and discharging the sediment at Goleta Beach or disposing of it at the Foothill Landfill Sediment Disposal/Restoration Site. Desilting activities will consist of hydraulic and dragline dredging. The Project also involves habitat enhancement activities at four sites within the project area. Water Board staff also submitted comments in response to the District's Notice of Preparation of a Draft Subsequent Environmental Impact Report for this Project in a letter dated February 24, 2009.

WQ  
CB-1

The Water Board is a responsible agency charged with the protection of the Waters of the State of California in the Central Coast Region. Waters of the State include surface waters, groundwater, and wetlands. The Water Board is responsible for administering regulations established by the Federal Clean Water Act and the California Water Code (Porter-Cologne Water Quality Control Act). The Water Board also administers regulations, plans, and policies established by the Central Coast Region Water Quality Control Plan and the State Water Resources Control Board to protect watersheds, their resources, and their beneficial uses. These regulations cover discharges to surface water and groundwater, as well as discharges to land that may affect groundwater quality.

Water Board staff anticipates the Project will be regulated by the U.S. Army Corps of Engineers (ACOE) and the Water Board through a Clean Water Act Section 404 permit and Section 401 Water Quality Certification, respectively. Water Board staff offers the following comments to

*California Environmental Protection Agency*



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improve the Final Subsequent Environmental Impact Report (SEIR) for this Project and to facilitate the permit review process.

### Water Quality Standards

WQ

CB-2

The DSEIR is unclear about the water quality standards that govern discharges from the Project. The DSEIR should specify that discharges to the ocean from the Project are subject to the California Ocean Plan (Ocean Plan). In addition, the DSEIR should be specific about the measures the District will take to ensure that Project discharges do not result in an exceedance of any water quality objective (WQO) listed in Section 2 of the Ocean Plan.

### Sampling and Testing

WQ

CB-3

1. The DSEIR is unclear how sampling and testing sediment prior to desilting operations will ensure that Project discharges do not result in an exceedance of any WQO specified in the Ocean Plan, since the WQOs have to do with pollutant levels in the receiving water. The DSEIR must specify monitoring, sampling, and testing procedures the District will follow to ensure that discharges of sediment do not result in an exceedance of any WQO.

WQ

CB-4

2. The list of pollutants for which the District will test sediment prior to desilting operations, contained in Section 3.4.1 of the DSEIR, does not include fecal coliform or total coliform. The District must sample and test for fecal coliform and total coliform in sediment prior to desilting operations. In addition, the DSEIR must specify the methodology the District will use to test sediment samples for fecal coliform and total coliform, and the manner in which analytical results will be translated into expected concentrations of indicator bacteria at the ocean (surf zone) disposal site.

WQ

CB-5

3. In the past, the District has rejected sediment for beach disposal when the percentage of fines in the sediment exceeded 25 percent. However, the DSEIR suggests that the District will consider beach disposal of sediment containing up to 50 percent fines. According to EPA regulations, dredge material must contain at least 50 percent sand to be eligible for beach replenishment. When beach replenishment material is less than 80 percent sand, the regulations require sediment chemical testing.

WQ

CB-6

4. The DSEIR is unclear about what the District will do when sediment sampling indicates the potential for exceedance of a WQO in the receiving water. The DSEIR must clearly indicate the District's response to the sediment sampling results to avoid exceedance of any WQO at Goleta Beach, including the pollutant levels in the sediment at which the District will determine the sediment is ineligible for beach replenishment.

### Desilting Operations

WQ

CB-7

1. The DSEIR is unclear on the measures the District will take to minimize mobilization of sediment in Goleta Slough as the result of dredging operations. Particularly since the DSEIR suggests that the District will conduct desilting operations even when pre-operation sediment testing indicates the presence of pollutants in the sediment, the DSEIR must include a strategy to minimize re-suspension of sediments during desilting operations.

