Appendix B

NOTICE OF PREPARATION (NOP), COMMENTS ON THE NOP, AND LOCATION WHERE COMMENTS ARE ADDRESSED IN THE DRAFT EIR

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Appendix B

NOTICE OF PREPARATION (NOP) AND COMMENTS ON NOP

Appendix B includes a copy of the Notice of Preparation (NOP) for the proposed Project, copies of all comment letters received on the NOP during the public comment period, and an indication where each individual comment is addressed in the Draft EIR. Although two public and agency scoping meetings were held on July 30, 2007, no verbal comments were made so no scoping meeting transcripts are included here. Table B-1 lists all comments and shows the comment set identification number for each letter or commenter. Following Table B-1, each comment set is immediately followed by the location where each individual comment is addressed in the Draft EIR. Comment letters are presented chronologically.

Table B-1. NOP Commenters and Comment Set Numbers

Agency /Affiliation	Name of Commenter	Date of Comment	NOP Comment Set
US Geological Survey	Patrick L. Barnard, Ph.D. Research Geologist	August 10, 2007	A
Bay Conservation and Development Commission	Brenda Goeden, Dredging Program Manager	August 10, 2007	B
California Department of Fish and Game	Tony Warrington, Regional Manager, Marine Region	August 15, 2007	C

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NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND NOTICE OF PUBLIC SCOPING MEETING

CSLC EIR #742
Project: Hanson Sand Mining
CSLC Ref File: W30128.2, R21705
SCH #2007072036

Date: July 10, 2007

To: Interested Parties

Project: Hanson Marine Operations and Suisun Associates (Applicant or Hanson) propose to continue mining sand at the reduced rate of 2,040,000 cubic yards per year within Central San Francisco Bay and the western delta (Bay-Delta estuary). The Applicant is already mining in these areas at the rate of 2,290,000 cubic yards per year under current leases and related permits.

Applicant: Hanson Marine Operations
3000 Busch Road
Pleasanton, CA 94566

Location:

The project is located in Central San Francisco Bay, Suisun Bay, and the Middle Ground Shoals.

Purpose of Public Scoping Process:

The California State Lands Commission (CSLC) will be the Lead Agency under the California Environmental Quality Act (CEQA), and will prepare an Environmental Impact Report (EIR) for this project.

The purpose of this Notice of Preparation / Notice of Public Scoping Meeting is to obtain agency and the public's views as to the scope and content of the environmental information and analysis, including the significant environmental issues and reasonable alternatives and mitigation measures that should be included in the draft EIR. Applicable agencies will need to use the EIR when considering related permits or other approvals for the Project.

Due to the time limits mandated by State law, written comments must be sent by **August 10th, 2007.** Please send your comments at the earliest possible date to:

Sarah Mongano, Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825
FAX: (916) 574-1885 E-mail: mongans@slc.ca.gov

NOTE: You are encouraged to submit electronic copies of your comments in Microsoft WORD format. If comments are faxed or sent by e-mail, please also mail a copy to ensure that a clean copy is received by this office.

Pursuant to Section 15083, Title 14, California Code of Regulations, the CSLC will also conduct two public scoping meetings for the proposed Project to receive oral testimony at the time and place listed below:

DATE: Monday July 30th, 2007
TIME: 3:00 PM and 6:30 PM
LOCATION: Oakland Public Library, Dimon Branch
3565 Fruitvale Avenue
Oakland, CA 94602

If you have any questions or would like a copy of this notice or additional information, please contact Sarah Mongano at the above address, by phone (916) 574-1889, or e-mail at mongans@slc.ca.gov. Copies of this Notice and other information will also be available at the public scoping meeting and on the CSLC web page: www.slc.ca.gov.

Signature: _____ Date: _____
Sarah Mongano
Environmental Scientist

1. PROJECT DESCRIPTION

Hanson Marine Operations and Suisun Associates (Applicant or Hanson) has applied for renewed leases and related permits that would allow them to continue mining sand for 10 years following the end of the regular 10-year term that ends in June, 2008. The purpose of this sand mining is to obtain marine aggregate, which is primarily used for construction purposes within the greater San Francisco Bay area.

The Applicant's mining activities currently occur within Central San Francisco Bay, Middle Ground Shoal and within the navigation channels of Suisun Bay. Sand mining does not occur uniformly within the region, but rather is clustered within specific areas, typically characterized by high river or tidal velocities and sand deposits having a low percentage of fine material (silts, clay, and mud). Mining events typically last approximately 3.0 to 5.5 hours, during which time approximately 1,500 to 2,500 cubic yards of sand is harvested. During mining, water is entrained into the suction head creating a water and sand slurry to mobilize sand and pump it into a hopper barge. Sand mining within Central Bay occurs typically at water depths ranging from 30 to 90 feet. Mining within the navigation channels of Middle Ground Shoal and Suisun Bay typically occurs in waters 15 to 45 feet deep.

Hanson entered the construction sand mining business in 1999 when it acquired two companies that held the construction sand mining leases and permits that Hanson operates under today. Sand mining activities are ongoing under current leases and related permits. Therefore, the proposed environmental document will examine the effects of authorizing the continuation of sand mining over the proposed 10-year extension period using equipment and methods that are substantially the same as those used under the current leases and permits. The proposed document will also examine the effects of the changes in mining volumes overall and in individual lease areas as presented in Table 1.

State Lands Commission and Other Leases	Currently Permitted (cubic yards)	Requested Amended Amounts (cubic yards)	Difference (cubic yards)
PRC 709.1: Presidio Shoals (Hanson)	540,000	340,000	(200,000)
PRC 2036.1: Point Knox (Hanson)	300,000	450,000	150,000
PRC 7779.1: Point Knox (Hanson)	400,000	550,000	150,000
PRC 7780.1: Alcatraz (Hanson)	150,000	200,000	50,000
PRC 7781.1: Suisun Associates (Hanson & Jerico Joint Venture)	100,000	300,000	200,000
State Lands Totals: Central SF Bay & Suisun	1,490,000	1,840,000	350,000
Private Leases			
Grossi Middle Ground: Corps 25653N (Hanson)	250,000	25,000	(225,000)
Grossi Middle Ground: Corps 24996N (Hanson)	300,000	25,000	(275,000)
Grossi Middle Ground: Corps - 24913N (Jerico)	250,000	150,000	(100,000)
Private Lease Totals: Middle Ground	800,000	200,000	(600,000)
All Lease Totals	2,290,000	2,040,000	(250,000)

Table 1

1.1 Project Location

The project is located in Central San Francisco Bay, Suisun Bay, and the Middle Ground Shoals as shown in Figure 1.

Figure 1 General areas of sand mining within the San Francisco Bay-Delta estuary shown within the red circles.

1.2 Project Objective

The Applicant has identified the following objective for the Hanson Sand Mining Project:

- To continue mining marine aggregate at an economically viable level for the next 10 years.

