

**APPENDIX F. 2012 PROJECT MITIGATION MEASURES (AS AMENDED)
AND INCIDENTAL TAKE PERMITS**

APPENDIX F1
2012 PROJECT IMPACTS AND MITIGATION MEASURES (AS AMENDED)

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This Appendix F1 contains mitigation measures from the 2012 EIR, as amended by CSLC approved variances. Mitigation as amended is shown in underline/strikeout format. Not all of the mitigation measures set forth below apply to the Revised Project. The use of underline/strikeout text indicates amendments or modifications adopted by the Commission after certification of the 2012 EIR. Double underline and double strikeout format indicates revisions between the Draft and Final SEIRs. The Incidental Take Permits (ITPs) referenced under Biological Resources are included as Appendix F2.

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
Aesthetics				
(No impact)	None required	Not applicable	Not applicable	None required
Agricultural Resources				
(No impact)	None required	Not applicable	Not applicable	None required
Air Quality				
AIR-1: Sand mining activities would result in emissions of criteria air pollutants that may conflict with or obstruct implementation of an applicable air quality plan or may violate an air quality standard or contribute significantly to an existing violation. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
<p>AIR-2: Sand mining activities would result in emissions of GHGs that may have a significant impact on climate change, or would conflict with an applicable plan, policy, or program adopted by the State for the purpose of reducing GHGs. (Potentially significant, Class II).</p>	<p>AIR-2: Prepare and implement a Greenhouse Gas Reduction Plan. Prior to startup of any new sand mining operations, the Project Applicants shall prepare and submit to the California State Lands Commission (CSLC) staff for approval a GHG Reduction Plan that demonstrates how the Applicants will lower and/or offset Project-related GHG emissions, such that GHG emissions will not exceed 5,400 metric tons of CO₂e in any calendar year during the 10-year lease period, or a total of 54,000 metric tons for the 10-year life of the Project. The GHG Reduction Plan shall include:</p> <ul style="list-style-type: none"> • A detailed baseline inventory that identifies and calculates all sources of GHG emissions during the last full calendar year of mining operations. This inventory shall be verified by an accredited third-party verification body, and reported to The Climate Registry. 	<p>September 3, 2015</p>	<p>The initial measure required verification from the Climate Registry; however, the Climate Registry will not accept project level (emissions) inventories. Therefore, the variance requiring similar third-party verification was approved.</p>	<p>Applicants to submit and CSLC to review and approve GHG Reduction Plan. Applicants to provide annual <u>documentation evidence of confirmed GHG inventory and report of GHG Reduction Plan implementation, verification, as performed by TRC Solutions or a similarly qualified third party.</u></p>

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	<ul style="list-style-type: none"> • A description of the strategies that the Applicants will employ to reduce and/or offset GHG emissions. Examples of such strategies include: <ul style="list-style-type: none"> – “Cold ironing” of vessels, where power from the electrical grid is substituted for diesel power during off-loading and while vessels are docked. – Use of biofuels or biofuel blends as a substitute or partial substitute for fossil fuels used to power tugs and barges. – Purchase of carbon offset credits verified by the Climate Action Registry. • Detailed calculations showing the expected reduction in GHG emissions that will result from the implementation of each strategy. <p>Each year during the 10-year lease period, the Applicants shall conduct another inventory of GHG emissions</p>			

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	<p>that shall be verified and reported.¹ to The Climate Registry. In lieu of submitting the project level inventory of GHG emissions to the Climate Registry on an annual basis, the miners shall, as indicated in their Greenhouse Gas Reduction Plan, submit annual inventories to CSLC and the Mitigation Monitoring Team and will provide annual inventory verification performed by a qualified third party such as TRC Solutions. The Applicants shall provide the verified results of this inventory to the CSLC along with a description of how the GHG Reduction Plan is being implemented and documentation showing GHG offsets or reductions.</p>			
<p>AIR-3: Sand mining activities would result in emissions of diesel particulate matter (DPM), a toxic air contaminant (TAC), associated with use of diesel</p>	<p>None required</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>None required</p>

¹ CSLC approved a mitigation variance request on September 3, 2015, on the basis that The Climate Registry will not accept project level (GHG) inventories.

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equipment, potentially exposing nearby sensitive receptors to health risks. (Less than significant, Class III)				
AIR-4: Sand mining activities could generate objectionable odors. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
Biological Resources				
BIO-1: Commercial sand mining in the San Francisco Bay-Delta may result in the direct and indirect physical displacement of special status fish species, including delta smelt, longfin smelt, green sturgeon, Chinook salmon, steelhead trout, and Pacific herring, Fishery Management Plan-managed pelagic fish and groundfish, marine bird species such as California brown pelican, and protected marine mammals, including California gray whale, humpback whale, California sea lion, harbor seal, and harbor	None required	Not applicable	Not applicable	None required

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
porpoise. (Less than significant, Class III)				
BIO-2: Sand mining activities result in increased noise at the location of the suction drag head on the seafloor that can result in increased disturbance to marine biota, especially fish, including special status fish species. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
BIO-3: San Francisco Bay-Delta sand mining results in the temporary disturbance, alteration and loss of soft substrate benthic habitat and associated benthic infauna and epifauna, which could affect foraging habitat for special status fish, marine bird species, such as California brown pelican, and protected marine mammals including California gray whale, humpback whale, California sea lion, harbor seal, and harbor porpoise and affect	None required	Not applicable	Not applicable	None required

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
Bay-Delta food web dynamics. (Less than significant, Class III)				
BIO-4: The discharge of suspended sediments in the overflow plume during sand mining will increase suspended sediment concentrations (SSC) and potentially release organic and inorganic contaminants into Bay-Delta waters affecting plankton and fish populations including delta smelt, longfin smelt, green sturgeon, Chinook salmon, steelhead trout, Pacific herring, and Fishery Management Plan-managed pelagic fish and groundfish. (Less than significant, Class III)	<i>None required</i>	Not applicable	Not applicable	None required
BIO-5: Disturbance of sediments at the seafloor during sand mining could result in increased turbidity and suspended sediment concentrations at the seafloor and the potential release of organic and inorganic contaminants to Bay-Delta waters affecting plankton	None required	Not applicable	Not applicable	None required

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
<p>and fish populations including special status fish species such as delta smelt, longfin smelt, green sturgeon, Chinook salmon, steelhead trout, Pacific herring, and Fishery Management Plan-managed pelagic fish and groundfish. (Less than significant, Class III)</p>				
<p>BIO-6: Resettlement of discharged sediments from the barge overflow plume and 17 disturbed sediments at the seafloor during sand mining could potentially result in 18 the smothering, burial, or loss of soft substrate benthic infauna and epifauna, and 19 hard substrate epifauna, and could indirectly reduce fish foraging (Potentially significant, Class II)</p>	<p>BIO-6: Establish a 100-foot buffer around hard bottom areas within and adjacent to Central Bay mining leases.</p> <p>Sand mining dredging operations must maintain a sufficient buffer zone around all hard bottom areas, especially Harding, Shag, and Arch rocks, such that dredging equipment does not come into physical contact with these sensitive hard bottom areas. This buffer zone will, at a minimum, be 100 feet from the outward edge of any hard bottom feature. In the event dredging equipment comes into physical contact with any hard bottom area during the term of</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>Applicant to submit quarterly <u>eTrace</u> data of Central Bay mining events.</p>

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	the leases, it shall be immediately reported to the CSLC, who shall establish a new minimum buffer zone distance.			
BIO-7: The Project will cause the entrainment and mortality of common and managed juvenile and adult fish, invertebrates, and plankton, including Dungeness crab, Pacific herring, and Fishery Management Plan-managed pelagic fish and groundfish during sand mining. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
BIO-8: Regular operation of sand mining activities will cause entrainment and mortality of delta and longfin smelt. (Significant, Class I)	<p><i>BIO-8a: Applicants shall implement operational measures to minimize the potential for entrainment and mortality of delta and longfin smelt.</i></p> <ul style="list-style-type: none"> • Timing of dredging relative to X2. To protect delta and longfin smelt and potentially eggs and young larvae from mortality related to entrainment, sand mining activities shall be restricted upstream of the X2 	<p>March 10, 2014</p> <p><u>February 13, 2015</u></p>	<p>A document submittal time extension was granted while the ITPs and mitigation purchase credits were finalized by the wildlife agencies.</p>	<p>Applicants shall submit to CSLC written documentation that they have obtained an Incidental Take Permit and have complied with the conditions contained in the permit.</p>

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	<p>location (i.e., the location of 2 parts per thousand (ppt) salinity) from December 1 through June 30 each year. This location changes during the water year in response to river flows and its location is tracked on the following website: http://cdec.water.ca.gov/cgi-progs/queryDaily?X2. The degree and duration of mining restrictions, and the specific locations where mining should be restricted during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species (population trend). Specific seasonal restrictions, <u>conditions</u>, and <u>operational requirements</u> will be set through consultation with the California Department of Fish and Game (<u>CDFG</u><u>CDFW</u>)</p>		<p><u>The ITP as amended provides a more recent analysis of the potential effects of operations. The requirements and restrictions contained within the ITP include the installation and monitoring of a positive barrier fish screen (Conditions 7.6 and 7.7). Conditions 7.1 and 7.2 restrict monthly mining volumes during those sensitive months to minimize take and add further depth restrictions during this sensitive period. Where</u></p>	

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	<p>and would likely be a requirement of any Incidental Take Permit that may be issued for the Project.</p> <ul style="list-style-type: none"> • Current restrictions on sand mining operations, as specified in the <u>existing ITPs (CDFW 2014)</u>. National Marine Fisheries Service Biological Opinion (NMFS 2006) and the U.S. Fish and Wildlife Service Letter of Concurrence (USFWS 2006), serve to avoid and minimize take of delta smelt. • Currently there are no Federal restrictions on longfin smelt. Due to similar life stages, however, State delta smelt restrictions and conditions will be applied to both smelt species. These conditions include restrictions on pump priming, limiting the total mining volume, prohibiting mining in areas of shallow water depth and in proximity to shorelines, restricting mining to the designated lease areas which are away from sensitive 		<p><u>take cannot be completely avoided.</u> <u>Conditions 8.1 and 8.2 add compensatory mitigation in the form of habitat credits.</u> <u>CDFW has found that together, these conditions fully mitigate for any taking of Delta and longfin smelt.</u> <u>The conditions and requirements in the ITP provide equal or more restrictive protections than the requirements in the mitigation measure, and are therefore equally or more protective of the</u></p>	

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	<p>habitat, and monitoring and reporting the location of each mining event.</p> <p>Additional requirements and restrictions to minimize and avoid take will be set through consultation with the CDFG <u>CDFW</u> and would likely be a requirement of any Incidental Take Permit (ITP) that may be issued for the Project.² To further minimize take, the Applicants shall keep the end of the pipe and drag head as close to the bottom as possible, and no more than three feet from the bottom, whenever feasible when priming the pump or clearing the pipe. Additional requirements and restrictions may be set through consultation with CDFG <u>CDFW</u>.</p>		<p><u>environment and the listed species.</u></p>	

² CSLC ~~conditionally~~ approved a mitigation variance on ~~March 10, 2014~~ February 13, 2015. Copies of the ITPs and their amendments are included as Appendix F2.

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	<ul style="list-style-type: none"> Hanson Marine Operations and Suisun Associates shall provide a copy of the final ITP issued by CDFW and any subsequent variances within five working days of receipt. All other requirements and mitigating actions outlined in the Mitigation Measure remain in force. 			
	<p>BIO-8b: Applicants shall provide off-site mitigation to compensate for the impacts of the taking that may be unavoidable.</p> <ul style="list-style-type: none"> Compensatory mitigation measures shall include restoration of delta and longfin smelt spawning and rearing habitat, and/or purchase of California Department of Fish and Game (CDFG)-approved mitigation credits, unless otherwise specified in an Incidental Take Permit, in an amount based on factors including the distribution and relative abundance of the species in areas subject to 	<p>March 10, 2014</p>	<p>A document submittal time extension was granted while the ITPs and mitigation purchase credits were finalized by the wildlife agencies.</p>	<p>Applicants shall submit to CSLC written documentation that they have obtained an Incidental Take Permit and have complied with the conditions contained in the permit. <u>The Applicants shall provide copies of any additional agreements or alteration of the existing</u></p>

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	<p>mining activities and the implementation of the above-specified minimization measures, such that the amount of compensatory mitigation required is roughly proportional to the impacts of the taking on the species. Determination of the restoration area or credits required will be accomplished through consultation with CDFG and is expected to be specified in the Incidental Take Permit. Currently, mitigation credits for delta and longfin smelt are available through the Liberty Island Mitigation Bank.</p> <ul style="list-style-type: none"> • <u>Hanson Marine Operations and Suisun Associates shall provide copy/copies of the final ITP(s) issued by CDFW within 5 working days of receipt. The Applicants shall provide a copy/copies of any additional agreement(s) or alteration of the existing</u> 			<p><u>agreement for purchase of mitigation credits.</u></p>

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	agreement for purchase of mitigation credits. ³			
<p>BIO-9: Green sturgeon, Chinook salmon, and steelhead trout will be impacted during sand mining. (Potentially significant, Class II)</p>	<p>BIO-9a: Sand mining halted during peak Chinook salmon migration. Sand mining in the western Delta and Suisun Bay leases shall be halted during the approximate two-week peak Chinook salmon smolt outmigration period through the Delta as monitored by USFWS at Chipps Island. Mining operations in the Delta and Suisun Bay lease areas will be coordinated with the fish monitoring program during the months of March to May to determine the appropriate non-work closure period.* *USFWS permitting requirements for the Central Valley Project and State Water Project require continued funding of annual juvenile salmon surveys with emphasis on winter run Chinook</p>	<p>February 18, 2015</p>	<p>Replacement measures developed based on the final Biological Opinion from USFWS and NMFS as well as the final ITPs⁴ from the California Department of Fish and Wildlife (CDFW). The federal and state wildlife agencies determined that these measures were more effective and efficient at achieving the</p>	<p>Beginning March 1 of each year that the sand mining leases are in effect, the applicants shall communicate weekly with USFWS and CSLC to determine the timing of that year's outmigration peak. CSLC shall confirm in writing, based on physical inspection and/or electronic tracking data (E-traceTrac data) that no sand mining</p>

³ CSLC conditionally approved a mitigation variance March 10, 2014 on the condition that the Applicants provide copy/copies of the final ITP(s) issued by CDFW within five working days of its receipt. The ITPs are provided as Appendix F2.

⁴ Copies of the ITPs are included as Appendix F2, immediately following this table of existing mitigation.

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	<p>salmon. One objective of this program is to monitor the relative abundance and timing of juvenile Chinook salmon rearing and migration through the Lower Sacramento River and Delta. Based out of the USFWS Stockton Fish and Wildlife Office, surveys include trawling at Chipps Island to estimate the number of unmarked fish emigrating from the Delta. <u>The following avoidance and minimization measures (developed in consultation with federal and state fish and wildlife agencies) as alternate protection measures⁵ to fully protect and mitigate impacts to juvenile Chinook salmon and steelhead shall be implemented:</u></p> <ul style="list-style-type: none"> • <u>Effectiveness of the positive barrier fish screen designed and in operation on sand mining equipment,</u> 		<p>performance goals in the (2012) EIR and in reducing the Project's impacts on listed fish species to less than significant levels.</p>	<p>occurs during the peak outmigration period.</p> <p><u>All reporting requirements to USFWS, NMFS, and CDFW as part of the Biological Opinions (Bos) and ITPs shall be provided to CSLC.</u></p>

⁵ CSLC conditionally approved a mitigation variance on February 13, 2015, on the condition that all reporting requirements to USFWS, NMFS, and CDFW as part of the Biological Opinion and ITP shall be provided to CSLC.

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	<ul style="list-style-type: none"> • <u>The operational restriction on pump priming and clearing;</u> • <u>The state and federal resource agencies review and approval of the mining operations in avoiding entrainment and impingement of juvenile salmonids; and</u> • <u>The compliance monitoring and reporting to CDFW and other state and federal agencies.</u> 			
<p>See Impact Bio 9. (Potentially significant, Class II)</p>	<p><i>BIO-9b: Sand mining limited to daylight hours from January 1 to May 31.</i></p> <p><i>Sand mining in western Delta and Suisun Bay leases shall be limited to daylight hours during the period January 1 to May 31 to minimize entrainment of migrating salmon smolts through the Delta, which tend to be more surface-oriented during the daytime.</i></p>	<p>February 12, 2014</p>	<p>Replacement measures (see MM BIO-9a), developed based on the final Biological Opinion from USFWS and NMFS as well as the final ITPs⁶ from CDFW, were determined by the agencies to be more effective and</p>	<p>Applicant to submit quarterly E-traceTrac data, including time of mining events. CSLC to confirm in writing that all mining events in Suisun Bay and Western Delta lease areas have occurred only during daylight hours from</p>

⁶ The ITPs are included as Appendix F2 immediately following this table of mitigation.

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			efficient at achieving the performance goals in the (2012) EIR and in reducing the Project's impacts on listed fish species to less than significant levels.	January 1-May 31 of each year. <u>All reporting requirements to USFWS, NMFS, and CDFW as part of the Biological Opinions (Bos) and ITPs shall be provided to CSLC.</u>
BIO-10: Physical modification of bottom habitat through the removal of sediment has the potential to affect fish movement or migration. (Less than significant, Class III)	<i>None required</i>	Not applicable	Not applicable	Not applicable
Cultural Resources				
CUL-1: Sand mining activities could potentially result in the inadvertent discovery of archaeological historic-period resources (e.g., shipwrecks) or prehistoric Native American sites. (Significant and unavoidable)	CUL-1: Cease operations and notify California State Lands Commission and Army Corps of Engineers. If an inadvertent discovery is made of items of historic or prehistoric archaeological potential, all work activities shall immediately cease in the area of discovery. Prehistoric archaeological materials might	February 21, 2014	Changing the reporting date for the monitoring/ reporting action for CUL-1 would allow the miners to submit all CSLC annual reporting, including MM	Applicants to provide immediate notification of any inadvertent discovery and evidence that operations have ceased in the immediate area of

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	<p>include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include shipwreck remains, including wood, iron, and steel-hulled ships as well as smaller ferrous materials such as anchors, iron ballast, chain, iron hull fasteners, rigging, and fittings of various types. The Applicants shall take the following actions:</p> <ol style="list-style-type: none"> 1. After cessation of activity, the contractor shall immediately contact the CSLC and ACOE. The contractor shall not resume work in the area of the discovery until authorization is received from the CSLC and the ACOE. 		<p>AIR-2 and CUL-3 at the same time each year, as well as coincide with other agency permit reporting requirements, such as for BCDC.</p>	<p>the discovery. Applicants to provide annual report of all inadvertent discoveries and responses <u>from the previous year by March 31st on an annual basis.</u></p>

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
	<p>2. If CSLC staff determines that an historical or archaeological resource may be present within the project site, the applicants shall retain the services of a qualified archaeologist who meets the Professional Qualifications Standards contained in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. In the case of a shipwreck or other maritime resources, a qualified maritime archaeologist shall be retained. The archaeologist will make an immediate evaluation of the discovery and will advise CSLC staff whether it is a resource of potential scientific/historical/cultural significance. The archaeologist will make a recommendation as to what action, if any, is warranted. Based on this information, CSLC staff may require, if warranted, specific additional measures to be implemented by the</p>			

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	<p>Applicants no more than 48 hours from receipt of the recommendation.</p> <p>3. Measures might include: Preservation in situ of the archaeological resource (avoidance); archaeological data recovery; salvage and conservation of all or part of the resource if reasonably feasible (i.e., shipwreck); or further evaluation. CSLC staff may also require that the Applicants immediately implement a site security program if the resource is at risk from vandalism, looting, or other damaging actions.</p> <p>4. Artifacts found on lands under the jurisdiction of the CSLC are considered the property of the State of California. Any disposition of these artifacts requires the approval of the CSLC.</p> <p>5. The archaeologist shall submit an archaeological resources report to CSLC staff. This report</p>			

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	shall include an evaluation of the historical significance of any discovered archaeological resource, as well as a description of the archaeological and historical research methods employed. ⁷			
CUL-2: Sand mining activities would not disturb or destroy a unique paleontological resource or site or unique geologic feature. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
CUL-3: Sand mining activities could potentially result in the discovery of human remains. (Potentially Significant, Class II)	CUL-3: Cease operations and notify County Coroner. If human remains are discovered during sand mining activities, State Health and Safety Code section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code section 5097.98. If the remains are determined to	February 21, 2014	Changing the reporting date for the monitoring/ reporting action for CUL-1 would allow the miners to submit all CSLC annual reporting, including MM AIR-2 and CUL-3 at the same time each year, as	Same as CUL-1 <u>(as amended)</u>

⁷ CSLC approved a mitigation variance on February 14, 2014 to adjust the submittal timing for the annual report (from January 31 to March 31).