WQ

CB-8

2. The DSEIR indicates that the District will stockpile sediment from dragline desilting operations near the banks of surface waters. However, the DSEIR does not indicate how long the stockpiles will remain or specify the erosion and sediment control measures the



District will conduct to prevent re-entry of sediment into surface waters. The DSEIR must clearly indicate such measures. In addition, Water Board staff recommends that the stockpiles be removed prior to the beginning of the subsequent rainy season.

### Discharge and Disposal Activities

WQ  
CB-9

In 1994, the Water Board issued Order No. 94-17 Waste Discharge Requirements for Santa Barbara County Flood Control Goleta Slough Dredging Operations. This Order required that all discharge to the surf zone or beach be limited to the interval between November 1 and March 31. However, the DSEIR indicates that the District may discharge sediments at Goleta Beach after March 31, and suggests that the District may even discharge sediments at Goleta Beach after May 15 "in the event that the optimal beach replenishment has not been accomplished by this time" (DSEIR Section 3.3). Optimizing beach replenishment is not an adequate justification for discharging sediments that may result in pollution, nuisance, or other harm to beneficial uses in contravention of water quality objectives.

### Receiving Water Monitoring

WQ  
CB  
-10

1. The DSEIR states that the District will conduct visual observations at the discharge site. However, the DSEIR is unclear about the procedures the District will follow, what the District will look for, and what the District will do when visual observations indicate that the discharge may cause pollution or nuisance at Goleta Beach. Section 2.C of the Ocean Plan specifies WQOs related to physical characteristics of the receiving water. Water Board staff recommends that the District's visual observations include, at a minimum, monitoring of color, odor, and oily sheen at the discharge; and that the District cease all discharge when these observations indicate the potential for pollution or nuisance as a result of the discharge.

WQ  
CB  
-11

2. The DSEIR suggests that the District will rely on results of weekly tests for bacteria at Goleta Beach conducted by the Goleta Sanitary District (GSD). It does not appear to Water Board staff that this frequency is sufficient for the District to demonstrate compliance with the bacteria WQOs contained in Section 2.B of the Ocean Plan (i.e., the Ocean Plan establishes a bacteria water contact standard based on the geometric mean of at least five samples over a thirty-day period). The DSEIR must show how the District will determine that Project discharges do not result in an exceedance of any WQO.

### Habitat Enhancement Activities

WQ  
CB  
-12

The DSEIR indicates that the District will conduct habitat enhancement and restoration activities at four sites within the project area. If these activities will result in total land disturbance of more than one acre, they are regulated by the State of California General Permit for Discharges of Stormwater Runoff Associated with Construction Activities. To apply for coverage under this permit, the District must submit a Notice of Intent (NOI) to the State Water Resources Control Board, and develop and follow a Storm Water Pollution Prevention Plan (SWPPP).

### Permit References

WQ  
CB-  
13

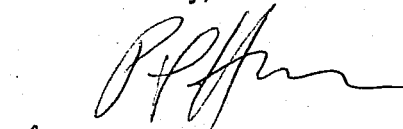
The DSEIR refers to "the District's NPDES permit" at several points. It is unclear whether these citations refer to Goleta Sanitation District's NPDES permit for discharges from the sewage treatment facility, or to Santa Barbara County Flood Control and Water Conservation District's Order No. 94-17 for discharges from Goleta Slough dredging activities. In addition, Order No.



94-17 is not a NPDES permit, but is issued by the Central Coast Water Board under the California Water Code. Please clarify these references, and correct them as necessary.

If you have any questions or would like to meet to discuss these comments, please contact **Jon Rohrbough** at (805) 549-3458 or at [jrohrbough@waterboards.ca.gov](mailto:jrohrbough@waterboards.ca.gov), or Phil Hammer at (805) 549-3882.