1.3 Permits and Permitting Agencies

In addition to action by the CSLC, the proposed Project will require permits and approvals from reviewing authorities and regulatory agencies. These include, but are not limited to:

- Army Corps of Engineers (ACOE): The Army Corps of Engineers has jurisdiction over sand mining under Section 10 of the Rivers and Harbors Act. ACOE issues permits regulating sand mining within the estuary;

- U.S. Fish and Wildlife Service (USFWS): Federal and state law requires consultation and coordination with USFWS as part of the permitting and associated environmental review process. USFWS consults on proposed Federal actions including approval of ACOE permits for sand mining, to ensure that these activities do not jeopardize federally listed endangered or threatened species under NMFS jurisdiction or adversely modify designated critical habitat for such species within the estuary;

- National Marine Fisheries Service (NMFS): Federal and state laws also require consultation and coordination with NMFS as part of the permitting and associated environmental review process. NMFS consults on proposed Federal actions, including approval of ACOE permits for sand mining, to ensure that these activities do not jeopardize federally listed endangered or threatened species under NMFS jurisdiction or adversely modify designated critical habitat for such species within the estuary. NMFS also consults on activities that could affect Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Act;

- Bay Conservation and Development Commission (BCDC): The BCDC is charged with the protection and enhancement of San Francisco Bay. The McAteer-Petris Act, Cal. Gov. Code § 66632(a), requires a permit from the San Francisco Bay Conservation Development Commission for any activity that extracts materials from San Francisco or Suisun Bay. The BCDC makes a determination of consistency with applicable BCDC policies, including the Subtidal Areas policy and the Fish, Aquatic Organisms and Wildlife policy, as part of authorizing permits that regulate sand mining activity within the estuary;

- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB): Under the Porter-Cologne Water Quality Control Act, the San Francisco Bay Regional Water Quality Control Board has jurisdiction over sand mining activities for the purpose of protecting water quality in San Francisco Bay and the western delta;

- California Department of Fish and Game (CDFG): CDFG administers the California Endangered Species Act and as a trustee agency comments on potential impacts on fish, wildlife and their habitat that could result from projects authorized, funded or carried out by Federal, state or local agencies; and

- California Department of Conservation: Pursuant to the Surface Mining and Reclamation Act (SMARA - Cal. Pub. Res. Code § 2710 et. Seq.), the State Mining & Geology Board has jurisdiction over mining and dredging activities.

2. ALTERNATIVES

In accordance with Section 15126.6 of the CEQA Guidelines (California Governor's Office of Planning and Research 2001), an EIR must "describe a range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project, and evaluate the comparative merits of the alternatives." The State CEQA Guidelines also require that a No Project Alternative be evaluated, and that under specific circumstances, an environmentally superior alternative be designated from among the remaining alternatives.

2.1 ALTERNATIVES PROPOSED FOR CONSIDERATION

As required under the CEQA, the EIR will include a discussion of the proposed Project and the No Project Alternative. Under the No Project Alternative, all sand mining operations within the leased areas would cease. Additional alternatives will be developed based on information received during the public scoping process and as a result of the environmental analysis.

3. SCOPE OF EIR

Pursuant to State CEQA Guidelines section 15060, the CSLC staff conducted a preliminary review of the proposed Project. Based on the potential for significant impacts resulting from the proposed Project, an EIR was deemed necessary. A preliminary listing of issues to be discussed in the EIR is provided below. Additional issues may be identified at the public scoping meeting and in written comments.

Four designations are used when examining the potential for impacts according to CEQA issue areas. These designations are:

Potentially Significant Impact (Class I): Any impact that could be significant, and for which no mitigation has been identified or implemented. If any potentially significant impacts are identified and cannot be mitigated, a Statement of Overriding Considerations is required should the proposed Project be approved.

Less-Than-Significant Impact with Mitigation Incorporated (Class II): Any impact that could be significant, but which requires mitigation to reduce the impact to a less-than-significant level. Impacts in this category are otherwise considered potentially significant impacts, but ones for which mitigation measures have been designed and will be enforced in order to reduce said impacts to below applicable significance thresholds.

Less-Than-Significant Impact (Class III): Any impact would not be considered significant under the CEQA relative to existing standards.

Beneficial Impact (Class IV): The Project would provide an improvement to an issue area in comparison to the baseline information.

The estimations of impact levels used for this Notice of Preparation are based solely on preliminary documents and information provided by the applicant and do not preclude findings of significance that will be made during the preparation of the EIR, including findings that could change the significance of an impact and how it will need to be addressed within the EIR.

The two categories of potentially significant impacts (Class I and Class II) will be examined first, followed by the remaining two categories of less-than-significant impacts. Afterward, the special impact areas of Cumulative Impacts, Growth-Inducing Impacts and Environmental Justice will be discussed.

A major study was completed in October of 2004 by Hanson Environmental Inc. (Sand Study 2004) to evaluate potential environmental effects of sand mining and address issues that had arisen during the process of renewing individual permits and approvals in recent years. The Sand Study 2004 was a compilation and evaluation of existing information from the scientific literature and generally did not present new scientific investigatory results. The study summarized the physical and water quality characteristics of the Bay-Delta Estuary, including sediment dynamics, bathymetry and aquatic habitats that could be impacted by sand mining. The Sand Study 2004 may assist in providing a basis to analyze the impacts that may result from extending the sand mining leases and granting related authorizations for the additional 10-year term.

3.1 Potentially Significant Impacts to be addressed in the EIR:

3.1.1 Air Quality

An Air Quality impact is considered significant if it:

- Conflicts with or obstructs implementation of the applicable air quality plan;
- Violates any air quality standard or contribute substantially to an existing or projected air quality violation;
- Results in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; or
- Creates objectionable odors affecting a substantial number of people.

The proposed Project is not anticipated to involve operational emissions greater than those presently resulting from current operations. Current operations do not violate any air quality standard or contribute substantially to an existing or projected air quality

violation, and no changes to those operations are proposed. The primary source of long term operational impacts of the proposed Project will be from operation of the barges which would generate emissions of criteria. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead. The operation of the barges would also generate greenhouse gas emissions that are known to contribute to global warming effects.

3.1.2 Biological Resources

A Biological Resource impact is considered significant if:

- There is a potential for any part of the population of a special status species (such as State or Federally Endangered species) to be directly affected or indirectly harmed through the disturbance or loss of its habitat.

- A net loss occurs in the functional habitat value of a sensitive biological habitat, or any Area of Special Biological Significance.

- There is a potential for the movement or migration of fish to be impeded.

- A substantial loss occurs in the population or habitat of any native fish or vegetation or if there is an overall loss of biological diversity, with substantial defined as any change that could be detected over natural variability.

The proposed Project site supports habitat for several special status aquatic species, including Delta smelt, Winter-run Chinook salmon, Spring-run Chinook salmon, Central Valley and Central Coast steelhead, and green sturgeon. These species, as well as their habitats, could potentially be disturbed or harmed during mining activities. It also supports Essential Fish Habitat for Delta smelt, Winter-run Chinook salmon, Spring-run Chinook salmon, Pacific salmon, Coastal Pelagic Species, Central Valley and Central Coast steelhead, and West Coast Groundfish. The Sand Study 2004 analyzed Bay-Delta Estuary physical conditions, including aquatic habitat conditions, which have been affected by marine sand mining and other human activities. It suggested areas where the potential for cumulative environmental effects may exist and described subject areas where additional studies would help to better understand and address potential environmental issues. Additional surveys, including but not limited to, bathymetric surveys by either single or multi-beam sonar, benthic surveys, and an entrainment survey, may be necessary to adequately determine the effect of continued sand mining on biological resources.