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	<p>be those of a Native American, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American, who, within 48 hours, will recommend what course of action should be taken in dealing with the remains. The Applicants, MLD, and CSLC staff will make all reasonable efforts to develop an agreement for the treatment, with all appropriate dignity, of any human remains and items associated with the remains (State CEQA Guidelines section 15064.5(d).) The agreement would take into consideration the appropriate removal, analysis, custodianship, and final disposition of the human remains and items associated with the remains. If an agreement cannot be reached, then the landowner or authorized representative shall reinter the human remains and associated</p>		<p>well as coincide with other agency permit reporting requirements, such as for BCDC.</p>	

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	items with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. (Pub. Resources Code, § 5097.98, 20 subd. (e).)			
Geology and Soils				
(No impact)	None required.	Not applicable	Not applicable	None required
Hazards and Hazardous Materials				
<p>HAZ-1: The proposed Project includes the routine use of hazardous materials that could create a significant hazard to the public or environment if accidentally spilled or released. (Potentially Significant, Class II)</p>	<p>HAZ-1: Provide a California Nontank Vessel Contingency Plan (CANTVCP) to CSLC.</p> <p>Jerico shall, within three (3) months of certification of this Environmental Impact Report, provide to the CSLC a CANTVCP, reviewed and approved by the California Department of Fish and Game Office of Oil Spill Prevention and Response, demonstrating that adequate measures are in place to prevent and respond to accidental releases of hydraulic fluids, solvents, oils, and residual fluids.</p>	May 21, 2014	<p>The CDFW Office of Spill Prevention and Response determined that a CANTVCP is not required by for the barges used by Jerico for sand mining. The OSPR does require Jerico to maintain a COFR for all vessels currently used by Jerico that are > 300 gross tonnes.</p>	<p>Jerico to provide evidence of CDFG approval of CANTVCP <u>or maintenance of COFR for vessels deemed exempt from this requirement.</u></p>

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	<p><u>Maintenance of a current Certificate of Financial Responsibility (COFR) shall be provided to CSLC for vessels deemed exempt from submitting a CANTVCP/oil spill contingency plan.⁸</u></p>			
Hydrology and Water Quality				
<p>HYD-1: The overflow plume generated during sand mining operations may impact water quality through localized increases in turbidity and suspended solids, through possible increases in associated nutrients, metals, and organic matter, and localized decreases in dissolved oxygen from oxidation of suspended organic material. (Less than significant, Class III)</p>	<p>None required.</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>None required</p>
<p>HYD-2: Sand mining could result in pronounced changes to the hydrodynamics (e.g., current speeds), salinity, sediment</p>	<p>None required</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>None required</p>

⁸ CSLC conditionally approved a mitigation variance May 21, 2014, on the condition that the Applicants maintain a current COFR for vessels exempt from the CANTVCP requirements.

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transport, and/or bottom morphology of the Bay-Delta estuary. Such changes could impact water quality and/or lead to substantial erosion or sedimentation within or beyond the Bay-Delta estuary. (Less than significant, Class III)				
Land Use and Recreation				
LU-1: Sand mining operations, which are industrial in nature, could be incompatible with and therefore disruptive to adjacent or nearby non-industrial land uses (such as residences, schools, hospitals, and other sensitive land uses). (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
LU-2: Sand mining operations would be located within the Bay and Delta waterways and therefore could interfere with water based recreational activities in those water areas, such as recreational fishing (from watercraft) and boating. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required

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<p>LU-3: The extraction of sand from the mining sites could result in depletion of down-current beaches if it interfered with sediment transport mechanisms by which sand is supplied to such down-current areas and replaces material that is continually eroded through ongoing physical processes. (Less than significant, Class III)</p>	<p>None required</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>None required</p>
<p>LU-4: Project inconsistency or conflict with adopted land use plans or policies could result in environmental impacts that the plans and policies were adopted to prevent. (Potentially significant, Class II)</p>	<p>Implement MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, CUL-1, and CUL-3 (as amended).</p>	<p>See Impacts BIO 8 and HAZ-1</p>	<p>See Impacts BIO 8 and HAZ-1</p>	<p>See specific actions for each mitigation measure.</p>
<p>Mineral Resources</p>				
<p>MIN-1: Renewal of sand mining leases for an additional 10 year period would not result in the loss of availability of a known mineral resource of regional or statewide value. (Less than significant, Class III)</p>	<p>None required</p>	<p>Not applicable</p>	<p>Not applicable</p>	<p>None required</p>

Environmental Impact (Significance)	Mitigation Measures	Mitigation Variance (date of approval)	Justification	Monitoring/ Reporting Action
MIN-2: Renewal of sand mining leases for an additional 10-year period would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other use plan. (Less than significant, Class III)	None required	Not applicable	Not applicable	None required
Noise				
(No impact)	None required	Not applicable	Not applicable	None required
Population and Housing				
(No impact)	None required	Not applicable	Not applicable	None required
Public Services				
(No impact)	None required	Not applicable	Not applicable	None required
Transportation				
(No impact)	None required	Not applicable	Not applicable	None required
Utilities and Service Systems				
(No impact)	None required	Not applicable	Not applicable	None required

APPENDIX F2
INCIDENTAL TAKE PERMITS



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HABITAT CONSERVATION
PLANNING BRANCH

California Department of Fish and Wildlife
Bay Delta Region
7329 SILVERADO TRAIL
NAPA, CA 94558

California Endangered Species Act
Incidental Take Permit No. 2081-2013-047-03

SAN FRANCISCO BAY-DELTA ESTUARY SAND MINING BY HANSON MARINE OPERATIONS

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take¹ of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.² CDFW may authorize the take of any such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See Cal. Code Regs., tit. 14, § 783.4).

Permittee: Hanson Marine Operations
Principal Officer: Mike Roth, Vice President
Contact Person: Tina Lau, (925) 244-6584
Mailing Address: 12667 Alcosta Boulevard, Suite 400
San Ramon, CA 94583

Effective Date and Expiration Date of this ITP:

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of this ITP and returned to CDFW's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by CDFW, this ITP's authorization to take the Covered Species shall expire on **December 31, 2023**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 6.6 of this ITP.

¹Pursuant to Fish and Game Code section 86, "Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 (for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "take' ... means to catch, capture or kill").

²The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

Project Location:

The San Francisco Bay-Delta Estuary Sand Mining by Hanson Marine Operations (Project) has sites located in central San Francisco Bay, the Middle Ground Island shoal and Suisun Channel of Suisun Bay within the counties of San Francisco, Marin, Solano, Sacramento, and Contra Costa. The multiple central San Francisco Bay sites are located one to three miles south, southwest, and west of Angel Island (Figure 1). The Middle Ground Island shoal site is located southeast of Ryer Island and west of Middle Ground Island within Suisun Bay (Figure 2). The Suisun Channel site extends from the western end of Chipps Island through the channel and down Broad Slough between Winter Island and Kimball Island (Figure 3).

Project Description:

Hanson Marine Operations (Permittee) proposes to continue commercial hydraulic sand mining operations for the next 10 years in the central San Francisco Bay, Middle Ground Island shoal, and Suisun Channel. This operation provides local marine aggregate for use in highway maintenance and construction, new residential complexes, and commercial and public buildings within the greater San Francisco Bay Area. The use of local aggregate reduces traffic on freeways and the accompanying greenhouse gas emissions by eliminating the reliance on imported sand.

Central San Francisco Bay is a 2,601-acre area consisting of 9 parcels of land spread among four leases from the California State Lands Commission. Most of the sites are one to three miles southwest of Angel Island. Middle Ground Island shoal is a 367-acre area west of Middle Ground Island in Suisun Bay that is mined under a lease with the Grossi family who owns the rights to the area. Suisun Channel is a 938-acre area that is mined under leases with the California State Lands Commission. The site extends from the western end of Chipps Island through the channel and down Broad Slough between Winter Island and Kimball Island. The Permittee is proposing to mine a combined 1,740,000 cubic yards (cy) annually for the next 10 years. Table 1 provides a breakdown of the proposed maximum annual sand volume per lease site.

Table 1: Proposed Annual Permitted Sand Volumes between 2013 and 2022

Location/Lease No.	Permittee Annual Proposed Volume (cy)	Total Acreage
Central Bay Lease areas		
PRC 709.1: Presidio Shoals, Alcatraz, Point Knox Shoals	340,000	
PRC 2036.1: Point Knox South	450,000	
PRC 7779.1: Point Knox Shoal	550,000	
PRC 7780.1: Alcatraz South Shoal	200,000	
Subtotal Central Bay	1,540,000	2,061
Suisun Channel PRC 7781.1: Suisun Bay/Western Delta (Suisun Associates)	150,000 ¹	938
Middle Ground Island Sand Shoals – Grossi Middle Ground (private lease)	50,000	367
TOTAL	1,740,000	3,366

¹ Suisun Associates volume shown is Hanson's 50% share of the Suisun Associates joint venture.

Source: CDFW Incidental Take Permit Application for Sand Mining in San Francisco Bay-Delta Estuary by Hanson Operations (July 2013).

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Sand mining is performed by Hanson with one tugboat (the *San Joaquin River*) and one hopper barge (the *Sand Merchant*) using both the stationary potholing and moving potholing methods of extraction. Stationary potholing involves the tugboat positioning the barge over an appropriate location. When that location depletes, the tugboat will reposition the barge. Moving potholing involves the tugboat actively moving the barge as it is mining. The San Joaquin River tugboat is 64.4 feet long by 26.1 feet wide, and the Sand Merchant is 230 feet long by 55 feet wide.

The sand mining is achieved by means of a drag head that is lowered, using two cable winches, until the drag head is positioned just above the substrate, the centrifugal pump is primed for three to five minutes, and the drag head is lowered into the sand substrate for mining. An 8-inch water intake pipe creates a sand water slurry mixture that is sucked up a 24-inch diameter drag arm to a series of screens where oversized material is collected and discarded overboard. During loading, the water from the sand water slurry is displaced by the sand in the cargo hopper. The water is discharged through overflow pipes on either side at the rear of the cargo hopper that extend below the waterline on the outside of the barge. The bottom of the cargo hopper is also fitted with a hopper dewatering system. The 15,000-gallon per minute drag arm has a minimum operating depth of 20 feet and maximum depth of 90 feet. The barge has a maximum capacity of 2,400 cubic yards.

The volume of water to be diverted during sand mining is 68 acre-feet (af) in Suisun Bay, 23 af in Middle Ground Island Sand Shoals, and 170 af in Central Bay for a total annual diverted volume of 261 af.

The Permittee is proposing the use of a positive barrier fish screen that will be mounted on the suction pipe by a flange to the vent pipe on the drag head in order to exclude juvenile and adult fish from entrainment during sand mining. The fish screen design is based on a variety of factors that include guidance from the CDFW, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. The fish screen is designed to meet a flow rate of 3.8 cubic feet per second (cfs), approach velocity of 0.2 feet per second (fps), and slot velocity of 0.5 fps. When the drag head and fish screen are positioned above the water surface, the screen will be visually inspected following each mining event for evidence of damage to the screen or its mounting. Mining would not occur if the integrity of the fish screen is damaged until repairs or a replacement is completed.

Depending on the mining and offloading locations, the entire operation, including loading, unloading and travel time, can take anywhere from 8 to 24 hours. A typical mining event will last around 10 hours which includes 3 to 6 hours of mining and 4 hours of travel, preparation, and offloading.

Once mining is completed, the barge is taken to a site for offloading. Offloading of material occurs at one of several storage sites throughout the Bay Area (Figure 4). The barge can utilize either dry offloading by conveyor belt or wet offloading using pumps and estuary water.

Because the volume of storage sites is limited, the Permittee is proposing year round mining for the duration of the 10-year permit, and mining events will occur as a result of short-term demand for product.

Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

Name	CESA Status
1. Central Valley Spring-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	Threatened ³
2. Sacramento River Winter-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	Endangered ⁴
3. Delta Smelt (<i>Hypomesus transpacificus</i>)	Endangered ⁵
4. Longfin Smelt (<i>Spirinchus thaleichthys</i>)	Threatened ⁶

These species and only these species are the “Covered Species” for the purposes of this ITP.

Impacts of the Taking on Covered Species:

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of individuals of the Covered Species include hydraulic sand mining and sand offloading (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality (“kill”) may occur as a result of Covered Activities such as increased suspended sediments, contaminants, and toxicity within the overflow plume; reduction in dissolved oxygen levels as a result of suspended sediments; change in habitat quality; entrainment of larval fish in the suction head; and impingement of juvenile and adult fish on the suction head or fish screen. Incidental take of individuals of the Covered Species may also occur from the Covered Activities in the form of pursue, catch, capture, or attempt to do so of the Covered Species from the loss of habitat and disruption of migration.

Winter-run and spring-run Chinook salmon eggs and larvae are not at risk of take in Suisun Bay or Central San Francisco Bay where sand mining is to occur because the adult fish spawn and eggs incubate in tributary habitats upstream of the Delta. The larval salmon remain buried in

³ See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(2)(C).

⁴ See *Id.*, subd. (a)(2)(M).

⁵ See *Id.*, subd. (a)(2)(O).

⁶ See *Id.*, subd. (b)(2)(E).

gravel nests until the young salmon develop and emerge into the surface waters as fry, where they rear in upstream habitats for a period of time before migrating downstream.

Adult Delta smelt and longfin smelt migrate upstream to spawn primarily in the Sacramento River, Cache Slough, and the Sacramento Deep Water Ship Channel. The adhesive eggs of Delta smelt and longfin smelt are typically laid in shallow channel margin habitat and not in the deeper sub-tidal areas where sand mining occurs. Therefore, the eggs would not be at risk of take as a result of sand mining in Suisun Bay or Central San Francisco Bay.

An impact of the Covered Activities would be a result of potential entrainment of larval fish during sand mining at the time periods that larval fish would be located within the Project area. The positive barrier fish screen to be mounted on the suction pipe would be sized to exclude juvenile and adult fish from entrainment during sand mining.

Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts include: potential Covered Species mortality due to displacement from preferred habitat, entrainment of larval fish in the suction head as the fish screen is not sized to protect larval fish, impingement of juvenile and adult fish on the suction head or fish screen, benthic impacts from falling debris, and the potential for impacts from spills of pollutants (oils, gasoline, diesel, lubricants, etc.).

Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species.

Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular ingress and egress, staging and parking, and noise and vibration generating activities that may cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. CEQA Compliance:** Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Environmental

Impact Report (SCH No.: 2007072036) adopted by California State Lands Commission on October 19, 2012 as lead agency for the Project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

3. **ESA Compliance:** Permittee shall implement and adhere to the terms and conditions related to some of the Covered Species in the Nine U.S. Army Corps of Engineers permits for sand mining in the San Francisco Bay-Delta Estuary, California (Biological Opinion No. 151422SWR2005SR00625) and informal consultation on sand mining activities in the Sacramento-San Joaquin Estuary (FWS file no. 1-1-06-I-0255) for the Project pursuant to the federal Endangered Species Act (ESA). For purposes of this ITP, where the terms and conditions for the Covered Species in the federal authorization are less protective of the Covered Species or otherwise conflict with this ITP, the conditions of approval set forth in this ITP shall control.
4. **ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.
5. **General Provisions:**
 - 5.1. **Designated Representative.** Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.
 - 5.2. **Designated Biologist.** Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the San Francisco Bay and Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4) and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.

5.3. Boat Captain. To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.

5.4. Education Program. Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.

5.5. Monitoring Notebook. The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.

5.6. Hazardous Waste. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.

5.7. CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.

6. Monitoring, Notification, and Reporting Provisions:

6.1. Notification before Commencement. The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.

- 6.2. **Notification of Non-compliance.** The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.
- 6.3. **Compliance Monitoring.** The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.
- 6.4. **Quarterly Compliance Report.** The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Offices at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov) and the CDFW Marine Regional Representative is Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.
- 6.5. **Annual Status Report.** Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.
- 6.6. **Final Mitigation Report.** No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final

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Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10-year permitted mining activities; and (9) any other pertinent information.

- 6.7. **Notification of Take or Injury.** Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500 or the Marine Regional Office at (831) 649-2870. The CDFW Bay-Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442, and the CDFW Marine Regional Representative, Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov), telephone number (707) 576-2889, shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.
- 6.8. **CNDDDB Observations.** The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.

7. Take Minimization Measures:

The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

- 7.1. **Smelt Work Period Restriction.** Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at <http://cdec.water.ca.gov/cgi-progs/queryDaily?X2>.

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The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.

7.2. Minimum Priming/Clearing Depth. Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate, before priming of the pump. The same depth restriction holds for clearing of the drag head.

7.3. Location and Sand Volume Limitation. Sand mining shall be restricted to those lease areas specified in Figures 1, 2, and 3. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area.

The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 3 of this ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.

7.4. Water Volume Limitation. The total annual water diversion from sand mining shall be restricted to 261 af. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 261 af is reached.

7.5. Water Depth Limitations. Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet (MLLW) or less or 30 feet (MLLW) or less depending on the location within the estuary.

In the Middle Ground Island shoal and Suisun Channel lease areas, during the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).

7.6. Positive Barrier Fish Screen. Permittee shall install and operate a positive barrier fish screen on the vent pipe of the drag head to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp.

7.7. Positive Barrier Fish Screen Flow Velocity. Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.

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7.8. Positive Barrier Fish Screen Inspection. Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris, and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.

7.9. Equipment Maintenance and Chemical Storage. All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.

8. Habitat Management Land Acquisition and Restoration:

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation for the duration of this permit.

To meet this requirement, the Permittee shall purchase 0.214 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank (refer to Condition of Approval 8.2 below). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

8.1. Cost Estimates. CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows:

The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for 0.214 acres: **\$32,100.00**.

Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in Middle Ground Shoal is 18 af, the volume of water diverted in Suisun Bay is 56 af, and the volume of water diverted in Central Bay is 64 af.

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The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Middle Ground Shoal and Suisun Bay (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 74 af of water diverted, the Covered Activities will result in 0.197 acres of permanent impact to Covered Species per year in Middle Ground Shoal and Suisun Bay.

The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Central Bay (which includes entrainment risk) is based on the calculation used in the Incidental Take Permit issued for longfin smelt for the exports of the SWP. The calculation was developed for the aquatic effect to longfin smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 800 acres (0.000267 acres of habitat per af of water diverted). Based on 64 af of water diverted, the Covered Activities will result in 0.017 acres of permanent impact to Covered Species per year in Central Bay.

The total acreage impacted from Covered Activities as calculated above in Middle Ground Shoal, Suisun Bay, and Central bay is 0.214 acres.

- 8.2. Covered Species Credits. Permittee shall purchase 0.214 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.

9. Performance Security

The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 8.1 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

- 9.1. Security Amount. The Security shall be in the amount of **\$32,100.00**. This amount is based on the cost estimates identified in Condition of Approval 8.1.1 above.
- 9.2. Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.
- 9.3. Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.
- 9.4. Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.

9.5. Security Transmittal. If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.

9.6. Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.

9.7. Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:

- Written documentation of the purchase of Covered Species credits; and
- Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required purchase of Covered Species credits or no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

Stop-Work Order:

CDFW may issue Permittee a written stop-work order requiring Permittee to suspend any Covered Activity for an initial period of up to 25 days to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 25 additional days. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

Compliance with Other Laws:

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

Notices:

The Permittee shall deliver a fully executed duplicate original ITP by registered first class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2013-047-03) in a cover letter and on any other associated documents.