Sincerely,



for Roger W. Briggs  
Executive Officer

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SANTA BARBARA COUNTY  
WATER RESOURCES  
2010 MAY 14 AM 10 31





**Commenting Party: State of California Regional Water Quality Control Board, Central Coast Region**

Date of Comment Letter: May 11<sup>th</sup>, 2010

**Response(s):**

- WQCB-1: This portion of the letter requires no response as it is a confirmation of the Projects description and the role of the RWQCB in the permitting Process.
- WQCB-2: The RWQCB has directed the District to the water quality objectives established by the Ocean Plan, however as defined within the body of the Ocean Plan, dredging is excluded. The appropriated plan to refer to when addressing water quality standards during the proposed dredging operations is the Basin Plan. This was confirmed in an email correspondence with Jon Rohrbough of the Central Coast Water Board.
- WQCB-3: As discussed within the response to WQCB-2 above, the WQO's included within the Ocean Plan are not applicable to the proposed Project. However, Section 2.4.1 within the Project Description (Sediment Analysis) provides information regarding the District's existing Sampling and Analysis Plan (SAP). Additionally, the proposed continuation of Sampling, Monitoring, and Reporting activities is further discussed within Section 3.4 of the Project Description; including specifications regarding sediment profiling and physical analysis of the sediment in accordance with ASTM and USEPA guidelines.
- WQCB-4: It is the District's current protocol to sample for fecal and total coliform (please refer to Table 2-3, Summary of Historical Sampling Results). The District will continue to sample for fecal and total coliform as part of the sediment profiling prior to desilting operations.
- WQCB-5: As indicated within this comment; in accordance with EPA regulations, desilted material that has been sampled and characterized as having up to 50 percent fines (leaving 50 percent of sand) will be eligible and considered for beach replenishment.
- WQCB-6: As discussed within the response to WQCB-2 above, the WQO's included within the Ocean Plan are not applicable to the proposed Project. However, Section 2.4.1 within the Project Description (Sediment Analysis) provides information regarding the District's existing Sampling and Analysis Plan (SAP). Additionally, the proposed continuation of Sampling, Monitoring, and Reporting activities is further discussed within Section 3.4 of the Project Description; including specifications regarding sediment profiling and physical analysis of the sediment in accordance with ASTM and USEPA guidelines. Sediment that does not meet the eligibility requirements for beach replenishment will be taken to one of the upland disposal alternatives outlined within Section 3.5 (Sediment Re-Use/Disposal) of the Project Description.
- WQCB-7: The purpose of the Project is to mobilize sediment from the reaches of the Goleta Slough for seasonal flood control maintenance activities and beach replenishment opportunities. The proposed dredging operations are designed to maximize the removal of sediment within the designated boundaries of the dredging area while minimizing mobilization of sediment in to the water column. Dredging will be conducted in designated areas during periods of low current





speed. Past dredging operations have not resulted in concerns related to re-suspended sediment.

Specifically, as indicated within Section 5.1 (Water Resources), "Dredging of the creeks necessarily disturbs existing sediments. These sediments have the potential to include various toxic substances. Additionally, the movement of the sediments may adversely affect water quality parameters such as dissolved oxygen, color, odors and turbidity adversely during the periodic dredging periods. During the past flood channel maintenance activities, prior to desilting and/or discharge, sediments have been sampled in accordance with a pre-approved Sampling and Analysis Plan (SAP) that includes sampling for various constituents within the sediment (including; but not limited to total petroleum hydrocarbons [TPH], pesticides, Polychlorinated Biphenyls [PCBs], metals, and coliform bacteria) as well as grain size to determine the appropriate disposal alternative (see Table 2-3 for a summary of historic sampling results). This sampling has been in accordance with the historic requirements of the District's NPDES permit. The Project as presently proposed includes a continuation of this SAP which should minimize the potential for water quality impacts for the parameters covered in the SAP".