3.1.3 Cultural Resources

A Cultural Resources impact is considered significant if it:

- Results in damage to, the disruption of, or otherwise adversely affects a property that is listed in the California Register of Historic Resources (CRHR) or a local register of historical resources as per section 5020.1 of the Public Resources Code.

- Results in damage to, the disruption of, or otherwise adversely affects an important archaeological resource (prehistoric or historic) such that its integrity could be compromised or its eligibility for future listing in the CRHR diminished.

- Results in damage to, the disruption of, or otherwise adversely affects an important historical resource such that its integrity could be compromised or its eligibility for future listing in the CRHR diminished.

No cultural or archaeological resources have been documented within the Project area. However, an unanticipated discovery is possible and an Unanticipated Discovery Plan will be prepared.

3.1.4 Hazards and Hazardous Materials

A potentially significant Hazards and Hazardous Materials impact exists if:

- Current or future operations may not be consistent with federal, state or local regulations (note: conformance with regulations does not necessarily mean that no significant hazard related impacts exist).

- Any facility or operation, existing or proposed, does not conform to its contingency plans or other hazard or risk related plans that are in effect.

- There is a potential for fires, explosions, releases of flammable or toxic materials, or any other accidents that could cause injury or death to members of the public.

- Existing and proposed emergency response capabilities are not adequate to effectively mitigate emergency conditions the project has the potential for causing.

Project-related hazards potentially include accidental releases of fuel, oil, or hydraulic fluids from the barges. A Spill Prevention, Control and Countermeasure Plan (SPCCP) will be prepared for the proposed Project as required by the Storm Water Pollution Prevention Plan (SWPPP) and would include action measures to minimize the potential for accidental releases of hazardous materials into the environment. The Applicant would follow all applicable hazards and hazardous materials regulations for the use, transportation, or disposal of hazardous materials.

3.1.5 Hydrology and Water Quality

An impact to Hydrology and Water Quality is considered significant if:

- The water quality objectives promulgated by the Regional Water Quality Control Board with jurisdiction over the region affected by the Project are exceeded.

- The water quality criteria contained in the Proposed California Toxics Rule are exceeded.

- Project operations or discharges change background levels of chemical and physical constituents or elevate turbidity levels such that long-term changes in the receiving environment of the site, area or region occur, or such that beneficial uses of the receiving water are impaired or degraded.

- Contaminant levels in the water column, sediment, or biota are increased to levels shown to have the potential to cause harm to marine organisms even if the levels do not exceed formal objectives.

The Project site is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), which has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. All sand mining leases are within the jurisdiction of the SFBRWQCB and the Applicant is operating under current permits.

3.1.6 Land Use and Planning

A Land Use and Planning impact is considered significant if it;

- Conflicts with adopted land use plans, policies or ordinances;

- Results in conflicts with planning efforts to protect the recreational resources of an area;

- Results in incompatible adjacent land uses as defined by planning documentation;

- Results in residual impacts on sensitive water recreation areas, including shoreline lands and river banks that are host only to non-water recreation activities;

- Conflicts 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, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or

- Conflicts with any applicable habitat conservation plan or natural community conservation plan.

The San Francisco Estuary Project Comprehensive Conservation and Management Plan (CCMP) land use section seeks to enhance the Estuary, while ensuring economic development to meet vital housing, transportation and other needs. While current operations are not in direct conflict with the CCMP, coordination with responsible agencies may be required to avoid conflicts. Other plans that will require discussion in the EIR and coordination include, but are not limited to, the Suisun Marsh Plan, the Delta Risk Management Strategy, the Delta Vision Process, the Bay Delta Conservation Plan, and the California Five-year Infrastructure Plan (2006).

3.1.7 Mineral Resources

A Mineral Resource impact is considered significant if it:

- Results in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

- Results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The primary mineral resource in the project area is the sand that is currently being mined. At this time it is uncertain how, and in what quantities, this sand is being replenished by natural processes.

In addition to summarizing existing scientific information, the Sand Study 2004 developed and presented a conceptual model of Bay-Delta Estuary sediment dynamics, summarizing the various sources of sand in Suisun Bay and Central Bays and describing trends in accretion and depletion of sediment in areas where sand mining has occurred. Accordingly, the Sand Study 2004 may assist in providing a basis to predict the physical changes that may result from extending the sand mining leases and granting related authorizations for the additional 10-year term. Additional surveys, including but not limited to bathymetric surveys by either single or multi-beam sonar and sand replenishment monitoring may be necessary to determine the degree to which mitigation measures reduce impacts to mineral resources.

3.2 No Impact / Less-Than-Significant Impact to be addressed in the EIR:

Based upon preliminary review, the CSLC staff has determined that the proposed Project may have a less-than-significant impact or no impact on the issue areas identified below. Note that impacts stemming from a growth inducing or cumulative effect and environmental justice impacts are discussed separately in a following section, and that these assessments are based upon a preliminary review only. The primary reasons for the preliminary determinations made for each area are as follows:

Aesthetics –
The proposed Project is not anticipated to involve any changes to current operations; therefore, no new impact to aesthetics would be expected to occur.

Agricultural Resources –
There are no agricultural resources within the area of potential effect of the proposed Project; therefore, no impact to agricultural resources would be expected to occur.

Geology and Soils –
The proposed project would disturb the substrate in the Bay within the proposed lease areas, but is not anticipated to involve any changes to current operations. Current operations have no significant impact; therefore, no new impacts would be expected to occur.

Noise –
The proposed Project is not anticipated to involve operational noise greater than that presently resulting from current operations, therefore, no new noise impact would be expected to occur.

Population and Housing –
The Project would not result in the direct construction of additional housing units. Therefore, construction of the Project would not directly or indirectly induce substantial population growth.

Public Services –
The Project would not directly increase demands on or require the construction of additional fire or police facilities, school facilities, park spaces, or any other public service, therefore, no impact to public services would be expected to occur.

Recreation –
Existing operations do not significantly affect recreation in the Central Bay or Suisun Bay. As no expansion of existing facilities is proposed, no additional impacts to recreation are anticipated.

Transportation –
The proposed Project is not anticipated to involve any changes to current operations. Current operations are not impacting transportation; therefore, no new impact to transportation would be expected to occur.

Utilities and Service Systems –
The Project would not require the expansion of existing facilities, and thus no additional impact beyond current operations would be expected to occur.

3.3 Special Impact Areas

Cumulative Impacts

The CEQA requires an examination of the potential for a Project to have cumulative impacts when considered in conjunction with other Projects proposed and/or approved within a region. The Cumulative Projects Study Area for this Project is presently defined as proposed and approved projects in the greater San Francisco Bay Area. The EIR will contain a discussion of cumulative impacts of the proposed Project.

Growth-Inducing Impacts

The CEQA requires a discussion of the ways in which a proposed Project could be an inducement to growth. The State CEQA Guidelines (section 15126.2(d)) identify a project to be growth-inducing if it fosters or removes obstacles to economic or population growth, provides new employment, extends access or services, taxes existing services, or causes development elsewhere. The EIR will contain a discussion of potential growth-inducing impacts of the proposed Project.