Original cover with attachment(s) to:

Mr. Scott Wilson, Regional Manager
California Department of Fish and Wildlife
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
Telephone (707) 944-5500
Fax (707) 944-5563

Unless Permittee is notified otherwise, CDFW's Regional Representatives for purposes of addressing issues that arise during implementation of this ITP are:

Ms. Crystal Spurr
7329 Silverado Trail
Napa, CA 94558
Telephone (209) 234-3442
Fax (707) 944-5563

And

Mr. Arn Aarreberg
5355 Skylane Boulevard, Suite B
Santa Rosa, CA 95403
Telephone (707) 576-2889
Fax: (707) 576-7132

Compliance with CEQA:

CDFW's issuance of this ITP is subject to CEQA. CDFW is a responsible agency pursuant to CEQA with respect to this ITP because of prior environmental review of the Project by the lead agency, California State Lands Commission. (See generally Pub. Resources Code §§ 21067,

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21069). The lead agency's prior environmental review of the Project is set forth in the San Francisco Bay and Delta Sand Mining Project Environmental Impact Report (EIR) (State Clearinghouse No. 2007072036) dated September 2012 that the California State Lands Commission adopted for the San Francisco Bay and Delta Sand Mining Project on October 19, 2012. At the time the lead agency adopted/certified the EIR and approved the Project it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

This ITP, along with CDFW's related CEQA findings, which are available as a separate document, provide evidence of CDFW's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of this ITP [CEQA Guidelines, § 15096, subd. (f)]. CDFW finds that issuance of this ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, CDFW finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, and that adherence to and implementation of the Conditions of Approval imposed by CDFW through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. CDFW consequently finds that issuance of this ITP will not result in any significant, adverse impacts on the environment.

Findings Pursuant to CESA:

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. [Fish and Game Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subds, (a)-(b), 783.5, subd. (c)(2)].

CDFW finds based on substantial evidence in the ITP application, San Francisco Bay and Delta Sand Mining Project EIR, the results of consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) worker education; (3) establishment of shoreline and shallow water avoidance zones; (4) the installation of a positive fish screen barrier on the drag head; and (5) Quarterly, Annual, and Final Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of 0.214 acres of compensatory habitat that is contiguous with

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other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;

- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and
- (8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

FIGURE 1	Map of Central San Francisco Bay Sites
FIGURE 2	Map of Middle Ground Island Shoal Site
FIGURE 3	Map of Suisun Channel Site
FIGURE 4	Map of Sand Offload Sites
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Letter of Credit Form
ATTACHMENT 3	Mitigation Payment Transmittal Form

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ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

on 4/1/14.

Scott Wilson
Scott Wilson
Regional Manager
Bay Delta Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions.

By: M. I. Roth

Date: July 14, 2014

Printed Name: Mike Roth

Title: VP Region West

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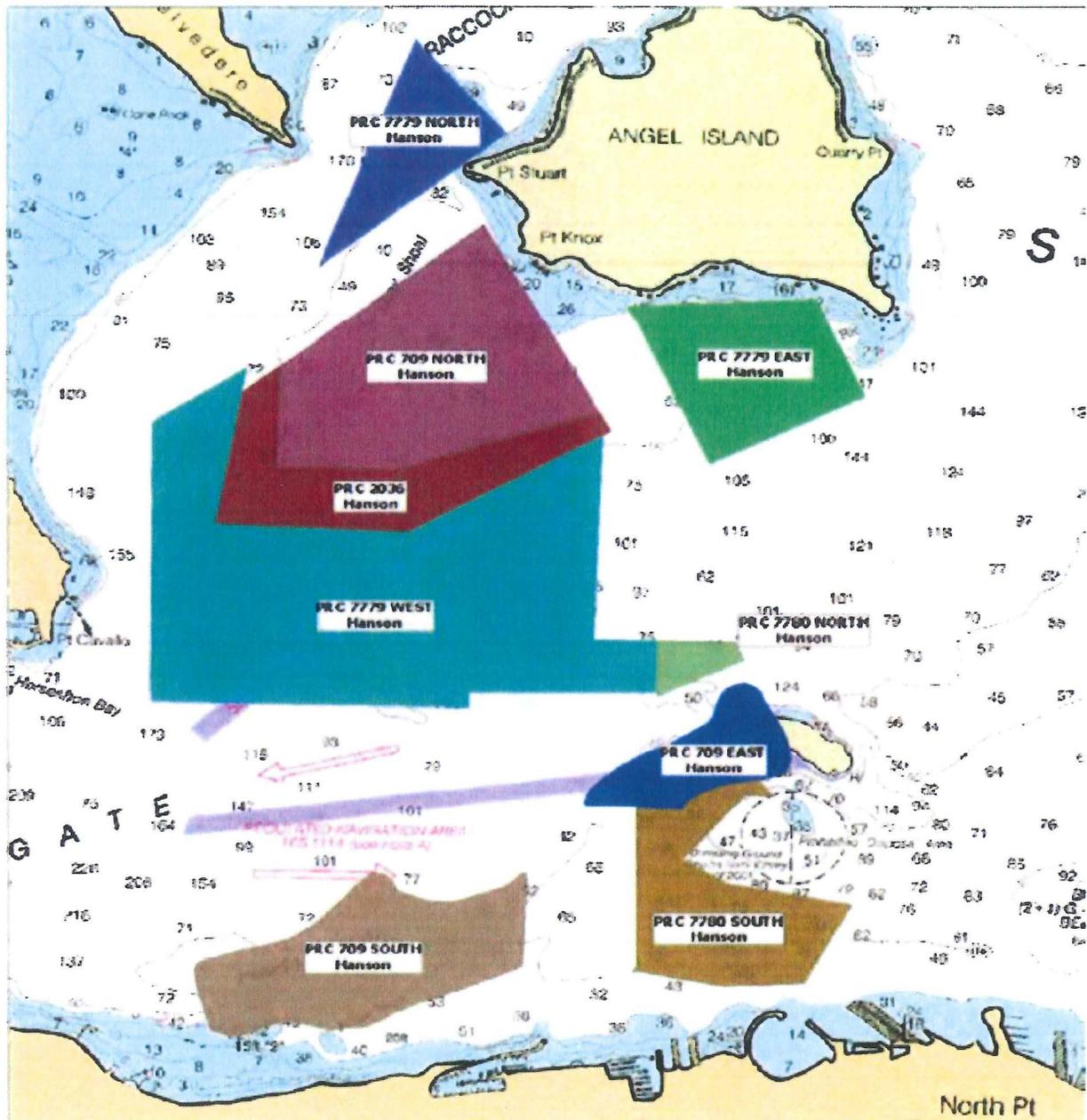


Figure 1: Central San Francisco Bay Sand Mining State Lands Commission Lease Locations

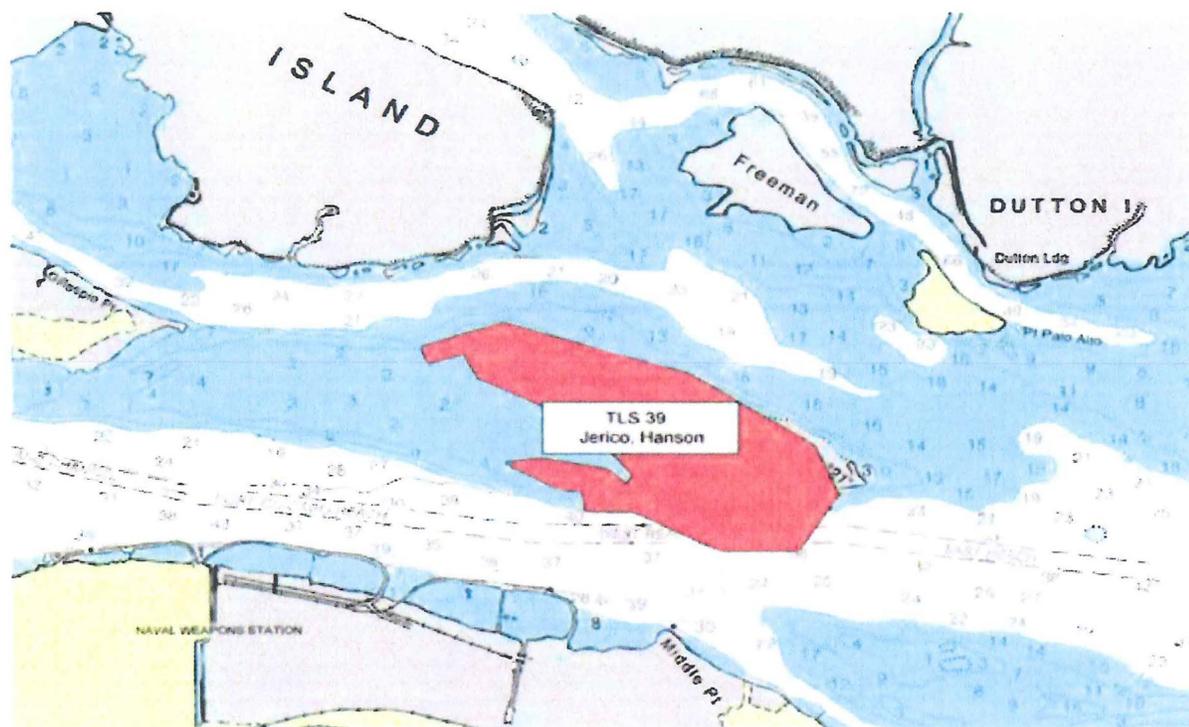


Figure 2: Middle Ground Island Shoal Private Lease Location

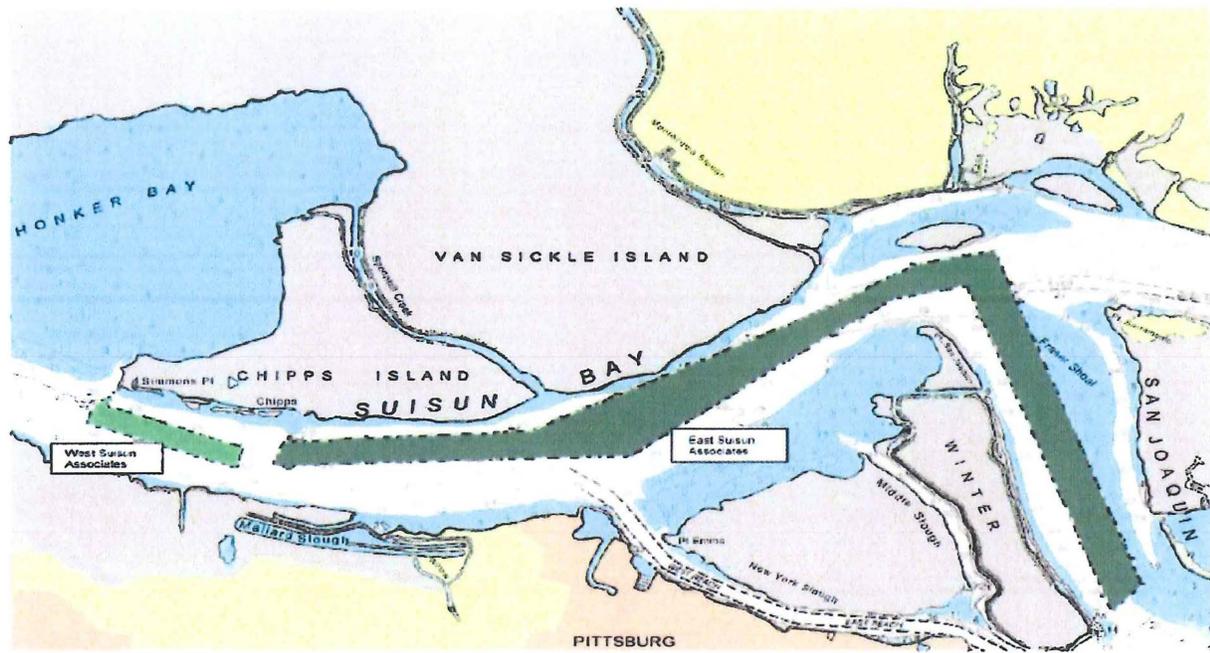


Figure 3: Suisun Channel State Lands Commission Lease Locations

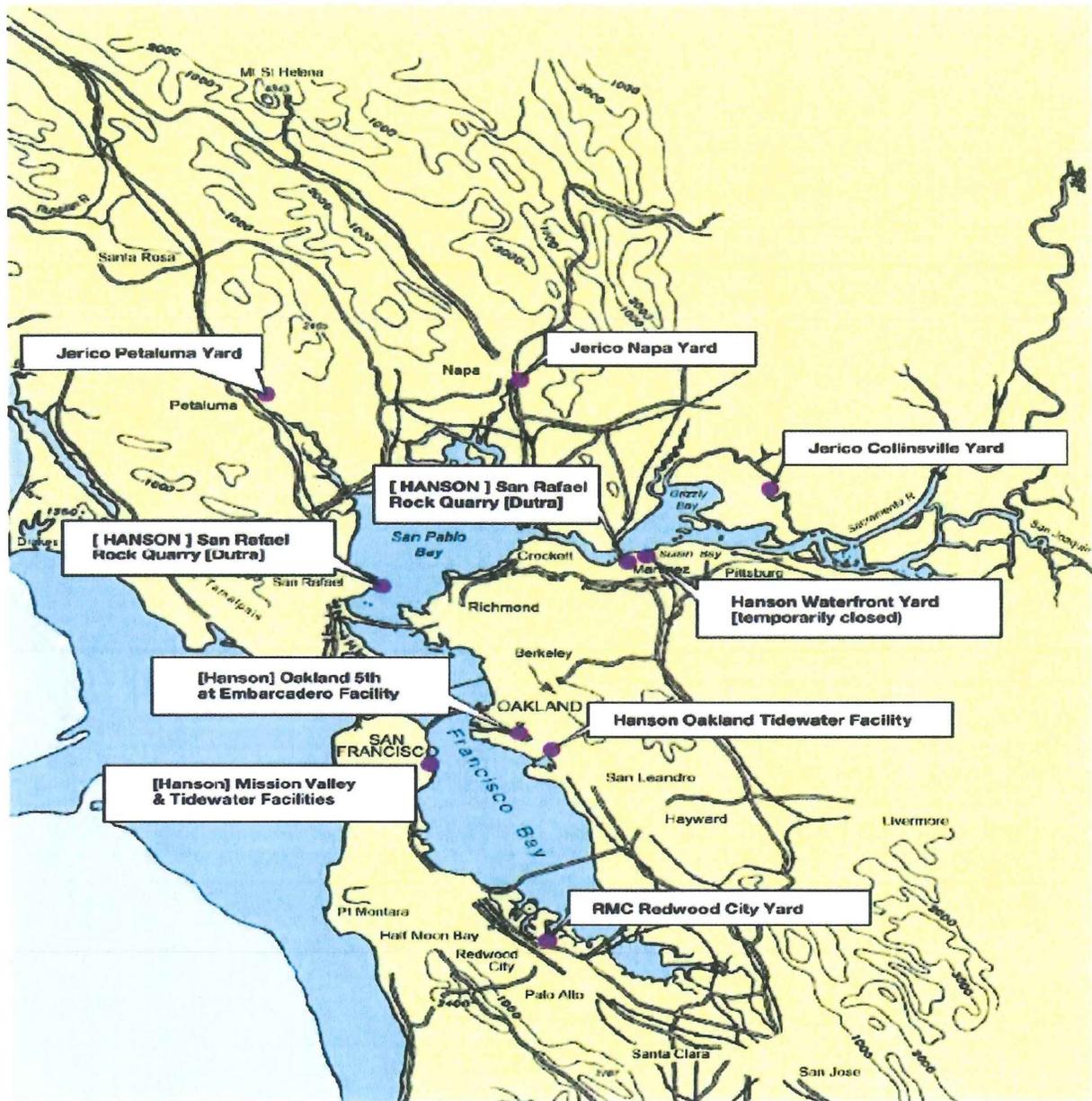


Figure 4: Marine Sand Offload Locations Within the Bay-Delta Estuary

Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2013-047-03

PERMITTEE: Hanson Marine Operations

**PROJECT: San Francisco Bay-Delta Estuary Sand Mining by
Hanson Marine Operations**

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the California Department of Fish and Wildlife (CDFW) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by CDFW is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to CDFW on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

CDFW may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE COMMENCING SAND MINING OPERATIONS					
1	<u>Designated Representative.</u> Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.	ITP Condition # 5.1	Before commencing sand mining activities/Entire Project	Permittee	
2	<u>Designated Biologist.</u> Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the San Francisco Bay and Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4) and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.	ITP Condition # 5.2	Before commencing sand mining activities/Entire Project	Permittee	
3	<u>Education Program.</u> Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.	ITP Condition # 5.4	Before commencing sand mining activities/Entire Project	Permittee	
4	<u>Notification before Commencement.</u> The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 6.1	Before commencing sand mining activities/Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
5	Positive Barrier Fish Screen. Permittee shall install and operate a positive barrier fish screen on the vent pipe of the drag head to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp .	ITP Condition # 7.6	Before commencing sand mining activities/Entire Project	Permittee	
6	Positive Barrier Fish Screen Flow Velocity. Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.	ITP Condition # 7.7	Before commencing sand mining activities/Entire Project	Permittee	
7	<p>Covered Species Credits. Permittee shall purchase 0.214 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.</p> <p>The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for 0.214 acres: \$32,100.00. Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in Middle Ground Shoal is 18 af, the volume of water diverted in Suisun Bay is 56 af, and the volume of water diverted in Central Bay is 64 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Middle Ground Shoal and Suisun Bay (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 74 af of water diverted, the Covered Activities will result in 0.197 acres of permanent impact to Covered Species per year in Middle Ground Shoal and Suisun Bay. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Central Bay (which includes entrainment risk) is based on the calculation used in the Incidental Take Permit issued for longfin smelt for the exports of the SWP. The calculation was developed for the aquatic effect to longfin smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 800 acres (0.000267 acres of habitat per af of water diverted). Based on 64 af of water diverted, the Covered Activities will result in 0.017 acres of permanent impact to Covered Species per year in Central Bay. The total acreage impacted from Covered Activities as calculated above in Middle Ground Shoal, Suisun Bay, and Central bay is 0.214 acres.</p>	ITP Condition # 8.1 and # 8.2	Before commencing sand mining activities (or within 18 months from the issuance of this ITP if security is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
8	<p><u>Security Amount.</u> The Security shall be in the amount of \$32,100.00. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.</p> <p><u>Security Form.</u> The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.</p> <p><u>Security Timeline.</u> The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.</p> <p><u>Security Holder.</u> The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.</p> <p><u>Security Transmittal.</u> If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.</p>	ITP Condition # 9.1, 9.2, 9.3, 9.4, 9.5	Security shall be provided to CDFW before commencing sand mining activities, or within 30 days after the effective date of this ITP, whichever occurs first	Permittee	
9	<p><u>Security Drawing.</u> The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.</p>	ITP Condition # 9.6	Entire Project	Permittee/CDFW	
10	<p><u>Security Release.</u> The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:</p> <ul style="list-style-type: none"> • Written documentation of the purchase of Covered Species credits; and • Timely submission of all required reports. 	ITP Condition # 9.7	Entire Project	CDFW	
DURING SAND MINING OPERATIONS					
11	<p><u>Boat Captain.</u> To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.</p>	ITP Condition # 5.3	Entire Project	Permittee	
12	<p><u>Monitoring Notebook.</u> The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.</p>	ITP Condition # 5.5	Entire Project	Permittee	
13	<p><u>Hazardous Waste.</u> Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.</p>	ITP Condition # 5.6	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
14	CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.	ITP Condition # 5.7	Entire Project	Permittee	
15	Notification of Non-compliance. The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or this MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.	ITP Condition # 6.2	Entire Project	Permittee	
16	Compliance Monitoring. The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.	ITP Condition # 6.3	Monthly for the duration of the project	Permittee	
17	Quarterly Compliance Report. The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of this MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Offices at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov) and the CDFW Marine Regional Representative is Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 6.4	Quarterly for the duration of the project	Permittee	
18	Annual Status Report. Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in this MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.	ITP Condition # 6.5	Annually, due no later than January 31 each year, for the duration of the project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
19	Notification of Take or Injury. Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500 or the Marine Regional Office at (831) 649-2870. The CDFW Bay Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442, and the CDFW Marine Regional Representative, Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov), telephone number (707) 576-2889, shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and this ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 6.7	Entire Project	Permittee	
20	CNDDDB Observations. The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 6.8	Entire Project	Permittee	
21	Smelt Work Period Restriction. Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at http://cdec.water.ca.gov/cgi-progs/queryDaily?X2 . The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.	ITP Condition # 7.1	Entire Project	Permittee / CDFW	
22	Minimum Priming/Clearing Depth. Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate, before priming of the pump. The same depth restriction holds for clearing of the drag head.	ITP Condition # 7.2	Entire Project	Permittee	
23	Location and Sand Volume Limitation. Sand mining shall be restricted to those lease areas specified in Figures 1, 2, and 3. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area. The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 3 of the ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.	ITP Condition # 7.3	Entire Project	Permittee	
24	Water Volume Limitation. The total annual water diversion from sand mining shall be restricted to 261 af. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 261 af is reached.	ITP Condition # 7.4	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
25	<p>Water Depth Limitations. Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet (MLLW) or less or 30 feet (MLLW) or less depending on the location within the estuary.</p> <p>In the Middle Ground Island shoal and Suisun Channel lease areas, during the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).</p>	ITP Condition # 7.5	Entire Project	Permittee	
26	<p>Positive Barrier Fish Screen Inspection. Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris, and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.</p>	ITP Condition # 7.8	Entire Project	Permittee	
27	<p>Equipment Maintenance and Chemical Storage. All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.</p>	ITP Condition # 7.9	Entire Project	Permittee	
POST-SAND MINING OPERATIONS					
28	<p>Final Mitigation Report. No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in this MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10-year permitted mining activities; and (9) any other pertinent information.</p>	ITP Condition # 6.16	Within 45 days after completion of all mitigation measures for the final year of the 10-year permit	Permittee	

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
BAY DELTA REGION
7329 SILVERADO TRAIL
NAPA, CA 94558

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HABITAT CONSERVATION
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AMENDMENT NO. 1
(A Major Amendment)
California Endangered Species Act
Incidental Take Permit No. 2081-2013-047-03
Hanson Marine Operations
San Francisco Bay-Delta Estuary Sand Mining
San Francisco, Marin, Solano, Sacramento, and Contra Costa Counties

INTRODUCTION

On April 1, 2014, the California Department of Fish and Wildlife (CDFW) issued Incidental Take Permit No. 2081-2013-047-03 (ITP) to Hanson Marine Operations (Permittee) authorizing take of Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento River winter-run Chinook salmon (*O. tshawytscha*), Delta smelt (*Hypomesus transpacificus*), and longfin smelt (*Spirinchus thaleichthys*) (collectively, the Covered Species) associated with and incidental to the Commercial Sand Mining within the San Francisco Bay-Delta Estuary in San Francisco, Marin, Solano, Sacramento, and Contra Costa Counties, California (Project). The Project as described in the ITP originally issued by CDFW includes continuation of commercial hydraulic sand mining operations for the next 10 years to provide local marine aggregate for use in highway maintenance and construction, new residential complexes, and commercial and public buildings within the greater San Francisco Bay area. In issuing the ITP, CDFW found, among other things, that Permittee's compliance with the Conditions of Approval of the ITP would fully mitigate impacts to the Covered Species and would not jeopardize the continued existence of the Covered Species.