- WQCB-8: Stockpiling of sediment would only be required for maintenance activities on Tecolotito and Los Carneros Creek(s) or when desilting volumes have not reaches a total of 50,000 cy and maintenance activities are still required on Atascadero, San Jose, and San Pedro Creeks. As indicated in Section 3.2.2 (Dragline Desilting); the designated stockpile areas have been sited approximately 30-150 feet from the top of bank along the streams in order to prevent the sediment from re-entering the stream and necessitating redundant maintenance activities. Sediment re-use opportunities are outlined in Section 3.5. Sediments meeting the established guidelines would be trucked to Goleta Beach for beneficial re-use. Alternative re-use opportunities include upland use of the material at other construction sites or use at the Closed Foothill Landfill restoration disposal site.
- WQCB-9: All sediment would be tested in conformance with an approved Sampling and Analysis Plan in accordance with Project permits prior to discharge. If sediment is shown to be in exceedance of established conditions of approval; it would not be utilized for beach replenishment; and would therefore not require discharge after March 31<sup>st</sup>.
- WQCB-10: As discussed within the response to WQCB-2 above, the WQO's included within the Ocean Plan are not applicable to the proposed Project. However, as discussed within Section 3.4.2 (Monitoring), While hydraulic desilting is being conducted or material has been placed within the surfzone from dragline desilting activities; visual observations of water quality will be conducted in the vicinity of the offshore discharge area to ensure compliance with Project-incorporated mitigation measures and permit conditions of approval. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report.

Additionally, as specified in Section 3.4.3 (Post-Project Compliance), Visual observations from shore of turbidity within the vicinity of the Goleta Beach discharge location will also be conducted after maintenance activities are



completed in order to document the potential effects of beach replenishment from desilting activities. Special attention will be paid to offshore presence of kelp beds and changes in beach profiles up and down the coast from the Goleta Slough mouth. Photodocumentation of conditions will be done during each monitoring event for inclusion within the post-project compliance monitoring report. Reported findings will be distributed to responsible agencies following Project completion.

WQCB-11: As discussed within the response to WQCB-2 above, the WQO's included within the Ocean Plan are not applicable to the proposed Project.

WQCB-12: Habitat enhancement and/or restoration activities are on-going and would not result in a land disturbance of more than one acre.

WQCB-13: The references within the DSEIR are referring to the Santa Barbara County Flood Control and Water Conservation District's Order No. 94-17 for discharges from the routine Goleta Slough maintenance activities. The District will be applying for a Section 401 Permit from the WQCB prior to continued maintenance activities.



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**DEPARTMENT OF TRANSPORTATION**

DIVISION OF AERONAUTICS – M.S.#40

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TTY 711

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April 23, 2010

Ms. Maureen Spencer  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

Dear Ms. Spencer:

Re: Santa Barbara County Flood Control District Draft Environmental Impact Report for the Santa Barbara Flood Control Maintenance Activities in the Goleta Slough; SCH# 2000031092

**DT-1**

The California Department of Transportation (Caltrans), Division of Aeronautics (Division), reviewed the above-referenced document with respect to airport-related noise and safety impacts and regional aviation land use planning issues pursuant to the California Environmental Quality Act (CEQA). The Division has technical expertise in the areas of airport operations safety, noise and airport land use compatibility. We are a funding agency for airport projects and we have permit authority for public-use and special-use airports and heliports.

The proposal is for the maintenance of Tecolotito and Los Carneros Creek basins as well as Atascadero, San Jose, and San Pedro Creeks, using a combination of hydraulic and dragline desilting methods. Tecolotito Creek and Los Carneros Creek channels are located on Santa Barbara Municipal Airport property, between 500 and 1,000 feet from the approach end to the Runway 7.

The project must not result in hazards to flight, such as:

**DT  
2a -  
2d**

1. Obstructions to the navigable airspace (i.e. Federal Aviation Regulations Part 77 defined primary, approach and transitional surfaces) required for flight to, from, and around an airport
2. Wildlife hazards, particularly bird strikes
3. Visual hazards associated with distracting lights, glare, and sources of smoke
4. Electronic hazards that may interfere with aircraft instruments or radio communication

