5 MITIGATION MONITORING PROGRAM

5.1 AUTHORITY

CEQA directs lead agencies to adopt, concurrent with adoption of an MND, a program for reporting or monitoring the changes that have been incorporated into the Project or that have been made a condition of approval to mitigate or avoid significant environmental effects. This proposed Mitigation Monitoring Program (MMP) has been prepared to provide a summary and discussion of the ways in which the CSLC, as the lead agency for the Project, would ensure the measures identified in the MND are implemented, and identifies other agencies potentially having enforcement and compliance responsibilities. While the MMP may identify other public agencies with oversight or permitting jurisdiction, until the mitigation measures have been completed, the CSLC would remain responsible for ensuring all measures are implemented in accordance with the MMP. Should the CSLC adopt the MND after considering it together with any comments received during the public review process, it would adopt a final MMP in compliance with CEQA. (See Pub. Resources Code § 21081.6, subd. (a); State CEQA Guidelines § 15074, subd. (d), § 15097.)

5.2 MITIGATION COMPLIANCE RESPONSIBILITY

DuPont is responsible for successfully implementing all APMs and MMs in the MMP, and is responsible for assuring that these requirements are met by all of its construction contractors and field personnel. Standards for successful mitigation also are implicit in many mitigation measures that include requirements such as obtaining permits or avoiding a specific impact entirely. Additional mitigation measures may be imposed by applicable agencies with jurisdiction through their respective permit processes.

5.3 GENERAL MONITORING AND REPORTING PROCEDURES

The CSLC and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the Project implementation process in coordination with DuPont. To oversee the monitoring procedures and to ensure the required measures are implemented properly, the environmental monitor assigned must be on-site during any portion of Project implementation that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the MMP are followed.

Site visits and specified monitoring procedures performed by other individuals will be reported to the assigned environmental monitor. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the

environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

5.4 MITIGATION MONITORING PROGRAM TABLE

The following mitigation monitoring program table lists all MMs identified in Section 3 of the IS/MND. The table lists the following information, by column:

- Potential Impact;
- Mitigation Measure;
- Location;
- Monitoring/reporting action;
- Responsible agency/party; and
- Timing

5.5 MITIGATION MONITORING PROGRAM

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
AIR QUALITY					
Emission of particulate matter	**APM-1. Dust Control Measures.** The Bay Area Air Quality Management District's "basic measures" for dust control at construction sites will be implemented, as needed, during soil excavation. The basic measures include the following: • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. Site roads are generally paved, which would reduce dust emissions from vehicle traffic. Construction equipment (e.g., excavator) would be inspected before leaving the site to ensure that soil is not adhering to tires or other vehicle parts. Vehicles would be brushed to remove loose dirt, as necessary. Manual sweeping and housekeeping would be performed as needed to keep dirt off of roadways.	Upland and shoreline work areas	Include dust control measures in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and Construction

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
Emission of criteria air pollutants	**APM-2. Air Pollutant Control Measures.** The Project shall include emission reduction measures in the Project plans and specifications that will reduce the emission of criteria air pollutants. These include: • harborcraft such as derricks, barges and tug boats shall meet the most stringent U.S. Environmental Protection Agency emission standard in place at the time of bid (Tier II for marine engines and non-road engines over 750 horsepower (hp), Tier III for all other engines); • portable equipment with engines 50 hp and over shall be permitted through the California Air Resources Board's Portable Equipment Registration Program; • use diesel oxidation catalysts and/or catalyzed diesel particulate traps; • use high-pressure fuel injectors on diesel-powered equipment; and • maintain equipment according to manufacturer specifications.	Upland and shoreline work areas	Include air pollutant control measures in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and Construction
BIOLOGICAL RESOURCES					
Worker environmental awareness	**MM BIO-1. Worker Environmental Awareness Program (WEAP).** A qualified biologist shall conduct pre-construction training (WEAP) for work crew members prior to any Project site activities. The training shall include a discussion of sensitive biological resources within the Project area and the potential presence of special-status species, special-status species' habitats, and protection measures to ensure species are not impacted by Project activities and Project boundaries. Interpretation shall be provided for non-English speakers.	Not applicable	Include WEAP in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and construction, as appropriate and necessary