CDFW received the Permittee's request to amend the ITP on July 21, 2014. The ITP minimization measure 7.1 (smelt work period restriction) restricts sand mining activities upstream of the X2 location from December 1 through June 30, the spawning season of Delta smelt and longfin smelt. According to Permittee, the work period restriction measure is inconsistent with sustainable mining practices, creates uncertainty and disruption in the market for aggregate, and substantially impairs sand mining in the restricted areas, making difficult the ability of Permittee to achieve its mining objectives in the restricted areas. In addition, the existing ITP Conditions 7.4 (water volume limitation) and 7.5 (water depth limitations) help to avoid and minimize take of larval smelt.

The Permittee requests changes to ITP Condition 7.1 to allow sand mining upstream of the X2 location from December 1 through June 30, and instead restrict and reduce the mining activity and sand mining volumes in Middle Ground Shoal and Suisun Bay in order to avoid and minimize potential losses of larval smelt. The Permittee also requests a change to ITP Condition 8.2 to increase compensatory habitat mitigation to cover any incidental take of larval smelt that cannot be avoided through the ITP minimization and avoidance measures.

Rev. 2013.1.1

The requested changes will result in the need for changes to other conditions in Section 8 and Section 9 of the ITP, as well as the ITP Mitigation Monitoring and Reporting Program (MMRP).

This Major Amendment No. 1 (Amendment) increases the overall allowable take authorization and makes the following changes to the existing ITP:

First, this Amendment makes changes to the smelt work period restrictions (Condition 7.1), limiting the sand mining volume and depth during December 1 through June 30 of each year in the Middle Ground Shoal and Suisun Bay areas.

Second, this Amendment adds to the compensatory habitat mitigation (Section 8 of the ITP) an additional 0.207 acres of Covered species credits in order to mitigate for potential entrainment and mortality of larval Delta smelt and longfin smelt due to mining activities upstream of the X2 location.

Third, this Amendment makes additional changes to ITP Section 8 (Habitat Management Land Acquisition and Restoration), including changes to Conditions 8.1 and 8.2, Condition 9.1, and the MMRP, as a result of the first two changes.

AMENDMENT

The ITP is amended as follows (amended language in ***bold italics***; deleted language in ~~strikethrough~~):

1. Minimization Measure 7.1 on page 9 of the ITP shall be amended to read:

7.1. Smelt Work Period Restriction. Sand mining volumes in the Middle Ground Shoal and Suisun Bay lease areas combined shall be restricted to a total of 54,000 cubic yards (cy) from December 1 through June 30 of each year. In addition, depth restrictions will also be applied from December 1 through June 30 such that no mining will occur in depths shallower than -25 ft MLLW. ~~Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at <http://cdec.water.ca.gov/cgi-progs/queryDaily?X2>. The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.~~

Major Amendment No. 1
Incidental Take Permit 2081-2013-047-03
HANSON MARINE OPERATIONS
SAN FRANCISCO BAY-DELTA ESTUARY SAND MINING

2. Section 8, Habitat Management Land Acquisition and Restoration, on pages 11 and 12 of the ITP (including Conditions 8.1 and 8.2), shall be amended to read:

8. Habitat Management Land Acquisition and Restoration:

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation for the duration of this permit.

To meet this requirement, the Permittee shall purchase ~~0.421~~ 0.214 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank (refer to Condition of Approval 8.2 below). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

8.1. Cost Estimates. CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows:

The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for ~~0.421~~ 0.214 acres: ~~\$63,150.00~~ \$32,100.00.

Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in Middle Ground Shoal *and Suisun Bay is 69 af.* ~~48 af, the volume of water diverted in Suisun Bay is 56 af, and the volume of water diverted in Central Bay is 64 af.~~

The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Middle Ground Shoal and Suisun Bay (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres

(0.00267 acres of habitat per af of water diverted). Based on 74 af of water diverted, the Covered Activities will result in 0.197 acres of permanent impact to Covered Species per year in Middle Ground Shoal and Suisun Bay. **The five California water year classifications established by the Department of Water Resources (DWR) to reflect Central Valley hydrologic conditions each year (wet, above normal, below normal, dry, and critically dry) were used to represent general trends in X2 location during the later winter and spring months each year. The frequency of occurrence of each water year type was assumed to be 20 percent. A weighting factor was used to represent variation in the potential risk of larval smelt entrainment during sand mining with the greatest weighting (5) being given to years when hydrologic conditions were wet and X2 located further downstream near Middle Ground Shoal and Suisun Bay where the risk of larval smelt entrainment is higher. The lowest weighting factor (1) was given to below normal, dry, and critically dry water years when X2 is located further upstream and sand mining would occur downstream in areas that have elevated salinity where the density of larval smelt (and risk of entrainment) would be reduced. Results of the mitigation estimates based on the water-year type framework for sand mining in Middle Ground Shoal and Suisun Bay by Permittee are summarized in the table below. The total mitigation obligation for Permittee in Middle Ground Shoal and Suisun Bay increases from 0.197 acres in the existing ITP to 0.404 acres over the term of the ITP, an increase of 0.207 acres.**

<i>Impacts in Middle Ground Shoal and Suisun Bay</i>					
<i>Water Year Type</i>	<i>Volume AF</i>	<i>Mitigation Ratio/AF</i>	<i>Weighting Factor</i>	<i>Frequency Occurrence</i>	<i>Mitigation Acres</i>
<i>Wet</i>	69	0.0026667	5	0.2	0.184
<i>Above Normal</i>	69	0.0026667	3	0.2	0.110
<i>Below Normal</i>	69	0.0026667	1	0.2	0.037
<i>Dry</i>	69	0.0026667	1	0.2	0.037
<i>Critical</i>	69	0.0026667	1	0.2	0.037
				<i>Total</i>	0.404

For the purposes of calculating mitigation in Central Bay, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in the Central Bay is 64 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Central Bay (which includes entrainment risk) is based on the calculation used in the Incidental Take Permit issued for longfin smelt for the exports of the SWP. The calculation was developed for the aquatic effect to longfin smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat

obligation of 800 acres (0.000267 acres of habitat per af of water diverted). Based on 64 af of water diverted, the Covered Activities will result in 0.017 acres of permanent impact to Covered Species per year in Central Bay.

The total acreage impacted from Covered Activities as calculated above in Middle Ground Shoal and Suisun Bay (0.404 acres), and Central Bay (0.017 acres) is **0.421** ~~0.214~~ acres.

8.2. Covered Species Credits. Permittee shall purchase **0.421** ~~0.214~~ acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.

3. Condition 9.1 on page 12 of the ITP shall be amended to read:

9.1. Security Amount. The Security shall be in the amount of **63,150.00** ~~\$32,100.00~~. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.

4. The MMRP shall be amended to reflect the above changes (an amended MMRP is attached to this Amendment No.1).

All terms and conditions of the ITP and MMRP that are not expressly amended herein remain in effect and must be implemented and adhered to by the Permittee.

FINDINGS

Issuance of this Amendment will increase the amount of take of larval Delta smelt and longfin smelt compared to the Project as originally approved; however, by implementing restrictions on the volume of sand mining, sand mining depth, and increased Covered Species credit purchase, it is not expected that this Amendment will increase Project impacts on these species (i.e., "impacts of taking" as used in Fish and Game Code Section 2081, subd. (b)(2)).

Discussion: This Amendment reflects a change in the number of larval smelt which will be impacted by Project activities due to sand mining in the area upstream of X2 during Delta smelt and longfin smelt spawning season. Avoidance and minimization measures, such as restrictions on the volume and depth of sand that can be mined will be implemented to reduce incidental take as much as possible. Additional acreage of Covered Species credits will be purchased to fully mitigate for potential entrainment and mortality of larval Delta smelt and longfin smelt. This Amendment will not increase other Project impacts on these species because, in all other respects, the types of activities authorized by the ITP remain unchanged.

Issuance of this Amendment does not affect CDFW's previous determination that issuance of the ITP meets and is otherwise consistent with the permitting criteria set forth in Fish and Game Code section 2081, subdivisions (b) and (c).

Discussion: CDFW determined in April, 2014 that the Project, as approved, met the standards for issuance of an ITP under CESA. This determination included findings that, among other things, the impacts of the taking would be minimized and fully mitigated and that the Project would not jeopardize the continued existence of the Covered Species. Those findings are unchanged with respect to this Amendment because the Project and ITP as amended: (1) will have no effect on the severity of Project impacts on the Covered Species, as discussed above, and (2) does not substantively alter the measures that will be undertaken to minimize and mitigate previously authorized impacts on the Covered Species. Permittee's continued adherence to and implementation of the avoidance and minimization measures set forth in the ITP's Conditions of Approval and MMRP will minimize and fully mitigate impacts of the taking on the Covered Species.

None of the factors that would trigger the need for subsequent or supplemental environmental analysis of the Project under Public Resources Code section 21166 or California Code of Regulations, title 4, sections 15162 and 15163, exist as a result of this Amendment.

Discussion: CDFW issued the ITP in April, 2014 as a responsible agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) after, among other things, considering the San Francisco Bay and Delta Sand Mining Project Environmental Impact Report (EIR), State Clearinghouse No. 2007072036, dated September 2012 that the California State Lands Commission as the lead agency for the Project adopted on October 19, 2013. As explained in the findings below, CDFW finds for purposes of CESA that this Amendment represents a major change in the Project as originally approved. However, for the reasons explained above, CDFW concludes this Amendment is not a change in the Project that has the potential to create a new significant effect not previously analyzed, a substantial change in the circumstances under which the Project is being undertaken requiring major revisions to previous CEQA documents, or new information of substantial importance. As a result CDFW finds that no additional subsequent or supplemental environmental review is required by CEQA as part of CDFW's approval of this Amendment.

CDFW finds that this Amendment is a Major Amendment, as defined in California Code of Regulations, title 14, section 783.6, subdivision (c)(5).

Discussion: This Amendment allows an increase in the amount of authorized take of larval smelt, constituting a significant change in the scope of the Project. As described above, these changes will allow restricted sand mining upstream of X2 where larval Delta smelt and longfin smelt are more likely to be present in Middle Ground Shoal and Suisun Bay.

However, by implementing avoidance and minimization measures, and purchasing additional credits, it is not expected that this Amendment will increase Project impacts on these species over the long term. Therefore, this Amendment will significantly modify the scope or nature of the permitted Project or activity, or the minimization, mitigation, or monitoring measures in the ITP. CDFW has determined that the change to the ITP constitutes a Major Amendment as defined in California Code of Regulations, title 14, section 783.6, subdivision (c)(5).

The authorization provided by this Amendment is not valid until Permittee signs and dates the acknowledgement below, and returns one of the duplicate originals of this Amendment by registered first class mail to CDFW at:

California Department of Fish and Wildlife
Habitat Conservation Planning Branch
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, California 95814

ATTACHMENT 1: Amended Mitigation Monitoring and Reporting Program (MMRP)

APPROVED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

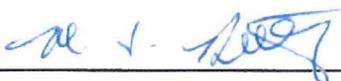
on October 14, 2014.



Scott Wilson
Regional Manager
Bay Delta Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of the original ITP and this Amendment, and (3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP as amended.

By: 

Date: October 28, 2014

Printed Name: Mike Roth

Title: VP Region West

Major Amendment No. 1
Incidental Take Permit 2081-2013-047-03
HANSON MARINE OPERATIONS
SAN FRANCISCO BAY-DELTA ESTUARY SAND MINING

Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2013-047-03

PERMITTEE: Hanson Marine Operations

PROJECT: San Francisco Bay-Delta Estuary Sand Mining by
Hanson Marine Operations

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the California Department of Fish and Wildlife (CDFW) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by CDFW is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to CDFW on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

CDFW may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE COMMENCING SAND MINING OPERATIONS					
1	<u>Designated Representative.</u> Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.	ITP Condition # 5.1	Before commencing sand mining activities/Entire Project	Permittee	
2	<u>Designated Biologist.</u> Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the San Francisco Bay and Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4) and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.	ITP Condition # 5.2	Before commencing sand mining activities/Entire Project	Permittee	
3	<u>Education Program.</u> Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.	ITP Condition # 5.4	Before commencing sand mining activities/Entire Project	Permittee	
4	<u>Notification before Commencement.</u> The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 6.1	Before commencing sand mining activities/Entire Project	Permittee	
5	<u>Positive Barrier Fish Screen.</u> Permittee shall install and operate a positive barrier fish screen on the vent pipe of the drag head to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp .	ITP Condition # 7.6	Before commencing sand mining activities/Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
6	<p>Positive Barrier Fish Screen Flow Velocity. Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.</p>	ITP Condition # 7.7	Before commencing sand mining activities/Entire Project	Permittee	
7	<p>Covered Species Credits. Permittee shall purchase 0.421 0.214 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.</p> <p>The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for 0.421 0.214 acres: \$63,150.00 \$32,100.00. Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in Middle Ground Shoal and Suisun Bay is 69 af. is 18 af, the volume of water diverted in Suisun Bay is 56 af, and the volume of water diverted in Central Bay is 64 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Middle Ground Shoal and Suisun Bay (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 74 af of water diverted, the Covered Activities will result in 0.197 acres of permanent impact to Covered Species per year in Middle Ground Shoal and Suisun Bay. The five California water year classifications established by the Department of Water Resources (DWR) to reflect Central Valley hydrologic conditions each year (wet, above normal, below normal, dry, and critically dry) were used to represent general trends in X2 location during the later winter and spring months each year. The frequency of occurrence of each water year type was assumed to be 20 percent. A weighting factor was used to represent variation in the potential risk of larval smelt entrainment during sand mining with the greatest weighting (5) being given to years when hydrologic conditions were wet and X2 located further downstream near Middle Ground Shoal and Suisun Bay where the risk of larval smelt entrainment is higher. The lowest weighting factor (1) was given to below normal, dry, and critically dry water years when X2 is located further upstream and sand mining would occur downstream in areas that have elevated salinity where the density of larval smelt (and risk of entrainment) would be reduced. Results of the mitigation estimates based on the water-year type framework for sand mining in Middle Ground Shoal and Suisun Bay by Permittee are summarized in the table below. The total mitigation obligation for Permittee in Middle Ground Shoal and Suisun Bay increases from 0.197 acres in the existing ITP to 0.404 acres over the term of the ITP, an increase of 0.207 acres.</p>	ITP Condition # 8.1 and # 8.2	Before commencing sand mining activities (or within 18 months from the issuance of this ITP if security is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
7 cont.	<p><i>Continued...</i></p> <p>For the purposes of calculating mitigation in Central Bay, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present in the Central Bay is 64 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities in Central Bay (which includes entrainment risk) is based on the calculation used in the Incidental Take Permit issued for longfin smelt for the exports of the SWP. The calculation was developed for the aquatic effect to longfin smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 800 acres (0.000267 acres of habitat per af of water diverted). Based on 64 af of water diverted, the Covered Activities will result in 0.017 acres of permanent impact to Covered Species per year in Central Bay.</p> <p>The total acreage impacted from Covered Activities as calculated above in Middle Ground Shoal and Suisun Bay (0.404 acres), and Central Bay (0.017 acres) is 0.421 0.214 acres.</p>				
8	<p>Security Amount. The Security shall be in the amount of \$63,150.00 \$32,100.00. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.</p> <p>Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.</p> <p>Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.</p> <p>Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.</p> <p>Security Transmittal. If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.</p>	ITP Condition # 9.1, 9.2, 9.3, 9.4, 9.5	Security shall be provided to CDFW before commencing sand mining activities, or within 30 days after the effective date of this ITP, whichever occurs first	Permittee	
9	<p>Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.</p>	ITP Condition # 9.6	Entire Project	Permittee/CDFW	
10	<p>Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:</p> <ul style="list-style-type: none"> • Written documentation of the purchase of Covered Species credits; and • Timely submission of all required reports. 	ITP Condition # 9.7	Entire Project	CDFW	
DURING SAND MINING OPERATIONS					
11	<p>Boat Captain. To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.</p>	ITP Condition # 5.3	Entire Project	Permittee	
12	<p>Monitoring Notebook. The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.</p>	ITP Condition # 5.5	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
13	<u>Hazardous Waste</u> . Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.	ITP Condition # 5.6	Entire Project	Permittee	
14	<u>CDFW Access</u> . Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.	ITP Condition # 5.7	Entire Project	Permittee	
15	<u>Notification of Non-compliance</u> . The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or this MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.	ITP Condition # 6.2	Entire Project	Permittee	
16	<u>Compliance Monitoring</u> . The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.	ITP Condition # 6.3	Monthly for the duration of the project	Permittee	
17	<u>Quarterly Compliance Report</u> . The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of this MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Offices at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov) and the CDFW Marine Regional Representative is Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 6.4	Quarterly for the duration of the project	Permittee	
18	<u>Annual Status Report</u> . Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in this MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.	ITP Condition # 6.5	Annually, due no later than January 31 each year, for the duration of the project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
19	Notification of Take or Injury. Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500 or the Marine Regional Office at (831) 649-2870. The CDFW Bay Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442, and the CDFW Marine Regional Representative, Mr. Arn Aarreberg (arn.aarreberg@wildlife.ca.gov), telephone number (707) 576-2889, shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and this ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 6.7	Entire Project	Permittee	
20	CNDDDB Observations. The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 6.8	Entire Project	Permittee	
21	Smelt Work Period Restriction. <i>Sand mining volumes in the Middle Ground Shoal and Suisun Bay lease areas combined shall be restricted to a total of 54,000 cubic yards (cy) from December 1 through June 30 of each year. In addition, depth restrictions will also be applied from December 1 through June 30 such that no mining will occur in depths shallower than -25 ft MLLW.</i> Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at http://cdec.water.ca.gov/cgi-progs/queryDaily?X2 . The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.	ITP Condition # 7.1	Entire Project	Permittee / CDFW	
22	Minimum Priming/Clearing Depth. Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate, before priming of the pump. The same depth restriction holds for clearing of the drag head.	ITP Condition # 7.2	Entire Project	Permittee	
23	Location and Sand Volume Limitation. Sand mining shall be restricted to those lease areas specified in Figures 1, 2, and 3. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area. The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 3 of the ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.	ITP Condition # 7.3	Entire Project	Permittee	
24	Water Volume Limitation. The total annual water diversion from sand mining shall be restricted to 261 af. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 261 af is reached.	ITP Condition # 7.4	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
25	<p><u>Water Depth Limitations.</u> Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet (MLLW) or less or 30 feet (MLLW) or less depending on the location within the estuary.</p> <p>In the Middle Ground Island shoal and Suisun Channel lease areas, during the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).</p>	ITP Condition # 7.5	Entire Project	Permittee	
26	<p><u>Positive Barrier Fish Screen Inspection.</u> Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris, and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.</p>	ITP Condition # 7.8	Entire Project	Permittee	
27	<p><u>Equipment Maintenance and Chemical Storage.</u> All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.</p>	ITP Condition # 7.9	Entire Project	Permittee	
POST-SAND MINING OPERATIONS					
28	<p><u>Final Mitigation Report.</u> No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in this MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10-year permitted mining activities; and (9) any other pertinent information.</p>	ITP Condition # 6.16	Within 45 days after completion of all mitigation measures for the final year of the 10-year permit	Permittee	



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HABITAT CONSERVATION
PLANNING BRANCH

California Department of Fish and Wildlife
Bay Delta Region
7329 SILVERADO TRAIL
NAPA, CA 94558

California Endangered Species Act
Incidental Take Permit No. 2081-2012-012-03

COMMERCIAL SAND MINING BY JERICO PRODUCTS, INC.
WITHIN MIDDLE GROUND SHOAL AND SUISUN BAY

Authority: This California Endangered Species Act (CESA) Incidental Take Permit (ITP) is issued by the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code section 2081, subdivisions (b) and (c), and California Code of Regulations, Title 14, section 783.0 et seq. CESA prohibits the take¹ of any species of wildlife designated by the California Fish and Game Commission as an endangered, threatened, or candidate species.² CDFW may authorize the take of any such species by permit if the conditions set forth in Fish and Game Code section 2081, subdivisions (b) and (c) are met. (See Cal. Code Regs., tit. 14, § 783.4).