**DT-3**

California Public Utilities Code Section 21659 prohibits structural hazards near airports. Structures including construction cranes and other equipment should not be at a height that will result in penetration of the airport imaginary surfaces. Federal Aviation Administration (FAA) Advisory Circular 150/5370-2E "Operational Safety on Airports during Construction" should be incorporated into the project design project specifications to ensure construction impacts would be insignificant. This advisory circular is available at <http://www.faa.gov>. The FAA may also require the filing of a Notice of Proposed Construction or Alteration (Form 7460-1) for certain project-specific activities in accordance with Federal Aviation Regulations Part 77 "Objects Affecting Navigable Airspace." Form 7460-1 is available on-line at <https://oeaaa.faa.gov/oeaaa/external/portal.jsp> and should be submitted electronically to the FAA.

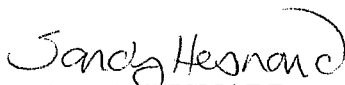
**DT-4** We also recommend that construction activities be coordinated with the airport manager to ensure that appropriate action, such as, Notice to Airmen (NOTAM), are publicized sufficiently in advance.

**DT-5** The protection of airports from incompatible land use encroachment is vital to California's economic future. Santa Barbara Municipal Airport is an economic asset that should be protected through effective airport land use compatibility planning and awareness. Although the need for compatible and safe land uses near airports is both a local and State issue, airport staff, airport land use commissions and airport land use compatibility plans are key to protecting an airport and the people residing and working in the vicinity of an airport. Consideration given to the issue of compatible land uses in the vicinity of an airport should help to relieve future conflicts between airports and their neighbors.

These comments reflect the areas of concern to the Division of Aeronautics with respect to airport-related noise, safety, and regional land use planning issues. We advise you to contact our District 5 office concerning surface transportation issues.

Thank you for the opportunity to review and comment on this proposal. If you have any questions, please call me at (916) 654-5314 or by email at [sandy.hesnard@dot.ca.gov](mailto:sandy.hesnard@dot.ca.gov).

Sincerely,



SANDY HESNARD

Aviation Environmental Specialist

c: State Clearinghouse, Santa Barbara Municipal Airport, Santa Barbara County ALUC



**Commenting Party: State of California Department of Transportation, Division of Aeronautics.**

Date of Comment Letter: April 23<sup>rd</sup>, 2010

**Response(s):**

DT-1: This portion of the letter requires no response as it is a confirmation that the Caltrans Division of Aeronautics has reviewed the DSEIR as it relates to airport safety operations, noise, and land use compatibility. They also provide a brief discussion of their understanding of the proposed Project components and the fact that Tecolotito Creek and Los Carneros Creek are located approximately 500-1,000 feet from the approach end to Runway 7.

In response to this comment and those below, clarifications have been added to Section 5.9 (Transportation), please see attached.

DT-2: The following response has been divided into four sections 2a-2d.

DT-2a In accordance with Federal Aviation Regulation Part 77, the proposed Project would not result in an obstruction to navigable airspace. Flood control maintenance activities are required in this area to prevent flooding of the airport. Historically, routine maintenance activities have been conducted within the Tecolotito and Los Carneros Creek areas through proper coordination and noticing with the Santa Barbara County Municipal Airport and adherence to recommended procedures and practices including; but not limited to identification of construction equipment heights with flagging and filing of a Notice of Proposed Construction (Form 7460-1) with the Santa Barbara Airport manager.

DT-2b The proposed Project does not include a component that would have the potential to increase habitat or create an attractive nuisance that would introduce wildlife hazards, particularly bird strikes to the area.

DT-2c All of the proposed maintenance activities would occur during daytime hours. No lighting is required that would create a distraction or source of glare. The proposed Project equipment has not changed from the previously permitted routine maintenance Program; therefore it is not anticipated that equipment having the potential to produce significant quantities of smoke would be present at the sites.

DT-2d No electronic hazards are included within the proposed Project equipment or methodologies that would have the potential to interfere with aircraft instruments or radio communication.

DT-3: Comment noted. As indicated above, the District will continue to coordinate with the Santa Barbara Airport Manager in order to ensure operational safety during construction and file the appropriate notices to avoid affecting navigable airspace.