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
Destruction of Delta tule pea	**MM BIO-2. Delta Tule Pea Avoidance and Construction Protections.** Prior to the start of mobilization, a qualified botanist shall confirm the presence and location of the Delta tule pea observed in September 2012. If present, the area where the plant is located shall be isolated from the shoreline work area with temporary fencing. During onshore activities to remove and demolish the outfall pipe, including the premobilization phase to install the silt fence and other protections and to create the construction entrance, a biological monitor shall be present to monitor work activities and to ensure that the area where the plant is located is not disturbed. Upon demobilization, the temporary fencing shall be removed and the biological monitor shall prepare a status report for submittal to the California State Lands Commission and the California Department of Fish and Wildlife (CDFW) within 30 days of demobilization from the site documenting the plant's status and that protections have been removed. If impact cannot be avoided by isolating the plant from the work area by temporary fencing or other means, and with concurrence of the CDFW, a qualified botanist shall be consulted to identify an appropriate location for relocating the plant or for temporarily holding it for restoration of the site or to collect seeds for use during restoration.	Shoreline work area	Submit preconstruction monitoring report to CSLC within 1 week of survey completion; compliance monitoring	DuPont	Pre-construction and construction
Destruction of special-status plant species	**MM BIO-3. Special-Status Plant Species Avoidance and Minimization Measures.** A qualified botanist shall conduct a survey for special-status plants that have the potential to occur in the Project area within 1 year prior to initiation of Project activities and during the appropriate blooming period.	Shoreline work area	Submit preconstruction monitoring report to CSLC within 1 week of survey	DuPont	Pre-construction and construction, as appropriate

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	If a special-status plant or stand of special-status plants is found, it shall be flagged, and the California Department of Fish and Wildlife (CDFW) and the California State Lands Commission shall be notified. If impact cannot be avoided by isolating the plant from the work area by temporary fencing or other means, with concurrence from the CDFW, a qualified botanist shall be consulted to identify an appropriate location for relocating the plants or for temporarily holding them for future restoration of the site or to collect seeds or cuttings for use during restoration. If special-status plant species are observed in Project surveys, the Project Applicant shall submit California Natural Diversity Database (CNDDB) forms to the CDFW Biogeographic Data Branch (CNDDB@dfg.ca.gov) with all pre-construction survey data within 5 working days of the sightings and shall provide CDFW's Bay Delta Region with copies of the CNDDB forms and survey maps.		completion; compliance monitoring		and necessary
Impacts to Delta smelt, green sturgeon, salmonids, longfin smelt, and Sacramento splittail	**MM BIO-4. In-Water Work Windows and Protections.** The Project shall conduct in-water construction activities within the in-water work windows established by the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the California Department of Fish and Wildlife (CDFW) for Delta smelt, southern distinct population segment (DPS) of green sturgeon, California Central Valley DPS of steelhead trout, longfin smelt, and Central Valley Fall- and late Fall-run, Central Valley Spring-run and Sacramento River Winter-run evolutionarily significant units of Chinook salmon. To avoid impacts to critical life stages of these species,	River and shoreline work areas	Include protections in final design documents for submittal to CSLC; compliance monitoring;	DuPont	Pre-construction and construction

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	all in-water Project construction, including the placement and removal of water quality protections (e.g., silt curtains), shall occur after August 1 and before October 31. A silt curtain shall be installed to exclude fish (including Sacramento splittail) from the work area and to protect water quality. The silt curtain shall be placed around the work area in the river prior to removal of the pipe. The suspension of any sediment within the work zone shall be contained by the silt curtain, protecting water quality and aquatic species. No activities, such as suction dredging, that would entrain or impinge fish shall be used. The Applicant and Project contractor shall comply with the requirements of the Streambed Alteration Agreement from the CDFW, which may require additional protections beyond the installation of the silt curtain for the protection of fish and other wildlife.				
Temporary construction impacts to western pond turtle and giant garter snake	**MM BIO-5. Surveillance and Monitoring of Western Pond Turtle and Giant Garter Snake.** A pre-construction survey for western pond turtle and giant garter snake shall be conducted within 1 week prior to construction to ensure that individuals are not present in the work area. A copy of the survey results shall be submitted to the California State Lands Commission and California Department of Fish and Wildlife (CDFW) upon completion. If western pond turtles or giant garter snakes are observed prior to construction, a biologist shall monitor the work area daily during construction. If	Shoreline work area	Submit preconstruction survey report to CSLC within 1 week of survey completion; compliance monitoring	DuPont	Pre-construction and construction