Permittee:	Jerico Products, Inc.
Principal Officer:	William H. Butler, Vice President
Contact Person:	William H. Butler, Vice President
Mailing Address:	100 East D Street Petaluma, CA 94952

Effective Date and Expiration Date of this ITP:

This ITP shall be executed in duplicate original form and shall become effective once a duplicate original is acknowledged by signature of the Permittee on the last page of this ITP and returned to CDFW's Habitat Conservation Planning Branch at the address listed in the Notices section of this ITP. Unless renewed by CDFW, this ITP's authorization to take the Covered Species shall expire on **December 31, 2023**.

Notwithstanding the expiration date on the take authorization provided by this ITP, Permittee's obligations pursuant to this ITP do not end until CDFW accepts as complete the Permittee's Final Mitigation Report required by Condition of Approval 6.6 of this ITP.

¹Pursuant to Fish and Game Code section 86, "Take' means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." See also *Environmental Protection Information Center v. California Department of Forestry and Fire Protection* (2008) 44 Cal.4th 459, 507 (for purposes of incidental take permitting under Fish and Game Code section 2081, subdivision (b), "take' ... means to catch, capture or kill").

²The definition of an endangered, threatened, and candidate species for purposes of CESA are found in Fish and Game Code sections 2062, 2067, and 2068, respectively.

Project Location:

The Commercial Sand Mining by Jerico Products, Inc. Within the Middle Ground Shoal and Suisun Bay (Project) has sites located in the Middle Ground Island Shoal and Suisun Channel of Suisun Bay within the counties of Solano, Sacramento, and Contra Costa. The Middle Ground Island Shoal site is located southeast of Ryer Island and west of Middle Ground Island within Suisun Bay (Figure 1). The Suisun Channel site extends from the western end of Chipps Island through the channel and down Broad Slough between Winter Island and Kimball Island (Figure 2).

Project Description:

Jerico Products, Inc. (Permittee) proposes to continue commercial hydraulic sand mining operations for the next 10 years in the Middle Ground Island Shoal and Suisun Channel. This operation provides local marine aggregate for use in highway maintenance and construction, new residential complexes, and commercial and public buildings within the greater San Francisco Bay Area. The use of local aggregate reduces traffic on freeways and the accompanying greenhouse gas emissions by eliminating the reliance on imported sand.

Middle Ground Island shoal is a 367-acre area west of Middle Ground Island in Suisun Bay that is mined under a lease with the Grossi family who owns the rights to the area. Suisun Channel is a 938-acre area that is mined under leases with the California State Lands Commission. The site extends from the western end of Chipps Island through the channel and down Broad Slough between Winter Island and Kimball Island. The Permittee is proposing to mine a combined 300,000 cubic yards (cy) annually for the next 10 years. Table 1 provides a breakdown of the proposed maximum annual volume per lease site.

Table 1: Proposed Annual Permitted Volumes between 2013 and 2022

Location/Lease No.	Permittee Annual Proposed Volume (cy)	Total Acreage
Suisun Channel PRC 7781.1: Suisun Bay/Western Delta (Suisun Associates)	150,000 ¹	938
Middle Ground Island Sand Shoals – Grossi Middle Ground (private lease)	150,000	367
TOTAL	300,000	1,305

¹ Suisun Associates volume shown is Jerico’s 50% share of the Suisun Associates joint venture. Source: CDFW Incidental Take Permit Application for Sand Mining by Jerico Products, Inc. within Middle Ground Shoal and Suisun Bay.

Sand mining is performed by Permittee with one tugboat (either the *Trig Lind* or the *Petaluma*) and one hopper barge (the *J5200*) using the stationary potholing method of extraction. Stationary potholing involves the tugboat positioning the barge over an appropriate location. When that location depletes, the tugboat will reposition the barge. Extraction is halted while the barge is being repositioned. The J5200 hopper barge is 200 feet long by 45 feet wide.

The sand mining is achieved by means of a 14-inch diameter, 40-foot-long suction pipe that is lowered into the water using a cable winch system, and then into the sand substrate. There are water intake pipes located above the suction pipe that will be used to create sand slurry.

Following a 3-5 minute priming period, the suction pipe creates a sand slurry mixture that is pumped through a 14-inch diameter pipe onto a flume equipped with loading gates that allow the barge to fill. The bulk of the water pumped onto the barge overflows through mesh screens above the water line of the barge and allowed to run back into the bay or channel as the sand settles out of the slurry mixture. The 5,000-gallon per minute suction pipe has a minimum operating depth of 15 feet and maximum depth of 40 feet. The barge has a maximum capacity of 1,850 cubic yards.

The volume of water to be diverted during sand mining is 16 acre feet (af) in Suisun Bay, and 16 af in Middle Ground Island Sand Shoals for a total annual diverted volume of 32 af.

Permittee is proposing the use of a positive barrier fish screen that will be mounted on the small external suction vent pipes that pull water into the suction pipe to help create the sand-water slurry when the suction pipe is buried in the substrate. The fish screen design is based on a variety of factors that include guidance from the CDFW, National Marine Fisheries Service, and U.S. Fish and Wildlife Service to be effective in excluding juvenile and adult fish from entrainment during sand mining. The fish screen is designed to meet a flow rate of 3.8 cubic feet per second (cfs), approach velocity of 0.2 feet per second (fps), and slot velocity of 0.5 fps. When the suction pipes and fish screen are positioned above the surface, the screen will be visually inspected following each mining event for evidence of damage to the screen or its mounting. Mining would not occur if the integrity of the fish screen is damaged until repairs or a replacement is completed.

Depending on the mining and offloading locations, the entire operation, including loading, unloading and travel time, can take anywhere from 8 to 24 hours. A typical mining event will last around 10 hours which includes 3 to 6 hours of mining and 4 hours of travel, preparation, and offloading.

Once mining is completed, the barge is taken to a site for offloading. Offloading of material occurs at one of several storage sites throughout the Bay Area (Figure 3). The barge can utilize either dry offloading by conveyor belt or wet offloading using pumps and estuary water.

Because the volume of storage sites is limited, the Permittee is proposing year round mining for the duration of the 10-year permit, and mining events will occur as a result of short-term demand for product.

Incidental Take Permit
No. 2081-2012-012-03
JERICO PRODUCTS, INC.

COMMERCIAL SAND MINING BY JERICO PRODUCTS, INC. WITHIN MIDDLE GROUND SHOAL AND SUISUN BAY

Covered Species Subject to Take Authorization Provided by this ITP:

This ITP covers the following species:

Name	CESA Status
1. Central Valley Spring-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	Threatened ³
2. Sacramento River Winter-run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	Endangered ⁴
3. Delta Smelt (<i>Hypomesus transpacificus</i>)	Endangered ⁵
4. Longfin Smelt (<i>Spirinchus thaleichthys</i>)	Threatened ⁶

These species and only these species are the “Covered Species” for the purposes of this ITP.

Impacts of the Taking on Covered Species:

Project activities and their resulting impacts are expected to result in the incidental take of individuals of the Covered Species. The activities described above expected to result in incidental take of individuals of the Covered Species include hydraulic sand mining and sand offloading (Covered Activities).

Incidental take of individuals of the Covered Species in the form of mortality (“kill”) may occur as a result of Covered Activities such as increased suspended sediments, contaminants, and toxicity within the overflow plume; reduction in dissolved oxygen levels as a result of suspended sediments; change in habitat quality; entrainment of larval fish in the suction pipes; and impingement of juvenile and adult fish on the suction pipes or fish screen. Incidental take of individuals of the Covered Species may also occur from the Covered Activities in the form of pursue, catch, capture, or attempt to do so of the Covered Species from loss of habitat and disruption of migration.

Winter-run and spring-run Chinook salmon eggs and larvae are not at risk of take in Suisun Bay where sand mining is to occur because the adult fish spawn and eggs incubate in tributary habitats upstream of the Delta. The larval salmon remain buried in gravel nests until the young salmon develop and emerge into the surface waters as fry, where they rear in upstream habitats for a period of time before migrating downstream.

Adult Delta smelt and longfin smelt migrate upstream to spawn primarily in the Sacramento River, Cache Slough, and the Sacramento Deep Water Ship Channel. The adhesive eggs of Delta

³ See Cal. Code Regs. tit. 14 § 670.5, subd. (b)(2)(C).

⁴ See *Id.*, subd. (a)(2)(M).

⁵ See *Id.*, subd. (a)(2)(O).

⁶ See *Id.*, subd. (b)(2)(E).

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smelt and longfin smelt are typically laid in shallow channel margin habitat and not in the deeper sub-tidal areas where sand mining occurs. Therefore, the eggs would not be at risk of take as a result of sand mining in Suisun Bay.

An impact of the Covered Activities would be a result of potential entrainment of larval fish during sand mining at the time periods that larval fish would be located within the Project area. The positive barrier fish screen to be mounted on the vent pipes would be sized to exclude juvenile and adult fish from entrainment during sand mining.

Impacts of the authorized taking also include adverse impacts to the Covered Species related to temporal losses, increased habitat fragmentation and edge effects, and the Project's incremental contribution to cumulative impacts (indirect impacts). These impacts include: potential Covered Species mortality due to displacement from preferred habitat, entrainment of larval fish in the suction pipes as the fish screen is not sized to protect larval fish, impingement of juvenile and adult fish on the suction pipes or fish screen, benthic impacts from falling debris, and the potential for impacts from spills of pollutants (oils, gasoline, diesel, lubricants, etc.).

Incidental Take Authorization of Covered Species:

This ITP authorizes incidental take of the Covered Species and only the Covered Species. With respect to incidental take of the Covered Species, CDFW authorizes the Permittee, its employees, contractors, and agents to take Covered Species incidentally in carrying out the Covered Activities, subject to the limitations described in this section and the Conditions of Approval identified below. This ITP does not authorize take of Covered Species from activities outside the scope of the Covered Activities, take of Covered Species outside of the Project Area, take of Covered Species resulting from violation of this ITP, or intentional take of Covered Species.

Conditions of Approval:

Unless specified otherwise, the following measures apply to all Covered Activities within the Project Area, including areas used for vehicular ingress and egress, staging and parking, and noise and vibration generating activities that may cause take. CDFW's issuance of this ITP and Permittee's authorization to take the Covered Species are subject to Permittee's compliance with and implementation of the following Conditions of Approval:

- 1. Legal Compliance:** Permittee shall comply with all applicable federal, state, and local laws in existence on the effective date of this ITP or adopted thereafter.
- 2. CEQA Compliance:** Permittee shall implement and adhere to the mitigation measures related to the Covered Species in the Biological Resources section of the Environmental Impact Report (SCH No.: 2007072036) adopted by California State Lands Commission on October 19, 2012 as lead agency for the Project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.).

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JERICO PRODUCTS, INC.

COMMERCIAL SAND MINING BY JERICO PRODUCTS, INC. WITHIN MIDDLE GROUND SHOAL AND SUISUN BAY

- 3. ESA Compliance:** Permittee shall implement and adhere to the terms and conditions related to the some of the Covered Species in the nine U.S. Army Corps of Engineers permits for sand mining in the San Francisco Bay-Delta Estuary, California (Biological Opinion No. 151422SWR2005SR00625) and informal consultation on sand mining activities in the Sacramento-San Joaquin Estuary (U.S. Fish and Wildlife Service file no. 1-1-06-I-0255) for the Project pursuant to the federal Endangered Species Act (ESA). For purposes of this ITP, where the terms and conditions for the Covered Species in the federal authorization are less protective of the Covered Species or otherwise conflict with this ITP, the conditions of approval set forth in this ITP shall control.
- 4. ITP Time Frame Compliance:** Permittee shall fully implement and adhere to the conditions of this ITP within the time frames set forth below and as set forth in the Mitigation Monitoring and Reporting Program (MMRP), which is included as Attachment 1 to this ITP.
- 5. General Provisions:**
- 5.1. Designated Representative. Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.
- 5.2. Designated Biologist. Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4), and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.
- 5.3. Boat Captain Authority. To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.

- 5.4. Education Program. Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.
- 5.5. Monitoring Notebook. The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.
- 5.6. Hazardous Waste. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.
- 5.7. CDFW Access. Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.

6. Monitoring, Notification, and Reporting Provisions:

- 6.1. Notification before Commencement. The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.
- 6.2. Notification of Non-compliance. The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in

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this ITP and/or the MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.

- 6.3. Compliance Monitoring. The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.
- 6.4. Quarterly Compliance Report. The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of the MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Office at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.
- 6.5. Annual Status Report. Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in the MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.
- 6.6. Final Mitigation Report. No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in the MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts

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on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10-year permitted mining activities; and (9) any other pertinent information.

6.7. Notification of Take or Injury. Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500. The CDFW Bay Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442 shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and the ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.

6.8. CNDDDB Observations. The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.

7. Take Minimization Measures:

The following requirements are intended to ensure the minimization of incidental take of Covered Species in the Project Area during Covered Activities. Permittee shall implement and adhere to the following conditions to minimize take of Covered Species:

7.1. Smelt Work Period Restriction. Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at <http://cdec.water.ca.gov/cgi-progs/queryDaily?X2>. The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.

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7.2. Minimum Priming/Clearing Depth. Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate before priming of the pump. The same depth restriction holds for clearing of the suction pipe.

7.3. Location and Sand Volume Limitation. Sand mining shall be restricted to those lease areas specified in Figure 1 and Figure 2. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area.

The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 2 of this ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.

7.4. Water Volume Limitation. The total annual water diversion from sand mining shall be restricted to 32 af. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 32 af is reached.

7.5. Water Depth Limitations. Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet or less (MLLW).

During the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).

7.6. Positive Barrier Fish Screen. Permittee shall install and operate a positive barrier fish screen on the water intake pipes of the suction pipe to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp.

7.7. Positive Barrier Fish Screen Flow Velocity. Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.

7.8. Positive Barrier Fish Screen Inspection. Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.

7.9. Equipment Maintenance and Chemical Storage. All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment

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maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.

8. Habitat Management Land Acquisition and Restoration:

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation for the duration of this permit.

To meet this requirement, the Permittee shall purchase 0.048 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank (refer to Condition of Approval 8.2 below). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

8.1. Cost Estimates. CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows:

The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for 0.048 acres: **\$7,200.00.**

Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present is 18 af.

The formula used for calculating the acreage of impact to Covered Species from the Covered Activities (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 18 af of water diverted, the Covered Activities will result in 0.048 acres of permanent impact to Covered Species habitat.

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8.2. Covered Species Credits. Permittee shall purchase 0.0480 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.

9. Performance Security

The Permittee may proceed with Covered Activities only after the Permittee has ensured funding (Security) to complete any activity required by Condition of Approval 8.1 that has not been completed before Covered Activities begin. Permittee shall provide Security as follows:

9.1. Security Amount. The Security shall be in the amount of **\$7,200.00**. This amount is based on the cost estimates identified in Condition of Approval 8.1.1 above.

9.2. Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.

9.3. Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.

9.4. Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.

9.5. Security Transmittal. If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.

9.6. Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.

9.7. Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:

- Written documentation of the purchase of Covered Species credits; and
- Timely submission of all required reports.

Even if Security is provided, the Permittee must complete the required purchase of Covered Species credits no later than 18 months from the effective date of this ITP. CDFW may require the Permittee to provide additional HM lands and/or additional funding to ensure the impacts of the taking are minimized and fully mitigated, as required by law, if the Permittee does not complete these requirements within the specified timeframe.

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Amendment:

This ITP may be amended as provided by California Code of Regulations, Title 14, section 783.6, subdivision (c), and other applicable law. This ITP may be amended without the concurrence of the Permittee as required by law, including if CDFW determines that continued implementation of the Project as authorized under this ITP would jeopardize the continued existence of the Covered Species or where Project changes or changed biological conditions necessitate an ITP amendment to ensure that all Project-related impacts of the taking to the Covered Species are minimized and fully mitigated.

Stop-Work Order:

CDFW may issue Permittee a written stop-work order requiring Permittee to suspend any Covered Activity for an initial period of up to 25 days to prevent or remedy a violation of this ITP, including but not limited to the failure to comply with reporting or monitoring obligations, or to prevent the unauthorized take of any CESA endangered, threatened, or candidate species. Permittee shall stop work immediately as directed by CDFW upon receipt of any such stop-work order. Upon written notice to Permittee, CDFW may extend any stop-work order issued to Permittee for a period not to exceed 25 additional days. Suspension and revocation of this ITP shall be governed by California Code of Regulations, Title 14, section 783.7, and any other applicable law. Neither the Designated Biologist nor CDFW shall be liable for any costs incurred in complying with stop-work orders.

Compliance with Other Laws:

This ITP sets forth CDFW's requirements for the Permittee to implement the Project pursuant to CESA. This ITP does not necessarily create an entitlement to proceed with the Project. Permittee is responsible for complying with all other applicable federal, state, and local law.

Notices:

The Permittee shall deliver a fully executed duplicate original ITP by registered first class mail or overnight delivery to the following address:

Habitat Conservation Planning Branch
California Department of Fish and Wildlife
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, CA 95814

Written notices, reports and other communications relating to this ITP shall be delivered to CDFW by registered first class mail at the following address, or at addresses CDFW may subsequently provide the Permittee. Notices, reports, and other communications shall reference the Project name, Permittee, and ITP Number (2081-2012-012-03) in a cover letter and on any other associated documents.

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Original cover with attachment(s) to:

Mr. Scott Wilson, Regional Manager
California Department of Fish and Wildlife
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
Telephone (707) 944-5500
Fax (707) 944-5563

Unless Permittee is notified otherwise, CDFW's Regional Representatives for purposes of addressing issues that arise during implementation of this ITP are:

Ms. Crystal Spurr
7329 Silverado Trail
Napa, CA 94558
Telephone (209) 234-3442
Fax (707) 944-5563

Compliance with CEQA:

CDFW's issuance of this ITP is subject to CEQA. CDFW is a responsible agency pursuant to CEQA with respect to this ITP because of prior environmental review of the Project by the lead agency, California State Lands Commission. (See generally Pub. Resources Code, §§21067, 21069). The lead agency's prior environmental review of the Project is set forth in the San Francisco Bay and Delta Sand Mining Project Environmental Impact Report (EIR), (State Clearinghouse No. 2007072036) dated September 2012 that the California State Lands Commission adopted for the San Francisco Bay and Delta Sand Mining Project on October 19, 2012. At the time the lead agency adopted/certified the EIR and approved the Project, it also adopted various mitigation measures for the Covered Species as conditions of Project approval.