DT-4: Current maintenance activities are coordinated with the Santa Barbara Airport Manager. The proposed Project will continue to coordinate with the Santa Barbara Airport Manager as suggested.

DT-5: Comment noted. No response required.



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**DEPARTMENT OF TRANSPORTATION**

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May 10, 2010

Maureen Spencer  
Santa Barbara County Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93101

SB-217-bridge 51-217  
SCH 2000031092

Subject: Santa Barbara Flood Control Maintenance Activities in the Goleta Slough Draft  
Environmental Impact Report

Dear Ms. Spencer:

Thank you for the opportunity to review and comment upon the subject Draft Environmental Impact Report (DEIR). The proposed project conducts periodic maintenance within the creek basins and the Atascadero, San Jose, and San Pedro Creeks. The maintenance actions are, effectively, accumulated sediment removal using one of two methodologies. Portions of the creek area are influenced by tidal actions.

CT-1

Caltrans bridge 51-217 crosses over the creek created by the confluence of the San Pedro and San Jose Creeks and just prior to the subsequent confluence with Atascadero Creek. The sediment removal discussion appears to indicate that dredging operations might not occur within the Caltrans right of way or airspace below the bridge structure. However, it is possible that in order to fully implement dredging operations either the in-creek method or dragline operation may need to remove material that would be considered within Caltrans right of way. It would be prudent to review the appropriate Caltrans right of way mapping to determine whether or not the proposed action will fall within the State's right of way. In the event that it will, a Caltrans encroachment permit would be required.

This is important because the DEIR does not discuss nor appear to investigate potential effects of sediment removal on the Caltrans (or any other) bridge. Prior to permit issuance for work within the right of way / airspace, the following analyses will be required by Caltrans structures hydraulics division:

CT-  
2a- 2d

1. Sediment transport calculations for all creeks.
2. Complete scour analysis for the State bridge, perhaps for affected local bridges as well.
3. Tidal calculations based on the most recent American Association of State Highway and Transportation Officials (AASHTO) requirements.
4. Structural analysis for the unbraced length of the bridge's columns/piles using the results of studies 1,2 and 3 above. This analysis would show that maximum sediment removal is in fact safe and would not adversely affect the structure.

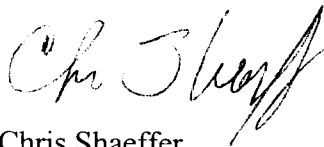


Maureen Spencer  
May 10, 2010  
Page 2

Any Caltrans review of the analyses above would occur in the Sacramento Division of Structures Hydraulics. It is best to send us, at your earliest, the data for review.

If you would like to discuss these issues more or have questions about this letter I can be reached at (805) 549-3632.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Shaeffer". The signature is fluid and cursive, with the first name "Chris" written in a larger, more prominent script than the last name "Shaeffer".

Chris Shaeffer  
Development Review  
District 5

Cc: L. Newland, CT  
H. Behrooj, CT  
L. Wickham, CT  
A. Kwong, CT



**Commenting Party: State of California Department of Transportation, Caltrans District 5**

Date of Comment Letter: May 5<sup>th</sup>, 2010

Response(s):

CT-1-CT2: The proposed maintenance desilting activity methodologies have been based upon the past 40 years of District experience. Approximate sediment removal volumes for each creek and how those are determined are summarized in Section 2.3.3 (Sediment Removal Volumes) and Table 2-1. The project boundaries are within areas of deposition as opposed to areas of scour.

Historically, the Program design depth has averaged approximately -3.5 feet on the Vertical Datum = NAVD88 and Horizontal Datum = NAD83. The mean lower low water (MLLW) depth is -3.59 feet. The maximum -3.5-foot dredging depth is utilized in all hydraulic dredging operations and allows for enough sediment to be removed from the three channels in order to maintain sufficient flow capacity in the creeks while not over-excavating the creek bed.