Environmental Justice

An Environmental Justice impact is considered significant if a proposed Project:

- Has a potential to disproportionately impact minority and/or low income populations in areas in which the Project is located.

- Results in a substantial disproportionate decrease in the employment and economic base of minority and/or low-income populations residing in the County and/or immediately surrounding cities.

The CSLC developed and adopted an Environmental Justice Policy to ensure equity and fairness in its own processes and procedures. This policy stresses equitable treatment of all members of the public and commits to consider environmental justice in its processes, decision-making, and regulatory affairs which is implemented, in part, through identification of, and communication with, relevant populations that could be adversely and disproportionately impacted by CSLC projects or programs, and by ensuring that a range of reasonable alternatives is identified that would minimize or eliminate environmental impacts affecting such populations.

The EIR will analyze the distributional patterns of high-minority and low-income populations on a regional basis. The analysis will focus on whether the proposed Project's impacts would have the potential to affect an area(s) with high-minority population(s) and on low-income communities disproportionately, thereby creating an environmental justice impact.

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USGS
science for a changing world

U.S. Geological Survey
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Santa Cruz, CA 95060
(831) 427-4756 Office
pbarnard@usgs.gov
August 10, 2007

Sarah Mongano
Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 100- South
Sacramento, CA 95825
Re: comments on EIR for Hanson Sand Mining in San Francisco Bay

Ms. Mongano:

Recent work led by the United States Geological Survey (USGS) shows that over 100 million yd^3 of sediment has been lost from the mouth of San Francisco Bay in the last 50 years (Fig. 1), broadly coincident with major sand mining activities in central San Francisco Bay. Other recent USGS work suggests that there is a net export of bedload sediment from San Francisco Bay to the open coast. Future extraction of sediments from San Francisco Bay could further reduce the coastal sediment supply, leading to enhanced rates of beach erosion as has occurred along the southern extent of Ocean Beach in the last several decades. It is therefore important that the draft EIR (section 3.1.7) include a detailed analysis of sediment budgets and transport to determine the impact of sand mining activities on regional sand supply. This could be accomplished through some combination of sediment transport observations and modeling, and mineralogical/isotopic studies. Please let me know if you have any questions. A-1

Sincerely,

Patrick L. Barnard, Ph.D.
Research Geologist

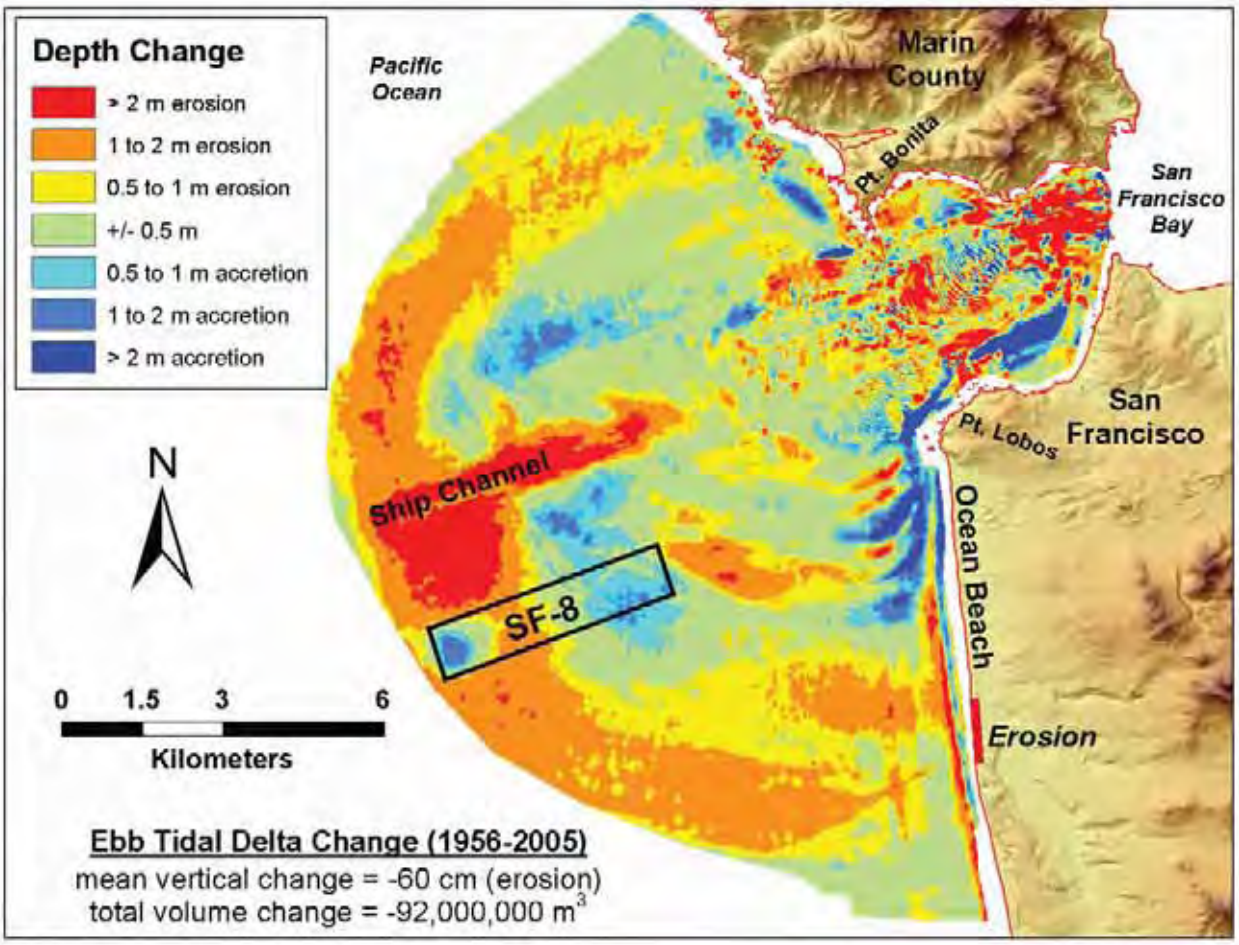

Figure 1. Change between bathymetric surveys conducted in 1956 and 2005 at the mouth of San Francisco Bay. From Barnard et al. (2006), Hanes and Barnard (2007).

References

Barnard, P.L., Hanes, D.M., Kvitek, R.G. and Iampietro, P.J., 2006. Sand Waves at the mouth of San Francisco Bay, California. U.S. Geological Survey, Scientific Investigations Map, 2006-2944: 5 map sheets.

Hanes, D.M. and Barnard, P.L., 2007. Morphological evolution in the San Francisco bight. Journal of Coastal Research, Special Issue 50, Proceedings of the 9th International Coastal Symposium, Gold Coast, Australia, ISSN 0749.0208: 469-473.

RESPONSE TO COMMENT SET A

A-1 Appendix G of the Draft EIR contains a study of the effects of sand mining on Bay and Delta bathymetry, hydrology, and hydrodynamics. The potential for the Project to affect sand supply beyond the sand mining leases is analyzed and discussed in this study. The study results form the basis for the impact analysis in Section 4.3, Hydrology and Water Quality, and are also used to inform the impact analysis in Section 4.2, Mineral Resources, and 4.7, Land Use.