This ITP, along with CDFW's related CEQA findings, which are available as a separate document, provide evidence of CDFW's consideration of the lead agency's EIR for the Project and the environmental effects related to issuance of this ITP [CEQA Guidelines, § 15096, subd. (f)]. CDFW finds that issuance of this ITP will not result in any previously undisclosed potentially significant effects on the environment or a substantial increase in the severity of any potentially significant environmental effects previously disclosed by the lead agency. Furthermore, to the extent the potential for such effects exists, CDFW finds adherence to and implementation of the Conditions of Project Approval adopted by the lead agency, and that adherence to and implementation of the Conditions of Approval imposed by CDFW through the issuance of this ITP, will avoid or reduce to below a level of significance any such potential effects. CDFW consequently finds that issuance of this ITP will not result in any significant, adverse impacts on the environment.

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Findings Pursuant to CESA:

These findings are intended to document CDFW's compliance with the specific findings requirements set forth in CESA and related regulations. [Fish and Game Code § 2081, subs. (b)-(c); Cal. Code Regs., tit. 14, §§ 783.4, subs. (a)-(b), 783.5, subd. (c)(2)].

CDFW finds based on substantial evidence in the ITP application, San Francisco Bay and Delta Sand Mining Project EIR, the results of consultations, and the administrative record of proceedings, that issuance of this ITP complies and is consistent with the criteria governing the issuance of ITPs pursuant to CESA:

- (1) Take of Covered Species as defined in this ITP will be incidental to the otherwise lawful activities covered under this ITP;
- (2) Impacts of the taking on Covered Species will be minimized and fully mitigated through the implementation of measures required by this ITP and as described in the MMRP. Measures include: (1) permanent habitat protection; (2) worker education; (3) establishment of shoreline and shallow water avoidance zones; (4) the installation of a positive fish screen barrier on the suction vent pipes; and (5) Quarterly, Annual, and Final Compliance Reports. CDFW evaluated factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation. Based on this evaluation, CDFW determined that the protection and management in perpetuity of 0.048 acres of compensatory habitat that is contiguous with other protected Covered Species habitat and/or is of higher quality than the habitat being destroyed by the Project, along with the minimization, monitoring, reporting, and funding requirements of this ITP minimizes and fully mitigates the impacts of the taking caused by the Project;
- (3) The take avoidance and mitigation measures required pursuant to the conditions of this ITP and its attachments are roughly proportional in extent to the impacts of the taking authorized by this ITP;
- (4) The measures required by this ITP maintain Permittee's objectives to the greatest extent possible;
- (5) All required measures are capable of successful implementation;
- (6) This ITP is consistent with any regulations adopted pursuant to Fish and Game Code sections 2112 and 2114;
- (7) Permittee has ensured adequate funding to implement the measures required by this ITP as well as for monitoring compliance with, and the effectiveness of, those measures for the Project; and

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(8) Issuance of this ITP will not jeopardize the continued existence of the Covered Species based on the best scientific and other information reasonably available, and this finding includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities. Moreover, CDFW's finding is based, in part, on CDFW's express authority to amend the terms and conditions of this ITP without concurrence of the Permittee as necessary to avoid jeopardy and as required by law.

Attachments:

FIGURE 1	Map of Middle Ground Island Shoal Site
FIGURE 2	Map of Suisun Channel Site
FIGURE 3	Map of Sand Offload Sites
ATTACHMENT 1	Mitigation Monitoring and Reporting Program
ATTACHMENT 2	Letter of Credit Form
ATTACHMENT 3	Mitigation Payment Transmittal Form

ISSUED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

on 4/1/14



Scott Wilson
Regional Manager
Bay Delta Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of this ITP, and (3) agrees on behalf of the Permittee to comply with all terms and conditions.

By: 

Date: 7/11/14

Printed Name: William H. Butler

Title: VP Regulatory Affairs

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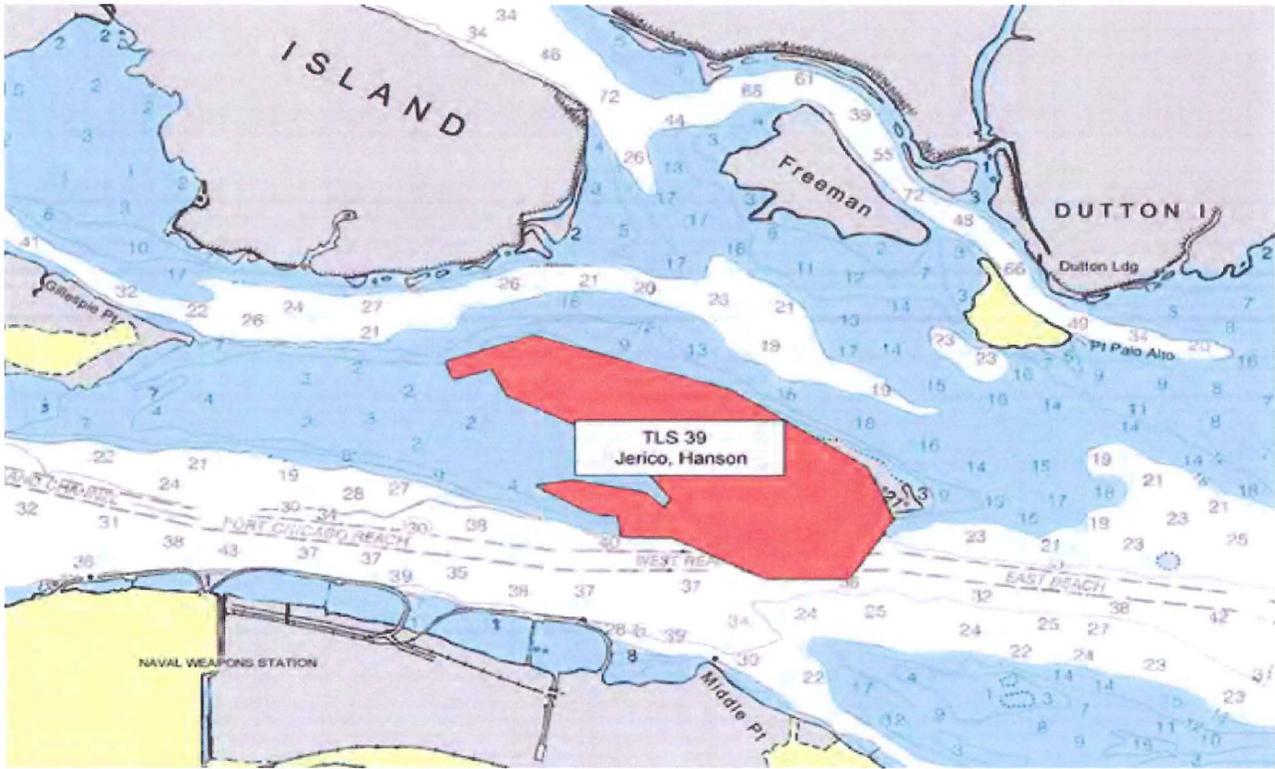


Figure 1: Middle Ground Island Shoal Private Lease Location

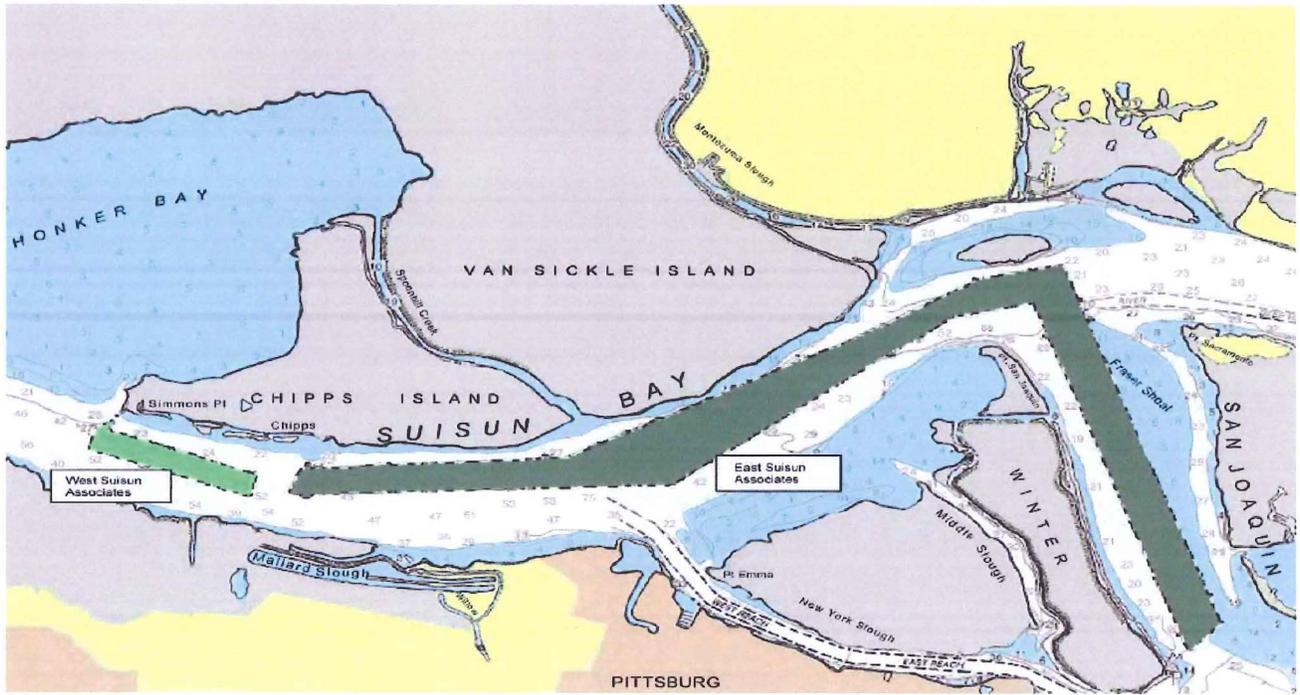


Figure 2: Suisun Channel State Lands Commission Lease Locations

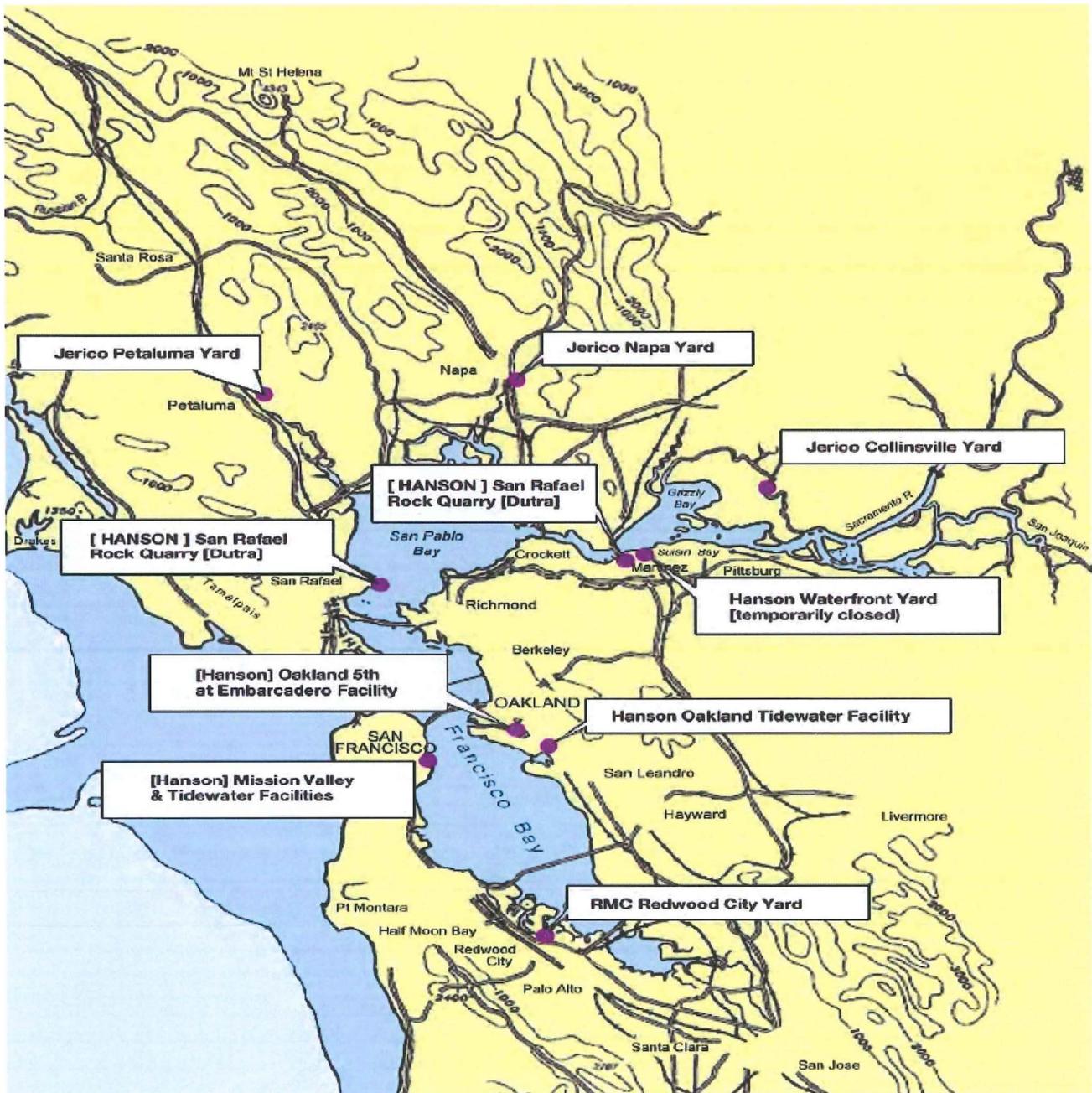


Figure 3: Marine Sand Offload Locations Within the Bay-Delta Estuary

Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2012-012-03

PERMITTEE: Jerico Products

PROJECT: Commercial Sand Mining by Jerico Products, Inc. Within
Middle Ground Shoal and Suisun Bay

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the California Department of Fish and Wildlife (CDFW) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by CDFW is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to CDFW on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

CDFW may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE COMMENCING SAND MINING OPERATIONS					
1	<u>Designated Representative.</u> Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.	ITP Condition # 5.1	Before commencing sand mining activities/Entire Project	Permittee	
2	<u>Designated Biologist.</u> Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4), and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.	ITP Condition # 5.2	Before commencing sand mining activities/Entire Project	Permittee	
3	<u>Education Program.</u> Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.	ITP Condition # 5.4	Before commencing sand mining activities/Entire Project	Permittee	
4	<u>Notification before Commencement.</u> The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 6.1	Before commencing sand mining activities/Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
5	<u>Positive Barrier Fish Screen</u> . Permittee shall install and operate a positive barrier fish screen on the water intake pipes of the suction pipe to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp .	ITP Condition # 7.6	Before commencing sand mining activities/Entire Project	Permittee	
6	<u>Positive Barrier Fish Screen Flow Velocity</u> . Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.	ITP Condition # 7.7	Before commencing sand mining activities/Entire Project	Permittee	
7	<u>Covered Species Credits</u> . CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows: The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for 0.048 acres: \$7,200.00. Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish low related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present is 18 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 18 af of water diverted, the Covered Activities will result in 0.048 acres of permanent impact to Covered Species habitat. Permittee shall purchase 0.0480 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Conditions of Approval 9.1 through 9.7.	ITP Condition # 8.1, # 8.2	Before commencing sand mining activities (or within 18 months of issuance of this ITP if Security is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
8	<p>Security Amount. The Security shall be in the amount of \$7,200.00. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.</p> <p>Security Form. The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.</p> <p>Security Timeline. The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.</p> <p>Security Holder. The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.</p> <p>Security Transmittal. If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.</p>	ITP Condition # 9.1, 9.2, 9.3, 9.4, 9.5	Security shall be provided to CDFW before commencing sand mining activities, or within 30 days after the effective date of this ITP, whichever occurs first	Permittee	
9	<p>Security Drawing. The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.</p>	ITP Condition # 9.6	Entire Project	CDFW	
10	<p>Security Release. The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:</p> <ul style="list-style-type: none"> • Written documentation of the acquisition of the HM lands; and • Timely submission of all required reports. 	ITP Condition # 9.7	Entire Project	CDFW	
DURING SAND MINING OPERATIONS					
11	<p>Boat Captain Authority. To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.</p>	ITP Condition # 5.3	Entire Project	Permittee	
12	<p>Monitoring Notebook. The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.</p>	ITP Condition # 5.5	Entire Project	Permittee	
13	<p>Hazardous Waste. Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.</p>	ITP Condition # 5.6	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
14	<u>CDFW Access.</u> Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.	ITP Condition # 5.7	Entire Project	Permittee	
15	<u>Notification of Non-compliance.</u> The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or this MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.	ITP Condition # 6.2	Entire Project	Permittee	
16	<u>Compliance Monitoring.</u> The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.	ITP Condition # 6.3	Monthly for the duration of the project	Permittee	
17	<u>Quarterly Compliance Report.</u> The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of this MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Office at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 6.4	Quarterly for the duration of the project	Permittee	
18	<u>Annual Status Report.</u> Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in this MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.	ITP Condition # 6.5	Annually, due no later than January 31 each year, for the duration of the project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
19	<u>Notification of Take or Injury.</u> Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500. The CDFW Bay Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442 shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and this ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 6.7	Entire Project	Permittee	
20	<u>CNDDDB Observations.</u> The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 6.8	Entire Project	Permittee	
21	<u>Smelt Work Period Restriction.</u> Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at http://cdec.water.ca.gov/cgi-progs/queryDaily?X2 . The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.	ITP Condition # 7.1	Entire Project	Permittee/CDFW	
22	<u>Minimum Priming/Clearing Depth.</u> Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate before priming of the pump. The same depth restriction holds for clearing of the suction pipe.	ITP Condition # 7.2	Entire Project	Permittee	
23	<u>Location and Sand Volume Limitation.</u> Sand mining shall be restricted to those lease areas specified in Figure 1 and Figure 2. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area. The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 2 of this ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.	ITP Condition # 7.3	Entire Project	Permittee	
24	<u>Water Volume Limitation.</u> The total annual water diversion from sand mining shall be restricted to 32 acre-feet. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 32 acre-feet is reached.	ITP Condition # 7.4	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
25	Water Depth Limitations. Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet or less (MLLW). During the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).	ITP Condition # 7.5	Entire Project	Permittee	
26	Positive Barrier Fish Screen Inspection. Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.	ITP Condition # 7.8	Entire Project	Permittee	
27	Equipment Maintenance and Chemical Storage. All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.	ITP Condition # 7.9	Entire Project	Permittee	
POST-SAND MINING OPERATIONS					
28	Final Mitigation Report. No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in this MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10 year permitted mining activities; and (9) any other pertinent information.	ITP Condition # 6.6	Within 45 days after completion of all mitigation measures for the final year of the 10-year permit	Permittee	

IRREVOCABLE STANDBY LETTER OF CREDIT
NO. [*Number issued by financial institution*]

Issue Date: [*date*]

Beneficiary:

California Department of Fish and Wildlife
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
Attn: HCPB Mitigation Account Coordinator

Amount: U.S. \$[*dollar number*] [(*dollar amount*)]

Expiry: [*Date*] at our counters

Dear Sirs:

1. At the request and on the instruction of our customer, [*name of applicant*] (“Applicant”), we, [*Name of financial institution*] (“Issuer”), hereby establish in favor of the beneficiary, the California Department of Fish and Wildlife (“CDFW”), this irrevocable standby letter of credit (“Credit”) in the principal sum of U.S. \$[*dollar number*] [(*dollar amount*)] (“Principal Sum”).
2. We are informed this Credit is and has been established for the benefit of the CDFW pursuant to the terms of the incidental take permit for the [*name of project*] issued by the CDFW to the Applicant on [*date*] (No. [*number*]) (“Permit”).
3. We are further informed that pursuant to the Permit, the Applicant has agreed to complete certain mitigation requirements, as set forth in Conditions [*numbers*] in the Permit (“Mitigation Requirements”).
4. We are finally informed that this Credit is intended by the CDFW and the Applicant to serve as a security device for the performance by the Applicant of the Mitigation Requirements.
5. The CDFW shall be entitled to draw upon this Credit only by presentation of a duly executed Certificate for Drawing (“Certificate”) in the same form as Attachment A, which is attached hereto, at our office located at [*name and address of financial institution*].
6. The Certificate shall be completed and signed by an “Authorized Representative” of the CDFW as defined in paragraph 12 below. Presentation by the CDFW of a completed Certificate may be made in person or by registered mail, return receipt requested, or by overnight courier.