The side-slope ratio is 3:1 based on the presence of archaeological sites, the width of the creek channels, and to keep the dredging operations away from the banks of the creeks. Avoidance of the creek banks have historically and would continue to ensure that existing structures would retain their integrity and are not adversely affected by the proposed maintenance activities.

Dragline dredging does not take place within the Caltrans right of way, however hydraulic dredging operations do. Prior to any hydraulic dredging operations, the District conducts focused surveys of the channels to determine the extent of material that needs to be removed and will provide the survey information to Caltrans whenever survey information is collected both pre and post-project. Additionally, the District will work with Caltrans to develop a monitoring agreement for the Highway 217 bridge, establish a benchmark on the bridge, and provide Caltrans with past survey information at and near the structure. Additionally, the District will apply for an encroachment permit for future hydraulic dredging operations.



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**Santa Barbara County  
Air Pollution Control District**

April 9, 2010

Maureen Spencer  
Santa Barbara County  
Flood Control District  
123 E. Anapamu Street  
Santa Barbara, CA 93111

**Re: APCD review of Draft Subsequent EIR for Goleta Slough Flood Control Maintenance, 93-EIR-4**

Dear Ms. Spencer:

The Air Pollution Control District (APCD) has reviewed the referenced case, which proposes to utilize a combination of hydraulic and dragline desilting methods as appropriate to perform maintenance within Tecolotito and Los Carneros Creek Basins and Atascadero, San Jose, San Pedro Creeks. The methodology chosen each season will depend on volume of material required for removal, access to areas requiring maintenance, and seasonal conditions that would require expedient timing of operations. The subject property consists of twelve parcels located along the Tecolotito, Atascadero, San Jose, San Pedro, and Los Carneros Creeks in the unincorporated Goleta area.

In November 1993, a Program EIR for Routine Maintenance Activities in the Goleta Slough (93-EIR-4) was prepared for the District's maintenance activities within the lower Goleta Slough tributaries in a manner that will maintain the capacity and conveyance of these watercourses while minimizing the threat of damage to life, public property and existing infrastructure. The District has prepared a Draft Supplemental EIR addressing impacts in the following environmental issue areas: Water Resources/Flooding, Air Quality, Geology, Biological Resources (Marine and Terrestrial), Risk of Upset/Hazardous Materials, Noise, Cultural Resources, Aesthetics, Traffic/Circulation, Recreation, and Land Use Policy Consistency.

The APCD offers the following comments on the SEIR:

**APCD-1**

- 1. Permits for Non-Vehicular Combustion Equipment, Air Quality Section.** Combustion equipment that meets the definition of a motor vehicle is not subject to local APCD permit requirements. Per the APCD comment letter on the NOP dated 2/12/2009, some of the proposed equipment, such as the hydraulic dredge and possibly the crane used for dragline desilting, may require an APCD permit. Alternatively, the State of California administers a Portable Equipment Registration Program (PERP) that can be used to permit portable engines for operation in California. The EIR should address this issue and demonstrate compliance with permit requirements for all portable combustion equipment.

**APCD-2**

- 2. Land Use Conflicts Related to Air Quality Emissions, Air Quality Section.** The EIR should examine whether the operations associated with the proposed project will result in air quality impacts to sensitive land uses such as residential, childcare facilities, schools, or senior living communities. Examples of this type of impact include dust, or toxic air contaminants such as diesel particulate emissions from trucks or other diesel-powered combustion equipment.

The Air Pollution Control District offers the following suggested mitigation measures:

APCD-3

1. Standard dust mitigations (**Attachment A**) are recommended for all construction and/or grading activities. The name and telephone number of an on-site contact person must be provided to the APCD prior to issuance of land use clearance.

APCD-4


2. Fine particulate emissions from diesel equipment exhaust are classified as carcinogenic by the State of California. Therefore, during project grading, construction, and hauling, construction contracts must specify that contractors shall adhere to the requirements listed in **Attachment B** to reduce emissions of ozone precursors and fine particulate emissions from diesel exhaust.