Making San Francisco Bay Better

August 10, 2007

Ms. Sarah Mongano, Environmental Scientist
California State Lands Commission
100 Howe Avenue, Suite 1000-South
Sacramento, CA 95825

SUBJECT: Response to Notice of Preparation of a Draft Environmental Impact Report for Sand Mining in Central San Francisco Bay and Suisun Bay, CSLC File No. W30128.2; BCDC Permit Nos. 16-78(M), M78-146, M99-7 (M), 10-90 (M), 5-80, 12-94, 4-77

Dear Ms. Mongano,

Thank you for the opportunity to review and comment on the Notice of Preparation for the Hanson Sand Mining Draft Environmental Impact Report (DEIR) for sand mining 2,040,000 cubic yards (cy) per year from Central San Francisco Bay, Middle Ground Shoal in the Primary Management Area of the Suisun Marsh, and Suisun Bay, partially in the Primary Management Area of Suisun Marsh (Marsh), the Commission's Bay jurisdiction and partially outside of the Commission's jurisdiction. The mining is for the purpose of obtaining marine aggregate primarily used for construction purposes. B-1

As you know, the San Francisco Bay Conservation and Development Commission (Commission) has permit jurisdiction over all projects sited in San Francisco Bay, the 100-foot shoreline band upland from the mean high tide line, certain waterways, managed wetlands and the Suisun Marsh pursuant to the McAteer-Petris Act and the Suisun Marsh Preservation Act. The proposed sand mining projects are within the Commission's Bay jurisdiction and the Primary Management Area of the Suisun Marsh (Marsh) and would therefore require a Commission permit. With respect to this project, the Commission staff considers the areas proposed for continued mining in Suisun Channel and Middle Ground Shoal to be part of the Suisun Marsh, and not the Delta. B-2

Although the Commission has not reviewed the NOP, these staff comments are based on the Commission's law and the policies contained in the San Francisco Bay Plan, the Suisun Marsh Protection Plan and the Solano County's Suisun Marsh local protection plan. Our comments address the potential physical impacts, the potential biological impacts of the sand mining operations, the consistency of these operations with the Commission's laws and policies, potential cumulative adverse impacts, and potential studies to assess these impacts. The Commission's laws and policies require analysis of the potential impacts to the Bay habitat, including shallow and deep water sand shoals, natives species, erosion of the shoreline, stability of structures in the Bay or Marsh along the shoreline, recreational opportunities provided by beaches and public access, and changes to the Bay bathymetry and hydrology. The Bay Plan Policies that are applicable to this project include, but may not be limited to: (1) Fish, Other B-3

State of California • SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION • *Arnold Schwarzenegger, Governor*
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Aquatic Organisms and Wildlife, Policy Nos. 1, 2, 4; (2) Water Quality, Policy No. 2; (3) Tidal Marshes and Tidal Mudflats, Policy Nos. 1 and 2; (4) Subtidal Areas, Policy Nos. 1, 2 and 5; (5) Dredging, Policy Nos. 1, 2, 7 and 12; Public Trust Policy No. 1; and Navigation and Oil Spill Policy No. 2. The Suisun Preservation Act provisions that are applicable include, but may not be limited to: 29003, 29008, 29010, 29011, 29102, 29104, 29114, and 29115 .The Suisun Marsh Protection Plan Policies that are applicable to this project include, but may not be limited to: (1) Environment, Policy Nos. 1, 2 and 3; and (2) Land Use and Marsh Management Policy 1 and 3. The Solano County local protection program policies include: (1) Agricultural and Open Space Land Use, Policy Nos. 1 and 2; (2) Recreational Land Use, Policy No. 1; (3) Water Dependent Industrial Development, Policy No. 2; (4) Wildlife Habitat Management and Preservation, Policy Nos. 1 and 2; (5) Water Quality Policy Nos. 4 and 5; and (6) Utilities, Facilities and Transportation Policy Nos. 1 (h) and 9. B-3 cont.

Notice of Preparation

Figure 1 of the project description, appears to minimize the number, size, and locations of leases proposed for mining activity. It shows four areas in Central Bay, spaced at some distance apart. It is true that there are now four lease areas in Central Bay. However, as you know, there are nine separate parcels, and many of them are immediately adjacent to each other, covering a much larger portion of the Central Bay sand shoals than indicated. Similarly, the Middle Ground lease area covers the area more central to Suisun Bay, and the Suisun lease area covers a longer distance up into the San Joaquin River. Our staff is concerned that this could potentially be misleading to the public. We suggest that the maps showing the actual lease areas be used in any future documents. B-4

Comparison of the Suisun Channel and Central Bay lease areas with the known area of sandy deep water, particularly for the Central Bay, shows that a large percentage of the existing sandy deep water habitat is potentially impacted by sand mining. Because the likely source for the Suisun Channel sand beds is upstream and the channel is relatively narrow, the mining activity could potentially capture much of the sand as it travels downstream in the sandy deep-water channels. Similarly, it is possible that Middle Ground shoal may be an area that would normally develop into a larger sand shoal that would only be mobilized when large flood events move the sand from this area downstream. Given the significant scale of the mining activity, the DEIR should analyze the potential impacts of removing sand that might otherwise nourish downstream islands such as Middle Ground, or other small islands downstream and create additional shallow water habitat, shorelines and beaches in the Bay, Suisun Marsh and in the nearshore coastal waters. Similarly, there may be a connection between the Central Bay sand shoals and the nearby beaches and coastal littoral cell. B-5

In the past, both Hanson Aggregate Operations and Jerico Products, Inc., have requested permits for mining in the portion of Suisun Channel that is currently maintained by the U.S. Army Corps of Engineers as part of its annual navigational dredging program. The project description is unclear as to whether the project includes mining in this portion of the federal navigation channel. If so, the additional area and volumes should be considered as part of this analysis. Please clarify whether the applicant and/or Jerico Products, Inc., intend(s) to continue with this request. For purposes of clarity, the project description should also include a discussion of the inclusion of Jerico Products, Inc., leases at Middle Ground Shoal and a brief explanation of both Jerico's project and the rationale for inclusion in the DEIR (the Commission staff believes it is appropriate for this area to be included given the extensive sand mining activity at Middle Ground Shoal). B-6

Table One provides the current authorized volume of sand mining for both the State lease areas and the private lease areas proposed for inclusion in the DEIR. The table is broken down by State and Private leases and totals them accordingly. While this is useful information, it reflects regulatory requirements rather than environmental aspects, such as embayments or similar habitat types. Since Middle Ground and Suisun Channel are in close proximity to each B-7

other and to the Delta, and constitute a more riverine system, it would be appropriate to consider these volumes together, and similarly consider the lease areas in the Central Bay together as they are more marine in feature and location. If the proposed leases were to be presented in this way, the totals would be as follows: B-7 cont.