7. Upon presentation of a duly executed Certificate as above provided, payment shall be made to the CDFW, or to the account of the CDFW, in immediately available funds, as the CDFW shall specify.
8. If a demand for payment does not conform to the terms and conditions of this Credit, we shall give the CDFW prompt notice that the demand for payment was not effected in accordance with the terms and conditions of this Credit, state the reasons therefore, and await further instruction.
9. Upon being notified that the demand for payment was not effected in conformity with the Credit, the CDFW may correct any such non-conforming demand for payment under the terms and conditions stated herein.
10. All drawings under this Credit shall be paid with our funds. Each drawing honored by us hereunder shall reduce, *pro tanto*, the Principal Sum. By paying to the CDFW an amount demanded in accordance herewith, we make no representations as to the correctness of the amount demanded.
11. This Credit will be cancelled upon receipt by us of Certificate of Cancellation, which:
(i) shall be in the form of Attachment B, which is attached hereto, and (ii) shall be completed and signed by an Authorized Representative of the CDFW, as defined in paragraph 12 below.
12. An "Authorized Representative" shall mean either the Director of the Department of Fish and Wildlife, the General Counsel of the Department of Fish and Wildlife, or a Regional Manager of the Department of Fish and Wildlife.
13. This Credit shall be automatically extended without amendment for additional periods of one year from the present or any future expiration date hereof, unless at least sixty (60) days prior to any such date, we notify the CDFW in writing by registered mail, return receipt requested, or by overnight courier that we elect not to consider this Credit extended for any such period.
14. Communications with respect to this Credit shall be in writing and addressed to us at [**name and address of financial institution**], specifically referring upon such writing to this credit by number. The address for notices with respect to this Credit shall be:
(i) for the CDFW: Department of Fish and Wildlife, Habitat Conservation Planning Branch, 1416 Ninth Street, 12th Floor, Sacramento, California 95814-2090 Attn: HCPB Mitigation Account Coordinator; and (ii) for the Applicant: [**name and address of applicant**].
15. This Credit may not be transferred.
16. This Credit is subject to the International Standby Practices 1998 ("ISP 98"). As to matters not covered by the ISP 98 and to the extent not inconsistent with the ISP 98, this credit shall be governed by and construed in accordance with the Uniform Commercial Code, Article 5 of the State of California.

17. This Credit shall, if not canceled, expire on [*expiration date*], or any extended expiration date.
18. We hereby agree with the CDFW that documents presented in compliance with the terms of this Credit will be duly honored upon presentation, as specified herein.
19. This Credit sets forth in full the terms of our undertaking. Such undertaking shall not in any way be modified, amended or amplified by reference to any document or instrument referred to herein or in which this Credit is referred to or to which this Credit relates and any such reference shall not be deemed to incorporate herein by reference any document or instrument.

[Name of financial institution]

By: _____
Name: _____
Title: _____

ATTACHMENT A

IRREVOCABLE STANDBY LETTER OF CREDIT NO. [*Number issued by financial institution*]
CERTIFICATE FOR DRAWING

To:

[Name and address of financial institution]

Re: Incidental Take Permit No. [*permit number*]

The undersigned, a duly Authorized Representative of the California Department of Fish and Wildlife ("CDFW"), as defined in paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. **[Insert one of the following statements:** "In the opinion of the CDFW, the Applicant has failed to complete the Mitigation Requirements referenced in paragraph 3 of the Credit." **or** "As set forth in paragraph 13, the Issuer has informed the CDFW that the Credit will not be extended and the Applicant has not provided the CDFW with an equivalent security approved by the CDFW to replace the Credit."]
2. The undersigned is authorized under the terms of the Credit to present this Certificate as the sole means of demanding payment on the Credit.
3. The CDFW is therefore making a drawing under the Credit in amount of U.S. \$ _____.
4. The amount demanded does not exceed the Principal Sum of the Credit.

Therefore, the CDFW has executed and delivered this Certificate as of the ____ day of _____, _____.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

BY: _____

[Insert one of the following: "DIRECTOR" or "GENERAL COUNSEL" or "REGIONAL MANAGER, [NAME OF REGIONAL OFFICE]"

ATTACHMENT B

IRREVOCABLE LETTER OF CREDIT NO. [*Number issued by financial institution*]
CERTIFICATE FOR CANCELLATION

To:

[*Name of financial institution and address*]

Re: Incidental Take Permit No. [*permit number*]

The undersigned, a duly Authorized Representative of the California Department of Fish and Wildlife ("CDFW"), as defined in the paragraph 12 in the above-referenced Irrevocable Standby Letter of Credit ("Credit"), hereby certifies to the Issuer that:

1. [*Insert one of the following statements: "The Applicant has presented documentary evidence of full compliance with the Mitigation Requirements referenced in paragraph 3 of the Credit." or "The natural expiration of this Credit has occurred."*]
2. The CDFW therefore requests the cancellation of the Credit.

Therefore, the CDFW has executed and delivered this Certificate for Cancellation as of the ____ day of _____, _____.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

BY: _____
[*Insert one of the following: "DIRECTOR" or "GENERAL COUNSEL" or "REGIONAL MANAGER, [NAME OF REGIONAL OFFICE]"*]

Mitigation Payment Transmittal Form

Project Applicant Instructions: Please fill out and attach this form to payment. For conservation banks, also attach the Bill(s) of Sale for credits sold. One form may be used for multiple transactions, **BUT YOU MUST USE A SEPARATE FORM FOR EACH CHECK YOU TRANSMIT.** Make sure to include Project Name, Project Tracking Number, and FASB Mitigation Tracking Number (if available) on the attached payment type.

(1) **DATE:** _____

TO: _____

[CDFW Regional Manager]

[CDFW Regional Office Address]

(2) **FROM:** _____

Name

Mailing Address

City, State, Zip

Telephone Number/FAX Number

(3) **RE:** _____

[Project Name as appears on permit/agreement]

(4) **AGREEMENT/ACCOUNT INFORMATION:**

(Check the applicable type)

2081 Permit Conservation Bank 1802 Agreement

2835 NCCP Other _____

[Project Tracking Number]

[FASB Mitigation Tracking Number (if available)]

Index _____ PCA _____

(5) **PAYMENT TYPE** (One check per form only): The following funds are being remitted in connection with the above referenced project:

Check information:

Total \$ _____

Check No. _____

Account No. _____

Bank Routing No. _____

a. Endowment: for Long-Term Management Subtotal \$ _____

b. Habitat Enhancement Subtotal \$ _____

c. Security:

1. Cash Refundable Security Deposit Subtotal \$ _____

2. Letter of Credit Subtotal \$ _____

1. Financial Institution: _____

2. Letter of Credit Number: _____

3. Date of Expiration: _____

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
BAY DELTA REGION
7329 SILVERADO TRAIL
NAPA, CA 94558

RECEIVED

OCT 29 2014

HABITAT CONSERVATION
PLANNING BRANCH



AMENDMENT NO. 1
(A Major Amendment)
California Endangered Species Act
Incidental Take Permit No. 2081-2012-012-03
Jerico Products, Inc.
Commercial Sand Mining within Middle Ground Shoal and Suisun Bay
Solano, Sacramento, and Contra Costa Counties

INTRODUCTION

On April 1, 2014, the California Department of Fish and Wildlife (CDFW) issued Incidental Take Permit No. 2081-2012-012-03 (ITP) to Jerico Products, Inc. (Permittee) authorizing take of Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento River winter-run Chinook salmon (*O. tshawytscha*), Delta smelt (*Hypomesus transpacificus*), and longfin smelt (*Spirinchus thaleichthys*) (collectively, the Covered Species) associated with and incidental to the Commercial Sand Mining within Middle Ground Shoal and Suisun Bay in Solano, Sacramento, and Contra Costa Counties, California (Project). The Project as described in the ITP originally issued by CDFW includes continuation of commercial hydraulic sand mining operations for the next 10 years to provide local marine aggregate for use in highway maintenance and construction, new residential complexes, and commercial and public buildings within the greater San Francisco Bay area. In issuing the ITP, CDFW found, among other things, that Permittee's compliance with the Conditions of Approval of the ITP would fully mitigate impacts to the Covered Species and would not jeopardize the continued existence of the Covered Species.

CDFW received the Permittee's request to amend the ITP on July 18, 2014. The ITP minimization measure 7.1 (smelt work period restriction) restricts sand mining activities upstream of the X2 location from December 1 through June 30, the spawning season of Delta smelt and longfin smelt. According to Permittee, the work period restriction measure is inconsistent with sustainable mining practices, creates uncertainty and disruption in the market for aggregate, and substantially impairs sand mining in the restricted areas, making difficult the ability of Permittee to achieve its mining objectives in the restricted areas. In addition, the existing ITP Conditions 7.4 (water volume limitation) and 7.5 (water depth limitations) help to avoid and minimize take of larval smelt.

The Permittee requests changes to ITP Condition 7.1 to allow sand mining upstream of the X2 location from December 1 through June 30, and instead restrict and reduce the mining activity and sand mining volumes in Middle Ground Shoal and Suisun Bay in order to avoid and minimize potential losses of larval smelt. The Permittee also requests a change to ITP Condition 8.2 to increase compensatory habitat mitigation to cover any incidental take of larval smelt that cannot be avoided through the ITP minimization and avoidance measures.

The requested changes will result in the need for changes to other conditions in Section 8 and Section 9 of the ITP, as well as the ITP Mitigation Monitoring and Reporting Program (MMRP).

This Major Amendment No. 1 (Amendment) increases the overall allowable take authorization and makes the following changes to the existing ITP:

First, this Amendment makes changes to the smelt work period restrictions (Condition 7.1), limiting the sand mining volume and depth during December 1 through June 30 of each year in the Middle Ground Shoal and Suisun Bay areas.

Second, this Amendment adds to the compensatory habitat mitigation (Section 8 of the ITP) an additional 0.059 acres of Covered species credits in order to mitigate for potential entrainment and mortality of larval Delta smelt and longfin smelt due to mining activities upstream of the X2 location.

Third, this Amendment makes additional changes to ITP Section 8 (Habitat Management Land Acquisition and Restoration), including changes to Conditions 8.1 and 8.2, Condition 9.1, and the MMRP, as a result of the first two changes.

AMENDMENT

The ITP is amended as follows (amended language in ***bold italics***; deleted language in ~~strikethrough~~):

1. Minimization Measure 7.1 on page 9 of the ITP shall be amended to read:

7.1. ***Smelt Work Period Restriction. Sand mining volumes in the Middle Ground Shoal and Suisun Bay lease areas shall be restricted to a total of 108,000 cubic yards (cy) (54,000 cy for Middle Ground Shoal and 54,000 cy for Suisun Bay) from December 1 through June 30 of each year. In addition, depth restrictions will also be applied from December 1 through June 30 such that no mining will occur in depths shallower than -25 ft MLLW.*** ~~Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at <http://cdec.water.ca.gov/cgi-progs/queryDaily?X2>. The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.~~

Major Amendment No. 1
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2. Section 8, Habitat Management Land Acquisition and Restoration, on pages 11 and 12 of the ITP (including Conditions 8.1 and 8.2), shall be amended to read:

8. Habitat Management Land Acquisition and Restoration:

CDFW has determined that permanent protection and perpetual management of compensatory habitat is necessary and required pursuant to CESA to fully mitigate Project-related impacts of the taking on the Covered Species that will result with implementation of the Covered Activities. This determination is based on factors including an assessment of the importance of the habitat in the Project Area, the extent to which the Covered Activities will impact the habitat, and CDFW's estimate of the acreage required to provide for adequate compensation for the duration of this permit.

To meet this requirement, the Permittee shall purchase ~~0.107~~ 0.048 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank (refer to Condition of Approval 8.2 below). Permanent protection and funding for perpetual management of compensatory habitat must be complete before starting Covered Activities, or within 18 months of the effective date of this ITP if Security is provided pursuant to Condition of Approval 9 below for all uncompleted obligations.

8.1. Cost Estimates. CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows:

The cost of Covered Species credits identified in Condition of Approval 8.2 below is estimated at \$150,000/acre for ~~0.107~~ 0.048 acres: ~~\$16,050.00~~ \$7,200.00.

Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish ~~loss~~ ~~low~~ related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present is 18 af.

The formula used for calculating the acreage of impact to Covered Species from the Covered Activities (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). ~~Based on 18 af of water diverted, the Covered Activities will result in 0.048 acres of permanent impact to Covered Species habitat.~~ **The five California water year**

classifications established by the Department of Water Resources (DWR) to reflect Central Valley hydrologic conditions each year (wet, above normal, below normal, dry, and critically dry) were used to represent general trends in X2 location during the later winter and spring months each year. The frequency of occurrence of each water year type was assumed to be 20 percent. A weighting factor was used to represent variation in the potential risk of larval smelt entrainment during sand mining with the greatest weighting (5) being given to years when hydrologic conditions were wet and X2 located further downstream near Middle Ground Shoal and Suisun Bay where the risk of larval smelt entrainment is higher. The lowest weighting factor (1) was given to below normal, dry, and critically dry water years when X2 is located further upstream and sand mining would occur downstream in areas that have elevated salinity where the density of larval smelt (and risk of entrainment) would be reduced. Results of the mitigation estimates based on the water-year type framework for sand mining in Middle Ground Shoal and Suisun Bay by Permittee are summarized in the table below. The total mitigation obligation for Permittee increases from 0.048 acres in the existing ITP to 0.107 acres over the term of the ITP, an increase of 0.059 acres.

Impacts in Middle Ground Shoal and Suisun Bay					
Water Year Type	Volume AF	Mitigation Ratio/AF	Weighting Factor	Frequency Occurrence	Mitigation Acres
Wet	18	0.0026667	5	0.2	0.048
Above Normal	18	0.0026667	3	0.2	0.029
Below Normal	18	0.0026667	1	0.2	0.010
Dry	18	0.0026667	1	0.2	0.010
Critical	18	0.0026667	1	0.2	0.010
				Total	0.107

8.2. Covered Species Credits. Permittee shall purchase ~~0.048~~ **0.107** acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Condition of Approval 9 below.

3. Condition 9.1 on page 12 of the ITP shall be amended to read:

9.1. Security Amount. The Security shall be in the amount of ~~\$7,200.00~~ **\$16,050.00**. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.

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4. The MMRP shall be amended to reflect the above changes (an amended MMRP is attached to this Amendment No.1).

All terms and conditions of the ITP and MMRP that are not expressly amended herein remain in effect and must be implemented and adhered to by the Permittee.

FINDINGS

Issuance of this Amendment will increase the amount of take of larval Delta smelt and longfin smelt compared to the Project as originally approved; however, by implementing restrictions on the volume of sand mining, sand mining depth, and increased Covered Species credit purchase, it is not expected that this Amendment will increase Project impacts on these species (i.e., "impacts of taking" as used in Fish and Game Code Section 2081, subd. (b)(2)).

Discussion: This Amendment reflects a change in the number of larval smelt which will be impacted by Project activities due to sand mining in the area upstream of X2 during Delta smelt and longfin smelt spawning season. Avoidance and minimization measures, such as restrictions on the volume and depth of sand that can be mined will be implemented to reduce incidental take as much as possible. Additional acreage of Covered Species credits will be purchased to fully mitigate for potential entrainment and mortality of larval Delta smelt and longfin smelt. This Amendment will not increase other Project impacts on these species because, in all other respects, the types of activities authorized by the ITP remain unchanged.

Issuance of this Amendment does not affect CDFW's previous determination that issuance of the ITP meets and is otherwise consistent with the permitting criteria set forth in Fish and Game Code section 2081, subdivisions (b) and (c).

Discussion: CDFW determined in April 2014 that the Project, as approved, met the standards for issuance of an ITP under CESA. This determination included findings that, among other things, the impacts of the taking would be minimized and fully mitigated and that the Project would not jeopardize the continued existence of the Covered Species. Those findings are unchanged with respect to this Amendment because the Project and ITP as amended: (1) will have no effect on the severity of Project impacts on the Covered Species, as discussed above, and (2) does not substantively alter the measures that will be undertaken to minimize and mitigate previously authorized impacts on the Covered Species. Permittee's continued adherence to and implementation of the avoidance and minimization measures set forth in the ITP's Conditions of Approval and MMRP will minimize and fully mitigate impacts of the taking on the Covered Species.

None of the factors that would trigger the need for subsequent or supplemental environmental analysis of the Project under Public Resources Code section 21166 or

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California Code of Regulations, title 4, sections 15162 and 15163, exist as a result of this Amendment.

Discussion: CDFW issued the ITP in April, 2014 as a responsible agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) after, among other things, considering the San Francisco Bay and Delta Sand Mining Project Environmental Impact Report (EIR), State Clearinghouse No. 2007072036, dated September 2012 that the California State Lands Commission as the lead agency for the Project adopted on October 19, 2013. As explained in the findings below, CDFW finds for purposes of CESA that this Amendment represents a major change in the Project as originally approved. However, for the reasons explained above, CDFW concludes this Amendment is not a change in the Project that has the potential to create a new significant effect not previously analyzed, a substantial change in the circumstances under which the Project is being undertaken requiring major revisions to previous CEQA documents, or new information of substantial importance. As a result CDFW finds that no additional subsequent or supplemental environmental review is required by CEQA as part of CDFW's approval of this Amendment.

CDFW finds that this Amendment is a Major Amendment, as defined in California Code of Regulations, title 14, section 783.6, subdivision (c)(5).

Discussion: This Amendment allows an increase in the amount of authorized take of larval smelt, constituting a significant change in the scope of the Project. As described above, these changes will allow restricted sand mining upstream of X2 where larval Delta Smelt and Longfin Smelt are more likely to be present in Middle Ground Shoal and Suisun Bay. However, by implementing avoidance and minimization measures, and purchasing additional credits, it is not expected that this Amendment will increase Project impacts on these species over the long term. Therefore, this Amendment will significantly modify the scope or nature of the permitted Project or activity, or the minimization, mitigation, or monitoring measures in the ITP. CDFW has determined that the change to the ITP constitutes a Major Amendment as defined in California Code of Regulations, title 14, section 783.6, subdivision (c)(5).

The authorization provided by this Amendment is not valid until Permittee signs and dates the acknowledgement below, and returns one of the duplicate originals of this Amendment by registered first class mail to CDFW at:

California Department of Fish and Wildlife
Habitat Conservation Planning Branch
Attention: CESA Permitting Program
1416 Ninth Street, Suite 1260
Sacramento, California 95814

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COMMERCIAL SAND MINING WITHIN MIDDLE GROUND SHOAL AND SUISUN BAY

ATTACHMENT 1: Amended Mitigation Monitoring and Reporting Program (MMRP)

APPROVED BY THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

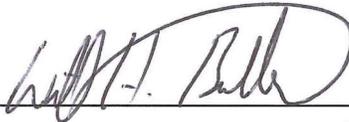
on October 14, 2014.



Scott Wilson
Regional Manager
Bay Delta Region

ACKNOWLEDGMENT

The undersigned: (1) warrants that he or she is acting as a duly authorized representative of the Permittee, (2) acknowledges receipt of the original ITP and this Amendment, and (3) agrees on behalf of the Permittee to comply with all terms and conditions of the ITP as amended.

By:  _____

Date: 20 October 2014

Printed Name: William A. Butler

Title: VP Regulatory Affairs

Major Amendment No. 1
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COMMERCIAL SAND MINING WITHIN MIDDLE GROUND SHOAL AND SUISUN BAY

Attachment 1

AMENDMENT NO. 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
MITIGATION MONITORING AND REPORTING PROGRAM (MMRP)
CALIFORNIA ENDANGERED SPECIES ACT**

INCIDENTAL TAKE PERMIT NO. 2081-2012-012-03

PERMITTEE: Jerico Products, Inc.