APCD-5

3. All portable diesel-fired construction engines rated at 50 brake-horsepower or greater must have either statewide Portable Equipment Registration Program (PERP) certificates or APCD permits prior to operation. Construction engines with PERP certificates are exempt from APCD permit, provided they will be on-site for less than 12 months.

If you have any questions regarding these comments, please feel free to contact me at (805) 961-8893 or via email at [edg@sbcapcd.org](mailto:edg@sbcapcd.org).

Sincerely,



Eric Gage,  
Air Quality Specialist  
Technology and Environmental Assessment Division

Attachments: Fugitive Dust Control Measures  
Diesel Particulate and NO<sub>x</sub> Emission Measures

cc: Project File  
TEA Chron File



**ATTACHMENT A**  
**FUGITIVE DUST CONTROL MEASURES**

These measures are required for all projects involving earthmoving activities regardless of the project size or duration. Proper implementation of these measures is assumed to fully mitigate fugitive dust emissions.

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to land use clearance for map recordation and land use clearance for finish grading of the structure.

**Plan Requirements:** All requirements shall be shown on grading and building plans and as a note on a separate information sheet to be recorded with map. **Timing:** Requirements shall be shown on plans or maps prior to land use clearance or map recordation. Condition shall be adhered to throughout all grading and construction periods.

**MONITORING:** Lead Agency shall ensure measures are on project plans and maps to be recorded. Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.



**ATTACHMENT B**  
**DIESEL PARTICULATE AND NO<sub>x</sub> EMISSION MEASURES**

Particulate emissions from diesel exhaust are classified as carcinogenic by the state of California. The following is an updated list of regulatory requirements and control strategies that should be implemented to the maximum extent feasible.

The following measures are required by state law:

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the California Air Resource Board (CARB) Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, § 2449), the purpose of which is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles. For more information, please refer to the CARB website at [www.arb.ca.gov/msprog/ordiesel/ordiesel.htm](http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm).
- All commercial diesel vehicles are subject to Title 13, § 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

The following measures are recommended:

- Diesel construction equipment meeting the California Air Resources Board (CARB) Tier 1 emission standards for off-road heavy-duty diesel engines shall be used. Equipment meeting CARB Tier 2 or higher emission standards should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- If feasible, diesel construction equipment shall be equipped with selective catalytic reduction systems, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.

**Plan Requirements:** Measures shall be shown on grading and building plans. **Timing:** Measures shall be adhered to throughout grading, hauling and construction activities.

**MONITORING:** Lead Agency staff shall perform periodic site inspections to ensure compliance with approved plans. APCD inspectors shall respond to nuisance complaints.



**Commenting Party: Santa Barbara County, Air Pollution Control District**

Date of Comment Letter: April 9<sup>th</sup>, 2010

**Response(s):**

- APCD-1: Comment noted. This requirement was already addressed in mitigation measures MM AQ-1 beginning on page 5.2-13. No changes have been made.
- APCD-2: The EIR has been revised to address health risk issues associated with diesel particulate emissions and nearby sensitive receptors. Analysis of fugitive dust emissions were included within the impact discussion for MM PAQ-2.
- APCD-3: Comment noted. Mitigation measures MM AQ-2 beginning on page 5.2-16 are similar in nature and address all required mitigations listed in Attachment A of your April 8<sup>th</sup>, 2010 comment letter. No changes have been made.
- APCD-4: The EIR has been revised to include an engine idling limit of 5 minutes on all pieces of heavy-duty diesel construction equipment, as well as for heavy-duty trucks. Following this change, all mitigation measures for MM AQ-1 on page 5.2-13 meet all requirements listed in Attachment B of your April 8<sup>th</sup>, 2010 comment letter.
- APCD-5: This comment has been noted. The mentioned mitigation measure has already been included in the submitted Draft EIR as a required mitigation measure in MM AQ-1 beginning on page 5.2-13. No changes have been made.





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