Central Bay Leases	Currently Permitted	Requested Amounts	Difference
Central Bay Total	1,390,000	1,540,000	+ 150,000

Suisun Bay Leases			
Suisun Bay Total	900,000	500,000	- 400,000

Total Mining Volume	2,290,000	2,040,000	- 250,000

In addition to considering the change in mining in the different portions of the Bay, it would also be instructive to look at the average volume of sand actually mined over the last ten years for each area in comparison to the volume authorized. This would allow comparison of the potential increase or decrease in mining rather than a comparison based on an authorization that may not have been fully used. This information should be available from the annual lease reports provided to State Lands Commission by the applicant. The applicant can also provide the information on the private leases or, if helpful, we can provide it from our permit files. B-8

We are concerned that the project objective appears to be limited to continue mining marine aggregate at an economically viable level for the next ten years. We suggest that the objective should also include mining in an environmentally sustainable manner or rate. B-9

In Section 1.3, the paragraph regarding BCDC should include the Commission's responsibility under Suisun Marsh Preservation Act for marsh development permits for the Primary Management Area of Suisun Marsh. The Middle Ground and Suisun Channel leases are within the primary management area of the Marsh. The San Francisco Bay Regional Water Quality Control Board also has responsibilities under the federal Clean Water Act and to protect beneficial uses of the Bay pursuant to the state Porter-Cologne Act. B-10

Alternatives for Consideration

As you know, the California Environmental Quality Act (CEQA) requires environmental documents to analyze a reasonable range of alternatives to the project. We suggest the following range of alternatives. Because of the differences between Suisun Bay and Central Bay noted above, the alternatives suggested below should be considered for both Suisun and Central Bay. B-11

1. No project – This alternative would consider the potential impacts or benefits if sand mining were to cease.
2. Reduced project volume – This alternative would consider the potential impacts if mining were to continue, but at a reduced volume that either could be considered "environmentally more sustainable" or, if this cannot be determined, have less risks of significant impacts. Obviously, a determination or estimate would need to be made regarding the appropriate volume.

3. Reduced project footprint – This alternative would consider the same proposed volume, but limit the area on the various lease sites that could be mined, preserving areas of varying grain sizes within each lease.
4. Reduced project volume and footprint – This alternative could be a combination of Items 2 and 3 above.
5. Changed Mining Methods – This alternative could explore different mining methods that may have potentially less or greater impacts.
6. Project as proposed – This alternative would be as proposed.

B-11 cont.

In addition, CEQA requires that a baseline condition be identified for comparison purposes. The Commission staff offers the following suggestions for consideration in determining the baseline condition for the DEIR. Staff suggests that geographic location of the baseline condition should be analyzed.

Defining the baseline conditions geographically one could consider the control plots (un-mined areas adjacent to mined areas with similar tidal/current and sediment patterns) or areas within the lease that are not frequently mined (these areas could be identified using the logs from the mining events to identify the areas that are mined within the leases and those that are not). Again, consideration should be given to areas that have similar hydrology, sediment transport and grain size. The sand mining industry and agencies have identified and agreed to "control plots" adjacent to the lease areas in both Central Bay and Suisun for reference. Biologically, a survey of the areas with similar grain size, tidal and current influence and depth should be sampled to identify an intact community. In addition, to compare changes in the Bay floor over time, an analysis of the "Boat Sheets" – the actual data and navigation notes that NOAA uses to develop their published navigation charts, can be completed to understand changes through time going back over a century.

B-12

The topic questions below should be answered to a reasonable degree, using the best available information, and potentially the additional studies suggested below when the available information does not provide sufficient information to do a complete analysis. The CEQA Guidelines appear to provide for additional studies where reasonable and feasible.

Physical Process Questions

The process of mining sand from Central San Francisco Bay and Suisun Marsh and Channel, very simply put, removes sand permanently from the estuary system and potentially the near-shore coastal waters of California. As you may know, some scientists are concerned that the San Francisco Bay-Delta system is becoming erosional due to: damming and diversion of tributaries; increasing development reducing sediment flow via natural tributaries; and dredging and mining activities. Sand mining itself has the potential to cause erosion of adjacent shallow water habitat, change the physical structure of sand beds and waves, deplete sand sources for beaches both within the Bay and the coast of Central California, change the grain size of the sand formations, and change hydrology of the Bay. However, the actual impacts of sand mining on the Bay system are poorly understood.

B-13

Sediment Transport/Bedload – Sand is transported into and out of Suisun Bay and Central Bay in patterns that are not well understood. The sand may be transported on a daily, monthly, seasonally, annually or potentially even only during large events. It is not clear how much of the sand within the shoals is being transported over time, and how much might have been laid down in earlier geologic periods. Additionally, the volume of sand transported through the system has not been identified with any confidence. Until this process and volume can be identified for each area of sand mining activity, it is difficult, if not impossible to identify the potential impacts to the system. Both the source of the sand shoals and the areas of sand

deposits should be identified in the DEIR for both the Suisun Bay and Central Bay. This is important to understand the supply and extent of sandbeds on a habitat basis. Grain size throughout the leases and adjacent areas should be identified. This is also linked to habitat because different organisms are adapted to different substrates and habitat features. B-13 cont.

Mining Site Recovery – Physically, the DEIR should analyze what the length of time is for a mined area to return to its un-mined state. Would areas that have been intensely mined over the years recover their former shape if and when mining stops and, if so, how long would it take for the bed forms to be reconstructed. The sand mining industry has argued that the mining sites quickly recover from the mining activity, that both the mining pits are replenished and the benthic organisms quickly recolonize the area. This statement is, in large part, the basis for the industry's assertion that mining has no significant impacts on the subtidal habitat. Understanding both the frequency of disturbance and the recovery period for both physical and biological impacts, we believe is necessary to determine the potential impacts of the overall project. This question should be answered for individual mining episodes and the sand shoals that show the effects of multiple mining events. In addition, if sand does refill the mined area, how long does it take to fill in, and is it the same grain size as the sand that was removed? B-14

Loss of Form/Function – Physical structure in otherwise flat or high velocity areas are important to organisms both as habitat and as shelter. If large sand waves have been mined extensively over time, or until the structure of the "dunes" have been degraded, the loss of this type of habitat and shelter may make the area inhabitable for organism that have evolved there. Recent studies on Washington's sand shoals have revealed populations of fish that have a specialized lifecycle to take advantage of this type of habitat. Studies have not been performed here to identify the potential uses of this type of habitat in the marine Central Bay or the fresher Suisun Channel. The DEIR should analyze this potential impact. B-15

Tidal Hydrology – Similar to the concern over lost of form/function discussed above, if large sand waves are removed from the system, the removal may potentially affect the deep-water currents that have created the beds, or redirect the sand into other areas. Over the last thirty years there has been a significant shift in the sand erosion/deposition patterns at Crissy Field, San Francisco Marina, Point Lobos, Ocean Beach and the San Francisco Bar. The Commission staff notes that these areas are all adjacent to sand mining activity. The DEIR should analyze whether sand mining has had a significant impact on the sediment transport and hydrology associated with sand shoals during this period. B-16

Suspended Sediment – In 1990, a study was commissioned to identify potential impacts of the overflow plume associated with sand mining. That study, while providing important information and using technology available at that time, was not able to fully consider the potential scale both in depth and area of the plume. Newer techniques have been developed that can track the plume in three dimensions and detect the period of time the plume remains. The sediment plume has the potential to impact foraging fish, especially those that are planktonic feeders such as the Pacific herring and the Delta smelt. B-17

The DEIR should analyze potential physical impacts of sand mining on the Bay. B-18

Biological Questions:

Once the physical processes that created the sand formations within the Bay and Delta are understood, and the potential significant impacts of mining have been defined and analyzed, these changes need to be linked to both the changes to habitat, and how those changes affect the species and populations that depend on the habitat for survival. These impacts may be both B-19

direct and indirect and potentially cause change to a wide variety of trophic levels and life stages. B-19 cont.