PROJECT: Commercial Sand Mining by Jerico Products, Inc.
Within Middle Ground Shoal and Suisun Bay

PURPOSE OF THE MMRP

The purpose of the MMRP is to ensure that the impact minimization and mitigation measures required by the California Department of Fish and Wildlife (CDFW) for the above-referenced Project are properly implemented, and thereby to ensure compliance with section 2081(b) of the Fish and Game Code and section 21081.6 of the Public Resources Code. A table summarizing the mitigation measures required by CDFW is attached. This table is a tool for use in monitoring and reporting on implementation of mitigation measures, but the descriptions in the table do not supersede the mitigation measures set forth in the California Incidental Take Permit (ITP) and in attachments to the ITP, and the omission of a permit requirement from the attached table does not relieve the Permittee of the obligation to ensure the requirement is performed.

OBLIGATIONS OF PERMITTEE

Mitigation measures must be implemented within the time periods indicated in the table that appears below. Permittee has the primary responsibility for monitoring compliance with all mitigation measures and for reporting to CDFW on the progress in implementing those measures. These monitoring and reporting requirements are set forth in the ITP itself and are summarized at the front of the attached table.

VERIFICATION OF COMPLIANCE, EFFECTIVENESS

CDFW may, at its sole discretion, verify compliance with any mitigation measure or independently assess the effectiveness of any mitigation measure.

TABLE OF MITIGATION MEASURES

The following items are identified for each mitigation measure: Mitigation Measure, Source, Implementation Schedule, Responsible Party, and Status/Date/Initials. The Mitigation Measure column summarizes the mitigation requirements of the ITP. The Source column identifies the ITP condition that sets forth the mitigation measure. The Implementation Schedule column shows the date or phase when each mitigation measure will be implemented. The Responsible Party column identifies the person or agency that is primarily responsible for implementing the mitigation measure. The Status/Date/Initials column shall be completed by the Permittee during preparation of each Status Report and the Final Mitigation Report, and must identify the implementation status of each mitigation measure, the date that status was determined, and the initials of the person determining the status.

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
BEFORE COMMENCING SAND MINING OPERATIONS					
1	<u>Designated Representative.</u> Before starting Covered Activities, Permittee shall designate a representative (Designated Representative) responsible for communications with CDFW and overseeing compliance with this ITP. The Designated Representative shall submit to CDFW in writing the name, qualifications, business address, and contact information of all representatives that will be present during Covered Activities. The Designated Representative and all representatives designated to work on the project (hereafter referred to as "representatives"), shall be knowledgeable and experienced with the operations of the Covered Activities and the provisions and take minimization measures of this permit. CDFW shall be notified in writing if a substitute Designated Representative is selected and if any staffing changes occur during the duration of this ITP.	ITP Condition # 5.1	Before commencing sand mining activities/ Entire Project	Permittee	
2	<u>Designated Biologist.</u> Permittee shall submit to CDFW in writing the name, qualifications, business address, and contact information of a biological monitor (Designated Biologist) at least 30 days before starting Covered Activities. Permittee shall ensure that the Designated Biologist has experience working in the Suisun Bay, and is knowledgeable and experienced in the biology, natural history, and collecting and handling of the Covered Species. The Designated Biologist shall be responsible for conducting the education program (refer to measure 5.4), and monthly monitoring of Covered Activities (refer to measure 6.3) to help minimize and fully mitigate or avoid the incidental take of individual Covered Species and to minimize disturbance of Covered Species' habitat. Permittee shall obtain CDFW approval of the Designated Biologist in writing before starting Covered Activities, and shall also obtain approval in advance in writing if the Designated Biologist must be changed.	ITP Condition # 5.2	Before commencing sand mining activities/ Entire Project	Permittee	
3	<u>Education Program.</u> Permittee shall conduct an education program for all persons employed or otherwise working in the Project Area before performing any work. The program shall consist of a presentation from the Designated Biologist that includes a discussion of the biology and general behavior of the Covered Species, information about the distribution and habitat needs of the Covered Species, sensitivity of the Covered Species to human activities, its status pursuant to CESA including legal protection, recovery efforts, penalties for violations and Project-specific protective measures described in this ITP. Permittee shall provide interpretation for non-English speaking workers, and the same instruction shall be provided to any new workers before they are authorized to perform work in the Project Area. Permittee shall prepare and distribute wallet-sized cards or a fact sheet handout containing this information for workers to carry in the Project Area. Upon completion of the program, employees shall sign a form stating they attended the program and understand all protection measures. This training shall be repeated at least once annually for long-term and/or permanent employees that will be conducting work in the Project Area.	ITP Condition # 5.4	Before commencing sand mining activities/ Entire Project	Permittee	
4	<u>Notification before Commencement.</u> The Designated Representative shall notify CDFW at least 24 hours before starting Covered Activities for each season and shall document compliance with all pre-Project Conditions of Approval before starting Covered Activities.	ITP Condition # 6.1	Before commencing sand mining activities/ Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
5	<u>Positive Barrier Fish Screen</u> . Permittee shall install and operate a positive barrier fish screen on the water intake pipes of the suction pipe to protect aquatic species from entrainment. The screen shall be in place at all times during sand mining operations. The screen shall be in compliance with CDFW fish screen criteria, which can be found at www.dfg.ca.gov/fish/Resources/Projects/Engin/Engin_ScreenCriteria.asp .	ITP Condition # 7.6	Before commencing sand mining activities/ Entire Project	Permittee	
6	<u>Positive Barrier Fish Screen Flow Velocity</u> . Permittee shall perform a one-time measurement of the approach velocities to the fish screen to verify that the CDFW fish screen approach velocity of 0.2 fps is met.	ITP Condition # 7.7	Before commencing sand mining activities/ Entire Project	Permittee	
7	<u>Covered Species Credits</u> . CDFW has estimated the cost of acquisition, protection, and perpetual management of the HM lands as follows: The cost of Covered Species credits identified in Condition of Approval 8.2 is estimated at \$150,000/acre for 0.048 0.107 acres: \$16,050.00 \$7,200.00. Since the sand mining equipment will be fitted with a screen that meets the CDFW fish screening criteria and is protective of juvenile and adult fish species, no compensation for fish loss related to Covered Activities will be required during June through December of any year that the fish screens are in place and operating. Therefore, for the purposes of calculating mitigation, the volume of water diverted during the January through May period when Covered Species eggs and larval fish will be present is 18 af. The formula used for calculating the acreage of impact to Covered Species from the Covered Activities (which includes entrainment risk) is based on the calculation used in the Operations Criteria and Plan (OCAP) Biological Opinion and the CDFW Consistency Determination for the exports of the State Water Project (SWP). The calculation was developed for the aquatic effect to Delta smelt and uses a ratio of water volume diverted (SWP assumes 3.0 million af) and the corresponding habitat obligation of 8,000 acres (0.00267 acres of habitat per af of water diverted). Based on 18 af of water diverted, the Covered Activities will result in 0.048 acres of permanent impact to Covered Species habitat. The five California water year classifications established by the Department of Water Resources (DWR) to reflect Central Valley hydrologic conditions each year (wet, above normal, below normal, dry, and critically dry) were used to represent general trends in X2 location during the later winter and spring months each year. The frequency of occurrence of each water year type was assumed to be 20 percent. A weighting factor was used to represent variation in the potential risk of larval smelt entrainment during sand mining with the greatest weighting (5) being given to years when hydrologic conditions were wet and X2 located further downstream near Middle Ground Shoal and Suisun Bay where the risk of larval smelt entrainment is higher. The lowest weighting factor (1) was given to below normal, dry, and critically dry water years when X2 is located further upstream and sand mining would occur downstream in areas that have elevated salinity where the density of larval smelt (and risk of entrainment) would be reduced. Results of the mitigation estimates based on the water-year type framework for sand mining in Middle Ground Shoal and Suisun Bay by Permittee are summarized in the table below. The total mitigation obligation for Permittee increases from 0.048 acres in the existing ITP to 0.107 acres over the term of the ITP, an increase of 0.059 acres. Permittee shall purchase 0.0480 0.107 acres of Covered Species credits from a CDFW-approved mitigation or conservation bank covering smelt and salmonid habitat prior to initiating Covered Activities, or no later than 18 months from the issuance of this ITP if Security is provided pursuant to Conditions of Approval 9.1 through 9.7.	ITP Condition # 8.1, # 8.2	Before commencing sand mining activities (or within 18 months of issuance of this ITP if Security is provided)	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
8	<p><u>Security Amount.</u> The Security shall be in the amount of \$16,050.00 \$7,200.00. This amount is based on the cost estimates identified in Condition of Approval 8.1 above.</p> <p><u>Security Form.</u> The Security shall be in the form of an irrevocable letter of credit (see Attachment 2) or another form of Security approved in advance in writing by CDFW's Office of the General Counsel.</p> <p><u>Security Timeline.</u> The Security shall be provided to CDFW before Covered Activities begin or within 30 days after the effective date of this ITP, whichever occurs first.</p> <p><u>Security Holder.</u> The Security shall be held by CDFW or in a manner approved in advance in writing by CDFW.</p> <p><u>Security Transmittal.</u> If CDFW holds the Security, Permittee shall transmit it to CDFW with a completed Mitigation Payment Transmittal Form (see Attachment 3) or by way of an approved instrument such as escrow, irrevocable letter of credit, or other.</p>	ITP Condition # 9.1, 9.2, 9.3, 9.4, 9.5	Security shall be provided to CDFW before commencing sand mining activities, or within 30 days after the effective date of this ITP, whichever occurs first	Permittee	
9	<p><u>Security Drawing.</u> The Security shall allow CDFW to draw on the principal sum if CDFW, in its sole discretion, determines that the Permittee has failed to comply with the Conditions of Approval of this ITP.</p>	ITP Condition # 9.6	Entire Project	CDFW	
10	<p><u>Security Release.</u> The Security (or any portion of the Security then remaining) shall be released to the Permittee after CDFW has conducted an on-site inspection and received confirmation that all secured requirements have been satisfied, as evidenced by:</p> <ul style="list-style-type: none"> • Written documentation of the acquisition of the HM lands; and • Timely submission of all required reports. 	ITP Condition # 9.7	Entire Project	CDFW	
DURING SAND MINING OPERATIONS					
11	<p><u>Boat Captain Authority.</u> To ensure compliance with the Conditions of Approval of this ITP, the Boat Captain shall have authority to immediately stop any activities, including sand mining, that are not in compliance with any permit condition in this ITP.</p>	ITP Condition # 5.3	Entire Project	Permittee	
12	<p><u>Monitoring Notebook.</u> The Boat Captain shall maintain a monitoring notebook on-site, as long as this permit remains active. The notebook shall include a copy of this ITP with attachments, a list of signatures of all personnel who have successfully completed the education program, and documentation of each mining event which shall include the date and time, volume and type of sand mined, volumes of water diverted, and the lease site.</p>	ITP Condition # 5.5	Entire Project	Permittee	
13	<p><u>Hazardous Waste.</u> Permittee shall immediately stop and, pursuant to pertinent state and federal statutes and regulations, arrange for repair and clean up by qualified individuals of any fuel or hazardous waste leaks or spills at the time of occurrence, or as soon as it is safe to do so. Permittee shall exclude the storage and handling of hazardous materials from the Project Area and shall properly contain and dispose of any unused or leftover hazardous products off-site.</p>	ITP Condition # 5.6	Entire Project	Permittee	
14	<p><u>CDFW Access.</u> Permittee shall provide CDFW staff with reasonable access to the Project, and shall otherwise fully cooperate with CDFW efforts to verify compliance with or effectiveness of mitigation measures set forth in this ITP. CDFW staff shall be provided with the necessary safety gear, if required.</p>	ITP Condition # 5.7	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
15	<u>Notification of Non-compliance.</u> The Designated Representative shall immediately notify the CDFW Representative in writing if it determines that the Permittee is not in compliance with any Condition of Approval of this ITP, including but not limited to any actual or anticipated failure to implement measures within the time periods indicated in this ITP and/or this MMRP. The Designated Representative shall report any non-compliance with this ITP to the CDFW Representative within 24 hours.	ITP Condition # 6.2	Entire Project	Permittee	
16	<u>Compliance Monitoring.</u> The Designated Biologist shall conduct monthly compliance inspections when Covered Activities occur. The Designated Biologist shall conduct compliance inspections to (1) minimize incidental take of the Covered Species; (2) prevent unlawful take of species; (3) check for compliance with all measures of this ITP; (4) and that Covered Activities are only occurring in the Project Area. The representative shall prepare written observation and inspection records summarizing: oversight activities, compliance inspections, and monitoring activities required by this ITP.	ITP Condition # 6.3	Monthly for the duration of the project	Permittee	
17	<u>Quarterly Compliance Report.</u> The Designated Representative or Designated Biologist shall compile the observation and inspection records identified in Condition of Approval 5.5 and 6.3 into a Quarterly Compliance Report and submit it to CDFW along with a copy of this MMRP table with notes showing the current implementation status of each mitigation measure. Quarterly Compliance Reports shall be submitted to CDFW's Regional Office at the office listed in the Notices section of this ITP and via e-mail to CDFW's Regional Representatives. At the time of this ITP's approval, the CDFW Bay Delta Regional Representative is Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov). CDFW may at any time increase the timing and number of compliance inspections and reports required under this provision depending upon the results of previous compliance inspections. If CDFW determines the reporting schedule must be changed, CDFW will notify Permittee in writing of the new reporting schedule.	ITP Condition # 6.4	Quarterly for the duration of the project	Permittee	
18	<u>Annual Status Report.</u> Permittee shall provide CDFW with an Annual Status Report (ASR) no later than January 31 of every year beginning with issuance of this ITP and continuing until CDFW accepts the Final Mitigation Report identified below. Each ASR shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports for that year identified in Condition of Approval 6.4; (2) a copy of the table in this MMRP with notes showing the current implementation status of each mitigation measure; (3) an assessment of the effectiveness of each completed or partially completed mitigation measure in avoiding, minimizing and mitigating Project impacts; (4) all available information about Project-related incidental take of the Covered Species; (5) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage, both for the reporting calendar year, and a total since ITP issuance; and (6) information about other Project impacts on the Covered Species.	ITP Condition # 6.5	Annually, due no later than January 31 each year, for the duration of the project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
19	<u>Notification of Take or Injury.</u> Permittee shall immediately notify the Designated Representative if a Covered Species is taken or injured by a Project-related activity, or if a Covered Species is otherwise found dead or injured within the vicinity of the Project. The Designated Representative shall provide initial notification to CDFW by calling the Bay Delta Regional Office at (707) 944-5500. The CDFW Bay Delta Regional Representative, Ms. Crystal Spurr (crystal.spurr@wildlife.ca.gov), telephone number (209) 234-3442 shall also be contacted. The initial notification to CDFW shall include information regarding the location, species, and number of animals taken or injured and this ITP Number. Following initial notification, Permittee shall send CDFW a written report within five (5) calendar days. The report shall include the date and time of the finding or incident, location of the animal or carcass, and if possible provide a photograph, explanation as to cause of take or injury, and any other pertinent information.	ITP Condition # 6.7	Entire Project	Permittee	
20	<u>CNDDDB Observations.</u> The Designated Representative shall submit all observations of Covered Species to CDFW's California Natural Diversity Database (CNDDDB) within 60 calendar days of the observation and the Designated Biologist shall include copies of the submitted forms with the next Quarterly Compliance Report or ASR, whichever is submitted first relative to the observation.	ITP Condition # 6.8	Entire Project	Permittee	
21	<u>Smelt Work Period Restriction.</u> <i>Sand mining volumes in the Middle Ground Shoal and Suisun Bay lease areas shall be restricted to a total of 108,000 cubic yards (cy) (54,000 cy for Middle Ground Shoal and 54,000 cy for Suisun Bay) from December 1 through June 30 of each year. In addition, depth restrictions will also be applied from December 1 through June 30 such that no mining will occur in depths shallower than -25 ft. MLLW.</i> Sand mining activities shall be restricted upstream of the X2 location (the physical location of 2 parts per thousand salinity) from December 1 through June 30, the spawning season of Delta and longfin smelt. This location changes during the year in response to river flows and its location is tracked by California Data Exchange Center station CX2 found at http://cdec.water.ca.gov/cgi-progs/queryDaily?X2 . The degree and duration of mining restrictions during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species. Specific seasonal restrictions will be set through consultation with CDFW.	ITP Condition # 7.1	Entire Project	Permittee/CDFW	
22	<u>Minimum Priming/Clearing Depth.</u> Before the start of mining activities, the drag head shall be lowered to the bottom substrate, or a depth as close to the bottom as possible but not more than three feet off the bottom substrate before priming of the pump. The same depth restriction holds for clearing of the suction pipe.	ITP Condition # 7.2	Entire Project	Permittee	
23	<u>Location and Sand Volume Limitation.</u> Sand mining shall be restricted to those lease areas specified in Figure 1 and Figure 2. Mining location shall be actively tracked during mining events to ensure mining does not occur outside of a lease area. The total annual sand volumes and individual lease volumes mined shall not exceed the values listed in Table 1 on page 2 of this ITP. The Permittee shall keep a log of volumes mined per Condition 5.5. Sand mining shall cease each year once the annual sand volumes are reached in each lease area.	ITP Condition # 7.3	Entire Project	Permittee	

	Mitigation Measure	Source	Implementation Schedule	Responsible Party	Status / Date / Initials
24	<u>Water Volume Limitation.</u> The total annual water diversion from sand mining shall be restricted to 32 acre-feet. The Permittee shall keep a log of water diversion per Condition 5.5. Sand mining shall cease each year once the total annual water diversion limit of 32 acre-feet is reached.	ITP Condition # 7.4	Entire Project	Permittee	
25	<u>Water Depth Limitations.</u> Sand mining shall be prohibited within 200 feet of any shoreline and within 250 feet of water with a depth of 9 feet or less (MLLW). During the months of December through June, sand mining shall be restricted to areas deeper than 25 feet (MLLW). During the months of July through November, sand mining shall be restricted to areas deeper than 15 feet (MLLW).	ITP Condition # 7.5	Entire Project	Permittee	
26	<u>Positive Barrier Fish Screen Inspection.</u> Permittee shall visually inspect the fish screen following each mining event to verify screen integrity, remove any impinged debris and record any fish impinged on the screen. If screen is found to be damaged, sand mining shall cease until screen is either repaired or replaced.	ITP Condition # 7.8	Entire Project	Permittee	
27	<u>Equipment Maintenance and Chemical Storage.</u> All equipment operated within the bay or channels shall be checked and maintained daily to prevent leaks of materials that if introduced to the water could be deleterious to Covered Species. No equipment maintenance or fueling shall be done within or near any water body where petroleum products or other pollutants from the equipment may enter these areas. Fuel and other material stored on the barge or tugboat shall be stored in a plastic tub to contain leaks or spills. Spill equipment such as booms, drip pans, and absorbent pads shall be on-board and be ready to deploy in case of a spill.	ITP Condition # 7.9	Entire Project	Permittee	
POST-SAND MINING OPERATIONS					
28	<u>Final Mitigation Report.</u> No later than 45 days after completion of all mitigation measures for the final year of the 10-year permit, Permittee shall provide CDFW with a Final Mitigation Report. The Designated Representative shall prepare the Final Mitigation Report which shall include, at a minimum: (1) a summary of all Quarterly Compliance Reports and all ASRs; (2) a copy of the table in this MMRP with notes showing when each of the mitigation measures was implemented; (3) all available information about Project-related incidental take of the Covered Species; (4) information about other Project impacts on the Covered Species; (5) beginning and ending dates of Covered Activities; (6) an assessment of the effectiveness of this ITP's Conditions of Approval in minimizing and fully mitigating Project impacts of the taking on Covered Species; (7) recommendations on how mitigation measures might be changed to more effectively minimize take and mitigate the impacts of future projects on the Covered Species; (8) an accounting of the acre-feet of water subject to disturbance and the mitigation acreage for the 10 year permitted mining activities; and (9) any other pertinent information.	ITP Condition # 6.6	Within 45 days after completion of all mitigation measures for the final year of the 10-year permit	Permittee	