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	individuals of either species are present and require removal to avoid harm, a qualified wildlife biologist shall be employed to trap individuals in accordance with methods approved the CDFW. A relocation site shall be identified by the wildlife biologist, in consultation the CDFW, and the individual shall be relocated.				
Temporary construction impacts to nesting Swainson's hawk	**MM BIO-6. Swainson's Hawk Surveillance and Monitoring Program.** For work that begins between March 1 and September 15 a qualified biologist with expertise in Swainson's hawk biology, shall conduct surveys of potential nesting habitat within 0.25-mile of any earth-moving activities prior to initiation of such activities. Surveys shall be conducted during the recommended survey periods for Swainson's hawk in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). Surveys shall be completed for at least the two survey periods immediately prior to the start of Project-related construction work at the recommended frequency in the guidance document or until the hawks and nesting activities are observed, whichever occurs first. Surveys shall be conducted during diurnal periods when hawks are most active, which are typically early to mid-morning and late afternoon. Due to the difficulty of detecting nests after mid-April, surveys shall not be initiated during this phase of the hawk nesting season. The proposed survey methodology shall be submitted to the California Department of Fish and Wildlife (CDFW) for review and approval, with a copy to the California State	Soil stockpile and staging area	Submit preconstruction survey report to CSLC 14 days prior to start of construction; compliance monitoring, as appropriate and necessary	DuPont	Pre-construction and construction, as appropriate and necessary

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	Lands Commission, a minimum of 15 days prior to the proposed start of survey activities. If nesting Swainson's hawks are observed, all Project-related activities with the potential to cause nest abandonment or forced fledging of young within a minimum of 0.25 miles of nesting hawks shall be avoided between March 1 and September 15. The Project Applicant shall be required to obtain a California Endangered Species Act permit from CDFW if Project activities with the potential to cause disturbance to nesting Swainson's hawks are proposed to be conducted within the 0.25-mile buffer. If demolition work begins after September 15 and ends before March 1, outside of the breeding and nesting season, impacts to the Swainson's hawk would be avoided. Surveys would not be required for work conducted during this part of the year.				
Temporary construction impacts to nesting California black rail	**MM BIO-7. California Black Rail Surveillance and Avoidance Program.** For work that begins between February 1 and August 15, a qualified biologist shall conduct a breeding season survey to identify nesting locations for California black rail. Surveys shall be conducted between February 1 and August 1 in accordance with the protocol for California black rail developed by the Point Reyes Bird Observatory (PRBO 2013). Surveys shall be repeated on four separate dates. If nesting locations for rails are found during the surveys, all work within 250 feet of nest locations shall be conducted between August 15 and February	Shoreline work area	Submit preconstruction survey report to CSLC 14 days prior to start of construction; compliance monitoring, as appropriate and necessary	DuPont	Pre-construction and construction, as appropriate and necessary

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	1, outside of the black rail breeding season. Vegetation shall be cleared from the Project area prior to February 1 to prevent rails from nesting in the footprint of disturbance. A biological monitor shall be present during construction and shall have the authority to stop work if rails exhibit distress. The biological monitor shall contact the California Department of Fish and Wildlife directly if there is potential cause for stop work. If demolition work begins after August 15 and ends before February 1, outside of the breeding and nesting season, impacts to the California black rail would be avoided. Surveys would not be required for work conducted during this part of the year.				
Destruction of native and migratory bird nests	**MM BIO-8. Nest Surveys and Impact Avoidance and Minimization Measures for Breeding Birds.** For work that begins between February 1 and September 15, a qualified biologist shall conduct a nesting native bird survey no more than 14 days prior to commencing demolition work. Surveys shall be conducted a minimum of 3 days during the 14 days prior to disturbance and shall encompass all potential habitats within 100 feet of the Project area where work activities would occur. The biologist shall be familiar with breeding behaviors and nest structures for birds known to nest in the Project area. Surveys shall be conducted during periods of peak activity (early morning, dusk) and shall be of sufficient duration to observe movement patterns. Survey results, including a description of timing, duration and methods used, shall be submitted to the California Department of Fish and Wildlife (CDFW) for review,	Upland and shoreline work areas	Submit preconstruction survey report to CSLC within 1 week of survey completion; compliance monitoring	DuPont	Pre-construction