The first step in understanding potential impacts to the sand shoal community is to identify the organisms that utilize this type of habitat. Because the Central Bay and Suisun Bay are very different in grain size, salinity regime, currents and depths, we believe that they should be analyzed separately. A baseline study is needed to understand what organisms currently use this habitat, including benthic, epibenthic, and pelagic species that forage on the shoals. The baseline community can be ascertained from areas adjacent to the mined areas outside of the leases or areas within the leases that are not frequently mined, but should be areas with the same general conditions, including grain size, salinity, tidal currents, and bedform of the site. In addition, a similar survey should be completed within the mined areas that are directly impacted by the mining activity on a regular basis. The sand mining industry and agencies have identified "control plots" adjacent to the lease areas in both Central Bay and Suisun Bay for this type of comparison. Linkages then should be made to the species that forage on these organisms during different stages of their life cycle as species may utilize the sand shoals differently during different life stages. B-20

Entrainment – The sand mining process hydraulically pumps a mixture of sand and water through a large pipeline and onto a barge where fine sediments are allowed to overflow back into the Bay. During this process it is very likely that invertebrates from within the sediment, invertebrates and fish living on top of the sediment and larval fish and plankton in the water column are sucked up and either injured or killed as they are pumped through the system and off the barge. It is important to identify the number and types of animals that are removed from the Central Bay and Suisun Bay in the process of gathering marine aggregate. This information should be developed considering a daily, monthly, seasonal and annual basis because different species will be in different portions of the subtidal habitat throughout different times of day, seasons and wet or dry years. Seasonal studies could be undertaken to gain knowledge regarding the potential for entrainment, and then this information can be extrapolated to estimate the overall impacts based on empirical knowledge. B-21

Shallow Water Habitat Loss – Some lease areas, particularly Middle Ground Shoal, are adjacent to shallow water. Shallow water habitat is particularly important for larval fish and many bird species that forage in those areas. The Delta Smelt is an endangered species that lives in the shallow waters of the Suisun Marsh and Delta. Juvenile salmon are also known to use these shallow waters for foraging and resting during their migration out of tributary streams and through the Bay. Mining in areas adjacent to these important shallow water habitats may cause erosion and degrade or eliminate the transitional area between the shallow water and the deeper water nearby. B-22

Migratory Pathways – Like humans, many animals use landforms for navigation. Degradation or elimination of sand shoals may adversely impact pathways for migration or simple navigation between feeding, spawning, or resting areas. B-23

The DEIR should analyze all potential adverse impacts of sand mining to Bay organisms.

Potential Studies

The following studies are important to understanding the potential impacts caused by sand mining activities in Suisun Bay and Central Bay. B-24

Multi-beam Survey of Mining Sites – Multi-beam surveys of the lease area would provide a three-dimensional view of the lease areas, the potential impacts of sand mining, and the control

plots currently identified adjacent to the lease areas. Analysis of these surveys and data would provide a greater understanding of the bathymetry, topographic features, bedload transport direction, and the extent of the impacts from sand mining, and, in the area of Central Bay, bathymetric changes, especially to the level of the Bay floor in the last decade (when compared to the 1997 Chin, et. al. study). B-24 cont.

Examination of the bathymetric maps ("H" charts produced by NOAA/NOS would give finest resolution) for the areas of sand mining activity and control areas over the last ten to fifty years should be used to determine whether there is a correlation between mining and changes in bathymetry.

Benthic Baseline & Comparison with Mining Sites – As described above, we believe that a benthic survey needs to be completed to identify the benthic community both in Suisun Bay and Central Bay. Then, a comparative analysis needs to be completed between benthic communities where mining does not occur and the communities where it does. An additional study should be undertaken to assess the length of time it would take for the benthic community to be fully reestablished should mining cease. B-25

Entrainment Study - An entrainment study should be completed to determine the potential to entrain benthic species and planktonic species exposed to the mining activity. Once the study is complete, analysis should be performed to determine the impacts of entrainment both to the benthic community, the larval community and the organisms that prey upon them. B-26

Grain Size Analysis - Grain size and other sand grain parameters (coatings, particle shape, etc.) should be analyzed to determine source areas of the sand deposits. This technique has been used in other regions to find possible source areas for sediment. Use of sand particle tracers (fluorescent or magnetic coatings) might help to understand transport pathways for the surficial sand. B-27

Instrument systems can be deployed around and in the sand mining areas to measure various physical parameters, which can then be used to calculate sand transport. The results could give useful estimates of natural sand transport in the Bay. Instrumented tripods were deployed successfully for one month at 4 sites in the Bay as part of the San Francisco Runway Expansion environmental studies. B-28

All of these studies would add greatly to the current knowledge regarding sand mining and impacts of sand mining. Each of the topics and studies were identified in the Hanson Environmental's *Assessment and Evaluation of the Effects of Sand Mining on Aquatic Habitats and Fishery Populations of Central San Francisco Bay and the Sacramento-San Joaquin Estuary* as areas that need further investigation or study to understand the impacts or refine current knowledge. In addition, the information requested here is necessary to do a complete evaluation of the potential impacts of the proposed project for processing of the Commission's permits, which will expire on June 30, 2008. It is our hope that the information can be developed during the State Lands Commission's CEQA process, so that we can quickly act on sand mining permit applications when they come before the Commission. B-29

As you know, the Commission staff has been working on this issue for several years, and is pleased that the State Lands Commission is undertaking this effort. We look forward to working closely with you on this project and offer our assistance in your preparation of the DEIR. If you have any questions, or would like to discuss this further, please contact me at 415.352.3623 or via email at brendag@bcdc.ca.gov. B-29 cont.

Sincerely,

BRENDA GOEDEN
Dredging Program Manager

RESPONSE TO COMMENT SET B

B-1 This comment provides a summary description of the Project. The Project is more thoroughly described in Section 2, Project Description of the Draft EIR.

B-2 Jurisdiction and permit authority of the BCDC is discussed in Section 1, Introduction; Section 2, Project Description, and Section 4.7, Land Use in Planning.

B-3 Consistency of the Project with policies of the Bay Plan, Suisun Marsh Protection Plan, and Suisun Marsh Local Protection Plan is discussed in Section 4.7, Land Use and Planning.

B-4 Complete and accurate depiction and location of sand mining leases appear in Section 2, Project Description; see Figures 2-1a, 2-1b, and 2-2. See also Figure 1-1 in Section 1, Introduction.

B-5 The potential for proposed sand mining to affect sediment transport and deposition in areas outside the mining leases is examined in the Coast and Harbor Engineering report prepared for the EIR; see Appendix G. See also Impact HYD-2 in Section 4.3, Hydrology and Water Quality.

B-6 The Project includes mining only within the lease areas described and depicted in Chapter 2, Project Description. This includes Middle Ground Shoal.

B-7 Several tables in the Draft EIR provide subtotals for past and proposed mining volumes subtotaled for the Central Bay lease areas, CSLC lease areas in the western Delta/Suisun Bay, and the private Middle Ground Shoal lease area. See Table 2-1 in Section 2, Project Description.

B-8 Ten-year total and annual average mining volumes for the CSLC lease areas are shown in Table 2-3 in Section 2, Project Description.

B-9 CSLC's policy is to allow the project applicant to state the objective for their project. The Project Objective is stated in Section 1, Introduction.

B-10 A detailed discussion of BCDC's responsibilities vis a vis the Project is included in Section 4.7, Land Use and Planning.

B-11 The Alternatives analysis includes several of the alternatives suggested by the commenter, including No Project, Reduced Project, and Alternative Mining Method. Two reduced footprint alternatives were considered but rejected. See Section 3, Alternatives and Cumulative Projects.

B-12 Reference or control plots are described and were sampled or studied in the special studies undertaken to support the EIR analysis; see Appendices E, F, and

G. The baseline for the EIR is described in Section 1.2.5 in Section 1, Introduction.

B-13 Physical effects of sand mining are examined and discussed in detail in the Coast and Harbor Engineering study, Appendix G. See also Impact HYD-1 and HYD-2 in Section 4.3, Hydrology and Water Quality.

B-14 Mining site recovery is also discussed in Appendix G. See also Impact MIN-3 in Section 4.2, Mineral Resources and Impact HYD-2 in Section 4.3, Hydrology and Water Quality.

B-15 See Appendix F for a discussion of effects of sand mining on the benthic and demersel communities; see also Impact BIO-3 and BIO-6.

B-16 Potential effects on tides, currents, and salinity are examined in Appendix G and Impact HYD-2 in Section 4.3, Hydrology and Water Quality.

B-17 Please see Impact HYD-1 in Section 4.3, Hydrology and Water Quality.

B-18 Please see the responses above.

B-19 Please see Appendices E and F, and Section 4.1, Biological Resources.

B-20 Please see Appendices E and F, and Section 4.1, Biological Resources.

B-21 Please see Appendix E and Impacts BIO-3 and BIO-6 in Section 4.1, Biological Resources.

B-22 Current permit conditions prohibit mining in and near shallow areas. The EIR reviews current permit conditions, and discusses their ability to prevent or reduce impacts. See Section 2, Project Description, Section 2.3.4, and Section 4.1, Biological Resources.

B-23 Potential impacts on fish migration are examined in Impact BIO-11 in Section 4.1, Biological Resources.

B-24 An examination of multi-beam surveys was conducted by CHE and appears in Appendix G. See also Impact HYD-2 in Section 4.3, Hydrology and Water Quality.

B-25 A benthic study was conducted for this EIR and appears in Appendix F. The results are used to support the findings of the Biological Resources section.

B-26 An entrainment study was conducted for this EIR and appears in Appendix E. The results are used to support the findings of the Biological Resources section.

B-27 The benthic study (Appendix F) included an examination of grain size in samples taken from lease areas and control sites. Appendix G models sediment transport, deposition, and scour.

B-28 Appendix G includes modeling of sediment transport, deposition, and erosion.

B-29 As previously noted, several technical studies were completed for the EIR, including a benthic study, an entrainment study, and a bathymetric and hydrodynamic modeling study. See Appendices E, F, and G.

State of California
Department of Fish and Game

Flex your POWER

Memorandum

Date: August 15, 2007

To: Sarah Mongano
Environmental Scientist
California State Lands Commission

From: Tony Warrington
Regional Manager
Department of Fish and Game, Marine Region

for Tony Warrington

Subject: Notice of Preparation for a Draft Environmental Impact Report (DEIR) for Hanson Marine Operations and Suisun Associates

The Department of Fish and Game (Department) has reviewed your Notice of Preparation for a Draft Environmental Impact Report (DEIR) for Hanson Marine Operations and Suisun Associates proposal to continue mining sand at the rate of 2,040,000 cubic yards per year within the Central San Francisco Bay and the Western delta (Bay-Delta estuary). C-1

The Department is a trustee agency in terms of the California Environmental Quality Act. Our primary objective for reviewing environmental documents is to be able to provide the project sponsor with recommendations for avoiding or minimizing negative impacts to fish and wildlife, their use and users. In attempting to meet this objective, our attention is usually focused upon potential habitat damage or loss, acute or chronic effects to fish and wildlife from changes in habitat quality, and possible use conflicts. In review of the DEIR we will need to be able to identify and evaluate all activities of the project which may impact fish and wildlife populations or their habitats, food supplies, and reproductive requirements. C-2

Existing fish and wildlife populations, habitat uses and types, in and adjacent to the project area should be identified and described. The DEIR should contain complete descriptions and maps of these habitats, including acreages. The presence of any vegetated intertidal or subtidal areas at the project site is always C-3
of particular concern to the Department. Any potential impacts which relate to these resource values should be thoroughly described, and discussed in conjunction with compensation for unavoidable, project-induced losses. Compensation for direct impacts to fish and wildlife habitat should be proposed in the form of habitat replacement, restoration, and improvement. C-4

Benthic organisms are an important component of the estuarine ecosystem, serving as a prey resource for many of the fish and other aquatic organisms inhabiting San Francisco and Suisun Bay. Potential impacts of sand mining as well as the rate of recovery and recolonization of benthic communities following disturbance by a sand mining event should be thoroughly described, and discussed in conjunction with compensation for unavoidable, project-induced losses. C-5

Special consideration must be given in the DEIR to adverse impacts which may occur to rare, threatened, or endangered species. Information regarding these species, and potential impacts, can be procured from the appropriate federal (U.S. Fish and Wildlife Service and NOAA Fisheries) and State (Department) resource agencies. C-6

We thank you for the opportunity to express our concerns and look forward to reviewing your DEIR. As always, Department personnel are available to discuss our comments, concerns, and recommendations in greater detail. To arrange for a discussion, please contact George Isaac, Environmental Specialist, California Department of Fish and Game, 20 Lower Ragsdale Drive #100, CA 93940, telephone (831) 649-2813. C-7

cc: California Department of Fish and Game
George Isaac, Environmental Scientist

RESPONSE TO COMMENT SET C

C-1 This comment summarizes the Project description. Please see Section 2, Project Description, for a more complete description of the Project.

C-2 CDFG is recognized as a Trustee Agency for this Project. See Section 1.4, Permits, Approvals, And Regulatory Requirements in Section 1, Introduction.

C-3 As discussed in Section 2.3.4 of the Project Description, mining is prohibited in and near shallow areas that may contain sensitive habitat. As discussed elsewhere in Section 2, Project Description, mining occurs in areas of coarse sand deposits.

C-4 Potential impacts on biological resources are discussed in Section 4.1, Biological Resources.

C-5 A special study of benthic organisms and potential impacts of sand mining on benthic communities was conducted for this EIR; see Appendix F. This study was used as a basis for the impact analysis in Section 4.1, Biological Resources.

C-6 Please see Impact BIO-8, BIO-9, and BIO-10 in Section 4.1, Biological Resources.

C-7 This comment is general in nature.