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	with a copy to the California State Lands Commission. If a lapse in Project activity of more than 1 week occurs, the survey shall be repeated. If nests are identified within the Project area, the Project Applicant will contact CDFW regarding appropriate buffer sizes and shall fence off a non-disturbance radius around the nest according to this recommendation. The buffer area shall be fenced off from work activities and avoided until the young have fledged, as determined by a qualified biologist. Active nests found within the vicinity of the Project area shall be monitored by the Project biologist during all work activities for changes in bird behavior. The biologist shall perform at least 2 hours of pre-construction monitoring to characterize "normal" bird behavior. At the first indication of potential nest abandonment, the biologist shall stop work immediately and consult directly with CDFW on how to proceed. If demolition work begins after September 15 and ends before February 1, outside of the breeding and nesting season, impacts to nesting and breeding birds would be avoided. Surveys would not be required for work conducted during this part of the year.				
Disturbance of sensitive natural communities	See **MMs BIO-4, BIO-5,** and **BIO-9**.				

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
Temporary construction impacts to wetlands and waters of the United States.	**MM BIO-9. Avoidance and Minimization Measures for Impacts to Wetlands and Waters of the United States.** The Applicant shall conduct and schedule operations so as to avoid or minimize siltation and muddying of waterbodies and shall implement avoidance measures including, but not limited to, temporary fencing and signage. See also **MM BIO-1** (to ensure that site workers are aware of the biological resources that are potentially present in the work area). See also **MM WQ-1** (to protect the river, its tributaries and wetlands from fuels, oils, bitumens, sediment and other harmful materials).	River and shoreline work areas	Include wetland protections and Section 404 permit requirements in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and construction
Impair movements of emigrating fish	See **MM BIO-4**.				
HAZARDS AND HAZARDOUS MATERIALS					
Release hazardous materials during Project activities	See **MM WQ-1**.				
HYDROLOGY AND WATER QUALITY					
Sedimentation and deterioration of water quality	**MM WQ-1. Prepare Stormwater Pollution Prevention Plan (SWPPP) and Implement Best Management Practices (BMPs).** The Project contractor shall prepare a SWPPP in accordance with the State's construction storm water National Pollutant Discharge Elimination System permit requirements and the Project plans and specifications. An approved copy of the SWPPP	All Project work areas	include SWPPP requirements in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and construction

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
	shall be submitted to the California State Lands Commission (CSLC) 2 weeks prior to the commencement of Project activities. The Project contractor shall ensure that the BMPs described in the SWPPP are implemented. Documentation that the BMPs are being implemented shall be maintained on site and shall be readily accessible for review by CSLC and any other authorities having jurisdiction. BMPs shall include, but not be limited to: • A floating boom and skirt shall be deployed around the Project site during in-water pipe removal activities. • Erosion and sediment shall be controlled with the application of materials such as silt fences and straw waddles. • Waste, such as removed materials, chemicals, litter, and sanitary waste at the deconstruction site, shall be properly disposed of at an off-site facility. • Vessel fueling shall be required at the staging area or at an approved docking facility, and no cross-vessel fueling shall be allowed. • All fuels and lubricants aboard the work vessel(s) shall have a double containment system. Chemicals used within the Project area and on work vessels shall be stored using secondary containment. • The Applicant shall not store fuel or oil at the proposed Project's parking and staging area upland of the work site. Fuel containment at the contractor's existing shore base may store quantities of oil and fuel.				

Potential Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Responsible Agency/ Party	Timing
TRANSPORTATION/TRAFFIC					
Temporarily impede access to marinas	**MM TRAF-1. Coast Guard Local Notice to Mariners and Notice to Marinas.** Prior to in-water activity, DuPont or its designated contractor shall provide the U.S. Coast Guard (USCG), Contra Costa County Marine Patrol Support Services, and the owners/operators of Lauritzen Yacht Harbor and Driftwood Marina with Project details—including information on Project locations, times, and other details of activities that may pose hazards to boaters and shipping (e.g., barges, buoys). At all times while construction activities are taking place in the San Joaquin River, warning signs and buoys shall be installed upstream and downstream of the construction site to provide notice to the public that construction activities are taking place and to exercise caution.	River work area	Include notification requirements in final plans and specifications for submittal to CSLC; compliance monitoring	DuPont	Pre-construction and construction